

ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
& STOCK

1932 - 1933

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QUEENSLAND.

ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE
AND STOCK

FOR

THE YEAR 1932-1933.

PRESENTED TO PARLIAMENT BY COMMAND.

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REPORT OF THE DEPARTMENT OF AGRICULTURE AND STOCK FOR THE YEAR 1932-33.

TO THE HONOURABLE THE SECRETARY FOR AGRICULTURE AND STOCK.

SIR,—I have the honour to present herewith my report for the year ended 30th June, 1933.

SEASONAL CONDITIONS.

In the Southern Division weather conditions during the year were generally unfavourable for crop production. In most agricultural districts the rainfall was considerably below the average, consequently production estimates, particularly in respect of summer crops, were not fully realised. A good spring was followed by a comparatively dry midsummer.

Through a heat wave late in the season the early promise of a full maize crop was not fulfilled, and many stands of corn had to be cut for fodder.

In the Central Division the season in some sections was regarded as the severest on record. Where the rainfall was nearer normal that advantage was offset by successive heat waves which had the effect of considerably reducing crop yields. In the northern portion of the division, however, the other weather extreme was experienced; fields were water-logged, and plant growth was retarded by steady and persistent rains. In the pastoral districts of the division the season generally was a dry one, but heavy early winter rains have relieved the situation.

The year's rainfall in the Northern Division was also under average, but in some months local averages were greatly exceeded. The June rains this year, for instance, were above the average for early winter at almost all recording stations. A mild, open winter is in prospect, with crops, particularly sugar-cane, continuing to make strong growth.

In the dairying districts of the State, although pastures and fodder crops were affected by the unfavourable season, the output of dairy products substantially increased, due to the continued expansion of this important industry.

Although better than the previous one, the season in the cotton districts was not generally favourable for the production of profitable yields.

In the canegrowing districts normal conditions largely prevailed, while in the Southern areas which suffered so severely last year—Bundaberg and Isis particularly—generous rains have altered the whole outlook, and a good crushing is now in prospect. The Central and Northern sugar districts are assured of a heavy harvest, with the probability of nearly every mill exceeding its peak year production.

In the fruitgrowing districts the season favoured the production of record crops.

The outlook has generally improved in most of the pastoral districts, as the result of relieving rains which were fairly general.

From the standpoint of production, present seasonal prospects are bright. Beneficial winter rains, widely distributed, have already fallen, and a good spring should make both pastoral and agricultural conditions reasonably safe.

AGRICULTURE.

The statistical position, at first glance, presents some peculiarities, but they are easily explained after closer examination. For example, a 40 per cent. decrease in the wheat yield suggests a steep decline in the grain-growing industry. As a matter of fact, the acreage sown last year was nearly as great as that of the 1931-32 season, but the absence of winter rains on the Downs and unusually heavy hail storms later in the year were responsible for the serious drop in production. Other crops may be instanced similarly and in respect of which a capricious season upset all calculations.

Wheat.—From 211,884 acres harvested the yield was 2,550,402 bushels. As compared with the wheat statistics in my last report, these figures denote a substantial decrease of 36,899 acres and 1,313,492 bushels, respectively. The average acreage yield was correspondingly low, being 12.03 bushels, as against our ten-years' average of 15.14. This decline in yield was due to a combination of circumstances—dry weather at critical periods of growth, frost, rust, and hail. Hail, particularly, took heavy toll, and in one district alone crop losses were assessed at 29,155 acres and 229,800 bushels of grain.

For the purpose of determining the suitability of new varieties for the heavy Darling Downs soils, it was decided in the course of the year to extend the wheat-breeding work at the Roma State Farm to districts in which rust is more likely to occur. Susceptible varieties will thus be more speedily discovered and discarded. This particular work was not possible at Roma, where soil and climate are not conducive to rust occurrence. Experimental trials on the Downs this season embrace 2,000 varieties.

Wheat trials in Central Queensland were inconclusive in the localities where the season was too dry for successful cropping, and where there was a slightly better rainfall only small

quantities of pinched grain were bagged. Details of these trials are in an appended report. A smaller acreage was planted in the Central Division than last year. Where the grain yield was doubtful crops were harvested for hay.

Some first-quality grain was bagged at Theodore. The yield, however, was low, being only $3\frac{1}{2}$ bushels an acre. Sowings this year were less extensive, due, no doubt, to last season's light returns. For practical purposes wheatgrowing for grain in Central Queensland has not progressed beyond its initial stages.

Numerous wheat crosses and introduced varieties are under observation in different localities on the Downs and also in Central Queensland. Generous and well-distributed winter rains in the wheat belt proper have greatly improved crop prospects for the present year. Wheat propagation plots were continued at the Roma State Farm, and their value has been amply proved, particularly in regard to the bringing of improved varieties into cultivation and the maintenance of purity of type of wheats cultivated. In addition, wheat experimental plot work is carried out in certain districts in co-operation with local growers. The results of this work are shown in improved yields and higher bushel weights.

As a result of the work of Departmental plant breeders—Soutter and others—Queensland-bred wheat has, on occasion, obtained highest bushel weights in Australia. At last year's Warwick Show, Flora, a Roma wheat, went as high as $68\frac{3}{4}$ lb. This record was surpassed, however, at this year's Sydney Show with a bushel weight of 69 lb.

Queensland, however, has produced the highest average yield over a series of years of all the mainland States. Our highest average yield for one season was 20.7 lb.

All these results were obtained without the use of artificial fertilizers, and largely through the work of the Agricultural Department.

Maize.—The area under maize is greater this year than last, and 150,000 acres have been planted.

Seasonal circumstances were against the full realisation of crop estimates in most of the maize-growing districts. The Atherton Tableland was an exception, and there a better average crop was obtained. The maize improvement work of the Department continues to produce sound results. Good quality seed from the breeding plots already established is made available to growers at reasonable rates. The demand for seed grain of high yielding quality and true to type strengthens every year, which may be regarded as evidence of growers' appreciation of the value of the maize-breeding work of the Department.

The Department has achieved some remarkable results in maize crop improvement work. On trial plots yields as high as 117 bushels to the acre have been obtained, while acreage yields have frequently been around 100 bushels.

Tobacco.—As anticipated in my last Annual Report, the year saw considerable expansion in tobacco-growing, more particularly in the Central and Northern Divisions. Crop results, however, were not so satisfactory as in the previous year, for which seasonal vagaries and pest and disease attack were largely responsible. The pathological and cultural problems were assailed energetically by the scientific and technical staffs of the Department, and everything practicable is being done to limit the incidence of pests and diseases of the tobacco plant.

Fertilizer trials and other investigatory work were undertaken in each division with the object of improving both yield and quality of tobacco leaf. Satisfactory prices were obtained for the previous season's leaf, the bulk of which was marketed in the first quarter of the term under review. First quality leaf realised up to 4s. a lb. The general average, however, was between 2s. and 3s. a lb.

The price for this season's leaf is also considered satisfactory when sales have been made. To a bad season in some districts is attributed a falling off in quality. Average values are consequently expected to be lower, while a quantity of leaf may be unsaleable.

Notwithstanding the year's experiences of seasonal adversity, lower quality of the product in some areas, and selling difficulties, there remains an optimistic feeling in the industry—a feeling that its future is undoubted, and that tobacco can be grown in Queensland equal to the best of the world's production. Growers are becoming more appreciative of the fact that quality must be placed before quantity in tobacco production.

Appended reports contain an account of the general work of the Department in fostering the Queensland tobacco industry.

Root Crops.—Root crop production was affected by the late season, especially for potatoes, and only average baggings were made. In the Central Division the conditions of the season confined profitable plantings to irrigated fields, although in most instances the crops were high in quality. Good healthy potato crops are now being produced in North Queensland, notably at Bowen, Giru, and on the Lower Burdekin.

The onion harvest in some localities—chiefly in the Fassifern, Lockyer, and Darling Downs districts—was excellent.

The production of other roots in the Southern Division was normal.

Demonstration plots of fodder roots—mangels, turnips, and others—were continued in the Central Division, and the general results demonstrate the importance of these crops as hardy annuals for winter feeding of stock.

Legumes.—Leguminous crops were normal in most of the agricultural areas, the general capriciousness of the season being against very high tonnages.

The season was one of the most favourable for peanut production. Rain came opportunely, and was followed by dry weather for the harvest. The result was, throughout, a better average grade than that of the previous year. Plantings were, however, a long way below ordinary trade requirements, and this circumstance, on top of the disastrous 1932 crop, meant that when the season commenced the silos were empty for the first time. Apparent insecurity of the position and the attractive ruling price for maize induced some farmers to substitute maize for peanuts. Grading depots are now established at Kingaroy, Rockhampton, and Atherton. The industry is expanding in the far North, and the quality of the product raised there is undoubted.

Fodders.—It is pleasing to report much progress in systematic fodder storage, and the appendices hereto contain strong evidence that the policy of the Department is producing, in a large measure, the results anticipated. The demand for technical guidance and for plans, specifications, and silo moulds is steadily increasing.

In different districts demonstration plots of crops suitable for hay and ensilage have been established for the guidance of farmers. Stack silo and other practical field demonstrations have been arranged as part of the general Departmental programme.

Pastures.—Probably 70 per cent., or even a greater proportion, of our national income is derived from our grasslands, and this fact is now more generally recognised. Good progress was made with pasture improvement work in the course of the year, and farmers are showing a commendable eagerness to co-operate with the Department in its field activities. Increased production is a ready incentive to better pasture management. Grass is beginning to be thought of in terms of comparison with other farm crops, and it is not difficult to foresee that the attention given to the annual fodder crop will be extended to the permanent pasture in general farming practice. Queensland is remarkably rich in the number and nutritional value of our native grasses. Upwards of 450 have been classified, and a strong feature of many is their drought resistance.

Overstocking is a common fault with both graziers and farmers, and, although efforts are made to justify it in certain circumstances, it is a practice that cannot be too strongly condemned. In our grasslands—especially our Mitchell and Flinders grass country—we have a great heritage that, through uneconomic management, may easily become a vanishing asset. Deterioration of native pasture is, in most cases, the result of over-stocking, and, through the Departmental advisory services, the principle of pasture management and improvement are regularly disseminated.

Numerous introduced grasses, apart from those of high grazing value already well established, are under test as to their suitability to the diversity of conditions in the respective divisions of the State.

Details of the year's experimental work in pasture renovation and improvement are given in appended reports.

ROMA STATE FARM.

The season was against any notable development in the experimental work in progress at the Roma State Farm, where the general programme included field trials of the following:—Winter cereals, maize, tobacco, grasses, sorghums, fruits (including citrus, China pear, olives, and dates), peanuts, field peas, pumpkins, and melons.

An account of the year's activities is submitted with the attached summaries.

FRUIT.

Fruit production and quality were maintained at a high standard, while marketing methods showed considerable improvement, particularly in respect of grading and packing.

The Stanthorpe district had record crops of deciduous fruits. Over 22,000 tons were transported to market by rail, an increase of 6,000 tons over the shipments of the previous year. In addition, heavy consignments were conveyed to different centres of distribution by motor transport. In comparison with the shipments of previous years, the overseas export trade in apples has developed remarkably. Exports aggregated 32,000 cases at the end of the season, as against 13,000 in 1931-32, and 8,000 in 1930-31.

Two new co-operative packing houses were established in the course of the year.

A heavier infestation of fruit fly was reported from the Stanthorpe district, and this occurrence is attributed chiefly to the slackening, on one pretext or another, of the efforts of orchardists to keep this pest in check. The penalty of neglect had to be paid. Through this slackness, both in the orchard and in the packing shed, a heavier call than usual was made on the staff of the Fruit Branch to help in checking, as far as possible,

a wider extension of the outbreak. Growers who faithfully carried out the instructions of officers of the Department suffered little if any material loss.

The instructional services of the Department for guidance in pruning, grafting, packing, site selection, and general orchard management is in steady and increasing demand.

Citrus growing on the near North Coast is progressing slowly but surely. Seasonal conditions, however, did not favour heavy production in this district.

Inland at Gayndah the effects of the dry season were offset by irrigation, although hail caused considerable damage to the citrus groves. New and extensive plantings on sound commercial lines and in accordance with good orchard practice are reported from the Central Burnett which, it is predicted, will eventually become one of the most important citrus producing regions of the Commonwealth.

Citrus growing is also increasing in other districts where the conditions of soil, climate, and accessibility are conducive to profitable production.

The summer crop of pineapples was not a large one, due to the subnormal season experienced. The winter pack, however, promises to compensate for the smallness of the summer returns.

The loss of the Canadian preference seriously affected the industry, but the export trade in pineapples is, however, improving, the United Kingdom being now our best customer.

Nearly 20,000 acres are now under bananas. The new plantings for the year aggregated 7,500 acres, which is indicative of the revival of interest in this branch of horticulture.

The greatest development was on the South Coast. On the near North Coast, production declined, chiefly through pest attack. The Entomological Branch, however, was active in applying measures for the combat and control of pests and diseases, and that work is described in an incorporated report.

Bunchy Top is still present on isolated plantations, and precautionary measures are proving effective in the limitation of its incidence.

In the course of the year several areas of land were made available for selection, and were quickly occupied. Several community settlements are also in course of development, with every prospect of success.

The market for small crops generally was not able to absorb the full volume of production. Canneries and other processing establishments were over-supplied.

Nut-growing, particularly the Australian Nut (*Macadamia ternifolia*) is commanding greater attention.

Fruitgrowing in the far North is expanding gradually, the main crops being citrus fruits and pineapples. Although distance from the greater metropolitan markets is a disadvantage, this is offset by the earlier maturity of Northern fruits which permits of their gaining a favourable market in the South.

Fertilizer experiments were continued, and the progressive results are satisfactory. The economic value of the fruit grading and packing instruction provided by the Department has been definitely proved. The value of other departmental activities in the fruit industry was reflected throughout the year in improved orchard practice, fine quality of the product, and better marketing methods.

Rail and port inspections were carried out systematically, and the trade balance was in favour of this State. Compared with the previous year our exports of some fruits show a substantial decrease. This was notably so in respect of bananas. As shown in my last report, banana exports in the previous year totalled 640,924 cases, as compared with 357,881 cases for the period under review. This falling-off in trans-border trade is attributed largely to the adverse season on the near North Coast and a considerable acreage, from one cause or another, going out of production.

Fruit exports for the year included:— Bananas, 357,881 cases; citrus fruits, 3,972 cases; pineapples (exclusive of canned and processed pineapples), 274,353 cases; tomatoes, 376,503 cases; strawberries, 5,112 trays; grapes, 3,058 cases; mangoes, 5,210 cases; other fruits, 104,383 cases. Fruit imports totalled 717,805 cases.

BANANA INDUSTRY PROTECTION BOARD.

The supervision of banana growing throughout the State was continued by the Banana Industry Protection Board with satisfactory results.

It is gratifying to report that largely through the efforts of the Board, Bunchy Top has made practically no advance north of the Maroochy River. One of the means adopted to check the spread of this disease is prohibition against the transference of suckers from localities in which Bunchy Top is known to exist, and the whole policy is applied with the least possible inconvenience to the growers concerned. In the extreme South-eastern part of the State, the disease has reappeared in some localities, but the situation is well in hand. Where it has occurred on both sides of the Border, the Departments of Agriculture of the two States concerned are co-operating in inspectional work and other energetic measures agreed upon.

In the course of the year applications for permission to plant 3,081,000 suckers were received from 2,000 growers. Of these suckers half a million were for planting in the region between Nerang and the New South Wales border.

SUGAR.

The Queensland sugar crop for the 1932 season yielded 514,916 tons of 94 n.t. sugar. This was considerably below the record tonnage of 1931, when 581,276 tons of sugar were manufactured. The reduction was due in a large measure to the unusually dry conditions which obtained in the Southern districts through the entire growing season. In Bundaberg, only 16 inches of rain were recorded for the year 1932. The far Northern areas were again favoured with high yields, while the Burdekin and Mackay districts harvested average crops.

Of the above yield, 23,108 tons were produced by certain Northern mills in excess of their peak year allotment, and were, therefore, disposed of at the ruling export rates. The remaining tonnage was marketed in the proportions—

65.48 per cent. for Australian consumption.
34.52 per cent. for sale abroad.

The declared price for Australian sugar was £25 2s. 3d. per ton, while the exported surplus realised £8 5s. 9d. per ton of 94 n.t.

The average price declared for all sugar (not including "excess" sugar) was £19 6s. 1d. per ton. This price must be regarded as satisfactory when it is remembered that from 1st January, 1933, the retail price of refined sugar was reduced by $\frac{1}{2}$ d. per lb. More than one-half of the raw sugar of the last crop refined for home needs was subjected to this reduction.

For the 1933 harvest, it was estimated in June last that the yield of raw sugar for Queensland would be 547,000 tons. Since that time growing conditions have been unusually favourable throughout all cane areas, and all estimates have been appreciably increased. It is now anticipated that the crop will certainly be but little inferior to the record yield of 1931, while there is every probability that a fresh record will be established. The majority of the Northern and Central district mills will attain their peak year production, while in several instances this will be exceeded. The Southern mills will crush fair average crops, due to the open winter conditions experienced. In all cases, the early prospects for the 1934 season are particularly bright.

It is difficult to foretell how the price reduction on Australian-consumed sugar will react on the industry. The declared price for raw sugar for home consumption has been fixed, for the present crop, at £23 per ton, while the current quotations for raw sugar on the London market remain at a particularly low figure. Assuming that the average price realised for export sugar will reach the 1932 level, it is doubtful whether the net price for sugar will this year exceed £17 per ton.

In the absence of any outside influence which might modify these abnormally low values it is

evident that relief will come only by a further effort on the part of the industry to reduce production costs. In this connection the Bureau is fully seized of the importance of its position in helping to attain this objective. The activities of the station and field staffs are being pursued with increased vigour in an attempt to aid farmers in this regard. The extension of the experimental work to embrace farm trials was instituted four years ago, and the influence of this policy is now clearly seen in the improved crop-results from many areas. In the southern districts of uncertain rainfall, growers are appreciating the necessity for placing their business beyond the reach of the seasons, and increased interest in irrigation projects is a feature of the past year's advances in these parts.

The work of the entomologists and pathologists associated with the Bureau is definitely leading to reduced losses from these important avenues of economic wastage. This is particularly true as regards the disease situation, and this year there are available for field trial in the southern areas a very valuable selection of new canes whose resistance to gumming disease has been rigorously established. When the suitable canes of this selection have been determined it is confidently anticipated that varieties of increased yielding capacity carrying a high degree of disease resistance will be available to farmers in these parts. The way is thus paved for the complete eradication of this serious disease. This work has proceeded hand in hand with the breeding of new varieties in North Queensland, and the subsequent propagation of the new canes on the three experiment stations. During the past year 20,000 new seedlings were planted out under this scheme.

On the milling side, our staff is effecting good service in the promotion of higher efficiency in manufacture. The Sugar Technologists' Society, which was inaugurated at a conference called by the Minister for Agriculture in 1929, has been particularly valuable in this connection, and it may now be claimed that the standard of work performed by the majority of our factories compares favourably with that of the leading cane countries of the world.

A full statement of the year's work of the Bureau will be found in the Director's annual report, which will appear later in the year.

COTTON.

For cotton the season was better than the previous one, but weather conditions were not generally favourable for profitable yields. On present prospects, however, this year's crop will be above the average of the better total yields of previous seasons. Excepting 500 bales shipped to England and 100 to Japan, the whole of the ginnery output was sold to Australian spinners.

Although the crop was small—6,171,254 lb. of seed cotton, yielding 1,990,138 lb. of lint from 61,000 acres planted—the prices obtained made cotton attractive in comparison with other cash crops, and, as the Australian spinners were confident that their requirements would continue on a high level, increased acreages were planted in nearly all the main cotton districts. A total of 80,743 acres was reported by 3,881 growers at mid-season as having definite crop prospects. An appreciable acreage for which seed was obtained was either not planted through lack of suitable rain, or failed after germination for the same reason.

Early in the season the competition of foreign yarns, certain tariff circumstances, and the uncertainty as to the outcome of the Ottawa Conference changed the outlook for Australian spinners to such an extent that they could not see their way clear to contract for the crop. Arrangements, however, were subsequently made to sell to the Australian spinners the whole of the season's yield, with the exception of the proportion sent overseas.

This improved the prospects of obtaining an average price in keeping with the returns of previous seasons, and made it possible to arrange for the financing of the first advances on a more satisfactory basis than at first seemed likely.

Realising that the competition of imported yarns and the general uncertainty as to the future of both the spinning and cotton-growing industries were detrimental to both, representations were made by the spinners to the Federal Government to rectify the position.

The spinners sought from the Tariff Board sufficient protection to maintain markets already developed within the Commonwealth, and to allow of expansion. It is estimated that a yearly supply of 35,000 bales of lint will be required if these markets are granted to the Australian spinners. Evidence of the cotton-growing potentialities of Queensland was placed before the Tariff Board in Brisbane. The Board has since continued its hearings in Sydney and Melbourne, and which, at the time of writing, have not been completed.

The most important feature relating to divisional development was a remarkable extension of acreage in the Callide Valley, where complete crop failure, due to the severest drought for sixty years, was last season's experience. The financial assistance extended by the Queensland Government to the settlers enabled them to prepare land for another crop, and to further develop their holdings. Even with a comparatively short crop in prospect, it has been estimated that upwards of 60 to 66 per cent. of the loans advanced will be repaid this season. It is also anticipated that, given good conditions for

normal crop production, most of the balance will be collected in the coming year.

Our experience of a succession of dry seasons has proved the remarkable drought-resistant characteristics of the cotton plant, and the yields obtained in many districts during the last two bad seasons, when all other crops either partially or wholly failed, indicate that cotton-growing is worthy of its place in our cropping system.

The standard of cultivation showed an improvement on that of the previous season.

The quality of the crop has varied according to soil and climatic conditions in each district, but generally, although light-bodied, it has stood up well to the adverse seasonal conditions.

Investigations at the Cotton Research Station of problems dealing with the effect of subsoil moisture, or its utilisation, have given interesting and definite results.

Pure seed operations were again retarded by the seasonal conditions. Sound progress was made in the development of improved Durango seed and in increasing supplies of the best strain of the Acala variety. Ample seed of the latter will be available to meet all requirements.

The Lone Star variety continues to give satisfactory results in the Mundubbera district. From present appearances, this variety will be very suitable to a large acreage in the drier areas of the Central Burnett, and the length and character of its fibre will add to the range of types required by the spinners.

Indio, Acala, and Mebane cottons have decided possibilities for certain soil types. Accordingly 600 lb. of Indio and 3,000 lb. of Mebane seed have been imported from California and Texas, U.S.A., for planting this season.

Further tests of these varieties, it is hoped, will establish their suitability to Queensland conditions. Both Indio and Mebane are of the big boll, high lint percentage type, and produce medium staples of the character required by Australian spinners.

The worst cotton pest for the second season in succession has been the rough boll worm (*Earias huegeli* Ronzenk). The explanation is not clear, although it is possible that the mild open winters of these seasons have been favourable to their increase and survival for attack on the following crop.

Other cotton pests were not so serious in their incidence, and with the return of normal seasons burning off of old cotton stalks will be practicable, and this should help in controlling the situation.

The yield for the current season so far (5th July) aggregates 14,563,869 lb. of seed cotton. It is doubtful, however, if the total yield will exceed 16,500,000 lb. This is a disappointing

result from the acreage planted, and shows clearly how seriously unfavourable seasonal circumstances affected the crop.

DAIRYING.

Yet another annual record has been achieved in dairy production, the factory output of butter exceeding that of the previous year by nearly 5,000,000 lb., notwithstanding the climatic vagaries that contributed so much to comparatively low crop returns in other branches of husbandry.

The actual out-turn from our butter factories was 100,028,578 lb. as against 95,050,738 lb. for 1931-32, and 92,894,101 lb. for 1930-31; yet, as suggested, seasonal conditions were against high production. General rain, so important to the maintenance of an average output, was not experienced in dairying districts. Generous storm rains in some areas varied with light and patchy falls in others. The summer was unusually hot and dry, to the detriment of grass and fodder crops, and, consequently, to the quality and volume of the product and the regularity of supplies.

The sharp upward curve in the production chart is attributed to the entry into the industry of farmers who had previously limited their operations to grazing and/or general agriculture. Low wool and meat values and the unfavourable season for arable farming forced both the grazier and agriculturist into dairying, especially on country conveniently situated within a butter factory zone.

Another important factor that influenced output was the opening and occupation of large areas of Crown lands in different parts of the State.

The development of the industry in the tropical coastal country from Mackay northwards was another contribution towards the attainment of the "peak" in butter tonnage.

In North Queensland the industry is advancing rapidly and on a high plane of technical efficiency. This remarkable development of dairying within the tropics was mentioned in my last review, and it is gratifying to report still further progress. Climate, soil, and other natural advantages, together with the adoption of modern methods in dairy practice, are making Queensland a great dairying country.

Grading records show considerable improvement in quality and a commendable uniformity of factory products.

The body, texture, and general condition of butter were satisfactory, an indication of a high degree of efficiency on the manufacturing side of the industry.

High summer temperatures affected detrimentally the quality of a proportion of the cheese outturn. The disadvantages of hot

weather can be minimised by a wider application of the information disseminated by the Department, and this was an important point in our instructional programme.

It is noteworthy that most dairy farmers deliver a high-grade milk to the cheese factories, thus demonstrating that the difficulties of cheese production in a sub-tropical climate can be successfully overcome.

There was an appreciable increase in the cheese output for the year, the aggregate being 13,079,996 lb., as against 11,006,663 lb. for 1931-32.

The services of the Departmental instructional staff proved effective in influencing an increase in the quantity of first-grade cheese manufactured during the period. Investigatory work in respect to both butter and cheese was an important branch of the Dairy Branch activities in the course of the year.

Short refresher courses for dairy factory employees and dairy farmers were well attended, and their beneficial influence on the industry is undoubted.

Herd-recording was continued energetically, a new departure being the enlisting of the co-operation of dairy factory managements in this important work.

Breeders of stud dairy cattle are making greater use of the facilities afforded by the Department in respect of advanced register recording.

The amendment of the Dairy Produce Act passed last session has made possible the more complete inspection of dairy factory accounts, resulting in uniformity in the compilation of annual returns. The general inspection disclosed that sound methods of accountancy are the rule in all factories.

Under amending legislation the payment of freight on cream by co-operative dairy associations was abolished in the course of the term under review.

In the course of the year "*The Dairy Cattle Improvement Act of 1932*" became law. Its object is to assist dairy farmers to head their herds with bulls bred on production lines, to extend the herd-recording service, and to co-operate with the Animal Health Station in the control or eradication of stock pests and diseases.

The establishment of the Dairy Committee Scheme was an addition to the educational activities of the Department in the course of the year. The scheme has been generally approved by local producers' associations, and 105 local committees have been formed under acknowledged leaders in the industry. Suitable papers on dairying subjects are prepared by the Dairy Branch and despatched regularly to each association for reading and discussion at its meetings. Courses of instruction in matters

pertaining to the breeding, care, and health of dairy stock, and farm management generally, have been arranged for committee leaders. These courses include lectures and demonstrations at the Animal Health Station, and in the laboratories of the Department of Agriculture and Stock.

Pasture improvement is becoming more generally accepted as an essential in successful dairying practice. Farmers are realising that grass, both indigenous and introduced, is the best and cheapest food for the milking cow. In Queensland up to 80 per cent. of the food consumed by dairy cattle consists of grass. The importance of grassland management in our rural economy is, therefore, stressed constantly by the Department.

Silage as a supplementary stock ration, especially in dry seasons on high-priced land, is appreciated more widely in practice, and results are shown in improved butter-fat returns.

The definite advantages accruing from the practice of systematic rotational grazing, fodder production and conservation, and pasture renovation and improvement are kept constantly before dairy farmers. All these practices obviously increase the carrying capacity and cream returns of the dairy farm, a fact which no sensible man can afford to ignore. The number of stock per acre does not, of course, alone ensure efficiency in dairy farming. It is the quality of the cows that counts. The development of dairying is more dependent upon efficient team work than individual effort, and to achieve the extraordinary success mentioned it was necessary for the producer, the manufacturer, the selling agent, and Departmental officers to work together harmoniously, and of all these the lastmentioned was not the least important.

There are now fifty-five modern butter factories in Queensland, all working on the co-operative plan under farmer direction. Cheese factories number sixty-five.

The marketing of dairy products during the year is dealt with fully in my report as Director which is incorporated herein.

Detailed reports of the general work of the Dairy Branch covering herd testing and recording, butter and cheese grading, chemistry and bacteriology, and factory accountancy, are included among the sectional reviews embodied in this general report.

PIG RAISING.

The report on pig raising is a story of steadily advancing development. Queensland ranks third among Australian States in this branch of animal husbandry.

Our production of bacon and hams averages around 20,000,000 lb. annually, approximately one-fourth of the Australian factory outturn. Only one other State—New South Wales—exceeded this volume of production.

The export trade in frozen pork has expanded considerably, the last two year's shipments aggregating 100,000 carcasses. The export of heavier-weight carcasses suitable for trade requirements in Great Britain is commanding close attention. Reports from Smithfield and other important distributing centres indicate that Queensland pork has won a favourable market. We are not yet, however, in a position to meet an increasing demand.

According to advices, the British pork buyers prefer white pigs, that are said to dress to better advantage and maintain that "bloom" that purveyors look for when purchasing stocks. This preference of the British pork trade has led to the development of a scheme for making available to farmers on easy terms of purchase stud boars (Large Whites principally) for mating with selected sows, and for adequately supplying the requirements of the export pork trade.

Overseas shipments of bacon and hams are increasing in volume, British, Malayan, and the East Indian markets being among those it is aimed to constantly supply. The quality of these Queensland products compares favourably with similar commodities manufactured elsewhere. In annual competitions with the production of other States Queensland bacon and hams are invariably well placed in award lists and often attain the premier position. Smallgoods, canned and otherwise processed, are of high quality and in constant demand.

The State has no import trade in the major pig products; the only listings on inward manifests are occasionally small experimental consignments, for which no statistical record is kept, and hog casings, the home product not being in sufficient supply to meet the domestic demand. Even this import trade is declining, for last year's inward consignments were valued at £3,069, as against £6,402 in the previous year, indicating a serious effort by the industry to meet Queensland manufacturer's requirements.

Queensland bacon factories distribute annually £123,824 to 526 employees in wages and salaries. The total annual value of their output is set down at £1,092,740.

Pork butchers also command a big trade in the metropolis. Regular auction sales at country centres provide opportunities for trade in weaner and store pigs and for other grades.

The tendency of the industry is to specialise on the four principal British breeds of pigs—Large and Middle Whites, Tamworths, and Berkshires. The Queensland Pig Industry Council was formed in the course of the year for the purpose of continuing and extending the work done formerly by the Queensland Pig Industry Committee—a branch of the Australian Pig Industry Council.

A new development was the establishment of a pig experiment and research section at the Animal Health Station, Yeerongpilly.

The industry is also progressing satisfactorily on the Atherton Tableland, where over 300 farmers include pig raising among their productive and profitable enterprises.

Feeding tests and further investigatory work at the Animal Health Station have been planned for the coming year. Experiments at the Brisbane Abattoir in matters affecting the transport of chilled, frozen, and cured carcasses are under observation.

The school pig club movement is extending; 338 clubs have been formed with a membership of 3,110.

The correspondence courses in pig raising which were begun last year are proving successful, and the enrolment is steadily increasing.

POULTRY RAISING.

Poultry raising in Queensland is expanding rapidly, not only as a small holder's enterprise, but also as a regular cash sideline on mixed farms.

The egg export season was a record one, overseas consignments aggregating 1,300,430 dozen. Although the export trade was not appreciatively profitable, practically no loss was sustained on the total shipments. The experience of the year was that our present export trade is not sufficient to absorb our surplus production. Educative work is still necessary to induce many poulterers to produce eggs up to an export marketable standard.

Breeders report fairly heavy bookings of chickens for the coming season, and, with further incubator installations and an increasing turnover by poultry farmers' co-operative societies, this is taken as an indication of the maintenance of the strength of the industry. Departmental work for the benefit of the industry has been performed vigorously, particularly in respect of farmyard instructions, feeding tests, and the combat and control of pests and diseases.

Egg production for the calendar year (1932), *vide* the Registrar-General's computation, was 5,515,981 dozen, valued at £251,857, as compared with 5,789,529, valued at £250,166, in 1931.

Other economic aspects of the industry are dealt with in my report as Director of Marketing, which is incorporated herein.

APICULTURE.

Honey production for the calendar year (1932) almost doubled that of the previous year, with an output of 531,075 lb., as against 283,022 lb. for 1931, and 555,244 lb. for 1930. Beekeepers number 528, compared with 551 in 1931.

ECONOMIC BOTANY.

The identification and control, and the devising of measures for eradication where practicable, of plants suspected to be poisonous to stock are among the very important services of the Government Botanist and his assistant.

Inquiries from pastoralists, farmers, and others interested directly in economic botany covered a wide range of subjects and many aspects of plant life, which is evidence of the wide appreciation of the information service of this section of the Department. The year's work in this connection is the subject of a subsidiary review.

ENTOMOLOGY AND PLANT PATHOLOGY.

In my last report it was observed with satisfaction that for the year then reviewed the Stanthorpe district had enjoyed a greater freedom from fruit fly (*Chaetodacus Tryoni*, Froggat) than was experienced in any year for a decade. For the period now under review, however, the fly was more abundant than has been the case in recent years. No serious losses through infestation were reported for some months after the first flies were trapped, but towards the end of February apples and pears on some orchards were heavily attacked.

Strict attention to the principles of orchard hygiene and luring is essential for the control of this pest, and the Departmental officers stationed at Stanthorpe are doing everything possible to secure the complete co-operation of growers in the adoption and practice of control measures.

In the citrus-producing districts the fly was also more troublesome than usual, due very largely to the prolonged summer being conducive to continued attack. Losses, however, were not high, and the fruit fly may still be regarded as a minor pest in citrus groves.

Field experiments were made with fly repellents at Stanthorpe in November. A fruit-fly bait was also tested. The results of these trials were inconclusive, because when they were carried out the expected infestation did not occur. It will be necessary, therefore, to repeat the experiments in the coming season.

Two codling moth control experiments were successfully undertaken in the course of the year.

Banana thrips continues to be a very serious problem, but losses caused by this pest were not so serious as in the previous season.

The brown cutworm attacked the cotton crop severely, but the measures adopted by the entomological staff have demonstrated that this pest can be readily and effectively controlled.

The tobacco stem borer (*Phthorimæa heliopa* Low.), and the tobacco leaf miner (*P. operculella* Zell.) constitute two of the most serious entomological problems with which tobacco-growers in North Queensland are confronted.

Field control measures have been devised, and progress reports so far favour their efficacy in some degree.

The Department has been active in reducing the incidence of other pests, as well as plant diseases.

The work done along other important lines of investigation and control of vegetable pests and diseases is described in accompanying accounts of our research activities, both fundamental and applied.

AGRICULTURAL CHEMISTRY.

Chemical analyses were fewer in number during the year, the total being 6,046, as compared with 6,548 during the previous term. In addition, 5,635 samples of glassware were tested, as against 4,302 for the 1931-32 period.

Numerous cereal samples were also tested for quality value.

Results of routine soil analyses and dipping fluid tests, together with those of other analyses, are set out in appended tables. Results of pasture improvement experiments and analyses of grasses and fodders are also described and tabulated.

Complete details of the year's work generally are set out in appended tables.

SEEDS, STOCK FOODS, FERTILIZERS, AND PEST DESTROYERS INVESTIGATION BRANCH.

The work of the year in intensive pasture management, which engaged the attention of this Branch, is detailed in an incorporated report.

Details of comparative analyses of grasses, clovers, and other forage plants, as well as particulars of the germinating capacity of the principal seeds, and of stock foods, fertilizers, and pest destroyers examined in the course of the year are also set out in a comprehensive series of tables attached hereto.

LIVE STOCK.

Stock statistics show a decrease for the year of 33,298 horses, 140,350 cattle, and 163,136 sheep. The preliminary figures as at 1st January were (actual figures for 1932 are bracketed after each total):—Horses, 436,176 (469,474); cattle, 5,410,049 (5,550,399); sheep, 21,161,142 (22,324,278).

No general rain was recorded in the pastoral areas, and to this fact is attributed the losses of stock that occurred.

Horses were more sought after, and satisfactory prices ruled for good class animals, particularly heavy draughts. Values for heavy duty farm horses ranged from £25 to £41 a head at Northern sales, sugar-growers being the chief purchasers.

Deterioration among cattle herds has been noticeable in the North for some years past, due mainly to neglect to introduce fresh bulls of suitable type and quality to improve breeding

standards, and not to unhealthy climatic conditions. No doubt the economical position of the grazing industry influenced this apparent disinclination to maintain high herd standards.

An importation of Zebu bulls from America has been planned with the object of experimenting in the breeding of new types of cattle suitable to North Australian and Gulf conditions. It is sought to ascertain if the Zebu cross will develop immunity to tick-borne diseases; also if it will thrive under Northern climatic conditions and produce meat suitable for the British market.

A veterinary survey of the North-Western portions of the State was undertaken during the year with the object of determining the area of occurrence of the buffalo fly. Last year the infested area extended from Inverleigh on the Gulf Coast to as far south as Talawanta and Gregory Downs. This year it is reported that the eastern limit of infestation did not extend beyond Armynald, while a provisional survey did not discover any flies south of Brookdale.

Owing to the favourable position revealed by the survey, cattle from fly-free holdings, provided adjoining properties were also free, have been permitted to travel on inspection only, thus avoiding the necessity of spraying and treatment at Kajabbi.

Horses exported overseas numbered 940, as compared with the previous year's shipments of 2,013.

Metropolitan fat stock yardings at Cannon Hill included:—Beef cattle, 103,526; vealers, 18,143; sheep, 644,699; lambs, 104,633; pigs, 31,863.

Average values were:—

Cattle—

Bullocks, per cental, 20s. 5d. = £6 13s. 4d. a head.

Cows, per cental, 17s. 11d. = £4 4s. 2d. a head.

Vealers (suckers), 2d. per lb. = 17s. a head.

Vealers (60 to 80 lb.), 10s. to 13s. a head.

Sheep—

Wethers and ewes, per lb., 1·91d.

Lambs, per lb., 3·44d. = 7s. 8d. a head.

Pigs—

Baconers, per lb., 4d.

Porkers, per lb., 4½d.

Suckers, per head, 7s.

Slips, per head, 10s.

Stores, per head, 10s. to 17s.

Metropolitan killings (Brisbane Abattoir) were:—

Bullocks, 40,062; cows, 31,826; calves, 37,420; sheep and lambs, 542,064; swine, 37,047.

Constant supervision has been maintained in respect of meat distribution. Shop standards have improved. Many improvements have also been effected in slaughter-houses and piggeries. Shop and vehicle registrations for the year in the metropolitan area totalled:—Shops, 272; vehicles (motor and other), 367; cash carts, 63.

Brand registrations show a decline compared with the previous year's figures, but the number of transfers has increased. On account of the serious loss to the wool industry through the use of pitch or tar in sheep branding, these materials have been omitted from the list of those specified for branding.

With rainfall below average in most of the pastoral districts, the year was a hard one for wool producers.

Difficult finance and scarcity of grass and water on the stock routes made some classes of sheep, old ewes in particular, unsaleable, while prices offering for stores and old wethers were under cost of production. Prices for fat stock were not satisfactory either, although recent sales showed a welcome advance, with indications of a more stable market for wethers and fat lambs.

Lamb raising has been fostered by the Department, and though the season has been against progress in this branch of stock farming, a notable advance has been made through the introduction of many rams of British breeds.

Merino flocks have maintained high wool standards, mainly through the continued introduction of better flock rams and systematic culling.

The health of flocks generally has been satisfactory as compared with previous years.

Wool catalogued and sold at Brisbane totalled 500,522 bales, a considerable advance on the previous year's figures. An average of 11.18d. per lb, for greasy represented the peak point of the selling season. The lowest sale average was 7.93d. per lb. There is every present prospect of a further upward trend in wool values.

The farmers' wool realisation scheme instituted and controlled by the Department for the benefit of owners of small flocks up to 1,500 head continues to operate to the advantage of all concerned. Up till the end of June 324 bales, or 86,552 lb., of wool was received for classification at the Departmental wool room, as against 341 bales (85,423 lb.) in the previous year.

Extended reference to the activities of the Stock Branch is made in another part of this report.

ANIMAL HEALTH STATION.

For the purpose of widening the scope of investigation of animal pests and diseases and broadening the field of veterinary research, the activities of the State Experiment Station at Yeerongpilly were extended early in the year. The designation of the institution was changed to that of Animal Health Station.

Reorganisation consequent on the change occupied a considerable portion of the year; nevertheless much was accomplished for the benefit of stock owners.

Of the more important investigational work greater attention was given to tick fever and pleuro-pneumonia in cattle and blow-fly strike in sheep. Mammitis, vaginitis, and contagious abortion in dairy cows were also subjects of close investigation at the Station. Some work in connection with tuberculin testing of cows used in city retail milk supply services was also carried through.

A poultry nutritional experiment commencing with day-old chickens gave satisfactory results.

An account of the general activities of the station and lines of veterinary investigation pursued is included among attached staff reports.

CO-OPERATIVE ASSOCIATIONS.

Eleven additional co-operative associations have been registered, making a total of 170 associations and one federation registered under "*The Primary Producers' Co-operative Associations Acts, 1923 to 1926.*" Some exemptions from the provisions of the Acts have been granted, and 153 auditors have been licensed thereunder.

ORGANISED MARKETING.

The year's operations of the several pools and commodity boards instituted by statutory authority are described in detail in my report as Director of Marketing which is attached.

THE REGISTRATION OF STALLIONS.

Following the introduction and passage of legislation during last session for the amendment of "*The Stallions Registration Act of 1923,*" it was decided to resume the examination and certification of stallions in proclaimed districts.

Parades have been arranged for the Moreton, Darling Downs, Wide Bay and Burnett pastoral districts, and the Central Coast area, and examinations are conducted by boards specifically appointed to operate in each district.

In view of the greater demand for horses for export purposes, stallion owners are provided with an incentive to co-operate with the Department in the administration of the Acts dealing with the registration of stallions, and to assist in efforts made to produce a better type of sound horse.

Experience has proved that a considerable proportion of the heavy breeds are either unsound or not true to type or conformation, and it is the intention of the Department to prevent the use, either for private or public service, of all uncertificated horses. A provision was included in the amending legislation, whereby rejected animals can be ordered to be unsexed, and it is in the interests of owners

that they should take measures to destroy all useless or unsound horses, or, as an alternative, render them impotent for breeding purposes.

PROTECTION OF NATIVE FLORA.

Concern has been expressed at the wanton destruction and indiscriminate picking of protected native plants in the various sections of the State where they grow in abundance.

Action is in progress to generally check the breaches of "*The Native Plants Protection Act of 1930*," and practically all field officers of the Department have been appointed honorary rangers, to act in co-operation with police officers and rangers and other officials in insisting upon the observance of the Act.

PROTECTION OF NATIVE FAUNA.

Reports of rangers throughout the State indicate that the opossum is still scarce in certain districts which were previously favourable for their propagation.

Arrangements were made during the year under review for the distribution of considerable numbers of opossums in the Springsure, Clermont, and Stanthorpe districts, where, from reports received subsequently, they appear to have thrived, and show every indication that the scheme for re-stocking suitable areas will be attended with success.

It was decided that the protection of the opossum should be continued throughout the year.

ST. LUCIA FARM TRAINING SCHOOL.

For the purpose of training workless city youths in the rudiments of agricultural and dairy practice, and so enable them to more readily obtain employment in the country, an arrangement was made in the course of the year with the Senate of the University of Queensland for the use of University land at St. Lucia and Moggill. A farm training school was subsequently established at St. Lucia.

At a conference of representatives of interested organisations and Government Departments committees were appointed to (a) ensure the enrolment of fifty trainees every half year; (b) to prepare a syllabus of instruction; and (c) to place the boys in employment on the land at the termination of their period of training.

The first group of trainees was enrolled on 31st January, and since then an average enrolment of fifty has been maintained.

Since the school has been opened the boys have been given instruction in tree-felling, splitting, fencing, ploughing, harrowing, sowing, and butter-making, general dairy practice, and pig raising. Officers of the Department of Agriculture and Stock visit the farm regularly to lecture on pig raising, dairying, fruit and vegetable growing, animal hygiene, botany, poultry raising,

chemistry of the soil, insect pests, and general farming topics. Besides the farm at St. Lucia there is a tent camp in forest country at Moggill, also belonging to the University where the boys are instructed in bushcraft and pioneering work, supplying fencing and round building timber for headquarters; groups of boys are also sent out to the Beerburrum Tobacco Group Settlement for instruction in tobacco raising and the curing and grading of tobacco.

At the end of July the first group of twenty-five boys from the St. Lucia Training Farm will have completed their course of training in the rudiments of rural industry and will be absorbed in farm employment; at the end of October another twenty-five will be available for farm employment, and thereafter similar groups will be available every three months. As each group goes, a similar number will be enrolled to keep the strength up to fifty—the prescribed number. At the end of the term of six months two boys from each group of fifty will be granted scholarships to Gatton College.

The trainees represent a fine type of Australian youth, keen, intelligent, active, country conscious, and imbued with a commendable spirit.

This practical scheme of elementary farm training was prompted by a general desire to counter to some extent an effect of the present economic situation, and a realisation of the wisdom of directing the youth-power of the land—to-morrow's manhood—into fields of productive enterprise. The transference of town boys to the country where they will gain practical experience and a "land sense" is also regarded as a preliminary to their becoming either share farmers or farmers on their own account.

PUBLICITY.

The Publications Branch of the Department maintained an efficient and effective service throughout the year. Chief of its publications is "*The Queensland Agricultural Journal*," which has now completed its thirty-sixth year. Dealing with many phases of rural industry bracketed with its scientific, technical, economical, and practical interests and progress, the "*Journal*" has proved of definite value to those engaged in primary production. Its circulation is large and continues to increase steadily. By means of the "*Journal*" and other publications—bulletins, pamphlets, and advisory leaflets—which are issued regularly and frequently the need for authoritative information on agricultural and cognate subjects is met so far as the range of Departmental activities extends. Its usefulness is assured by regular contributions, many of which contain the results of original research, from members of the staff of the Department who are engaged in directive, educative, and specialised work.

The radio lecture service has been continued in co-operation with the Australian Broadcasting Commission. Twice weekly practical talks are given on the science and practice of agriculture by officers of the Department through Radio Station 4QG. This service is greatly appreciated by country people. Over 100 radio lectures were delivered in the course of the year, and many of them have been printed and distributed.

Short press articles on seasonal topics relating to the several branches of husbandry practised in Queensland are supplied as often as opportunity offers.

The photographic service of this Branch includes the distribution of suitable prints and processed blocks of rural subjects to city, country, and overseas press.

In addition, information on the agricultural situation and seasonal notes on field practice and problems are issued frequently to the daily and periodical press. By these means and through the courtesy and ready co-operation of the press extensive and valuable publicity is obtained.

In the course of the year numerous addresses on the work of the Department and rural problems were delivered to public and educational bodies, including the Royal National Agricultural Association, the Rotary and Constitutional Clubs, and the agricultural students of the Queensland University.

LIBRARY.

The central reference library of the Department continues to be much used by the staffs of the several Branches, as well as by research students and the general public. The sectional libraries of each Branch are also well organised and maintained.

Monthly accession lists are distributed, and in this way those concerned are kept in touch with current thought, recent research, and technical progress in matters appertaining to the land and its industries.

A valuable exchange service through which publications on agricultural and allied subjects are received from many countries has also been well maintained.

THE PRESENT OUTLOOK.

From the standpoint of production present seasonal prospects are bright. Beneficial winter rains have fallen over most of the closely settled districts, and have extended far over the pastoral areas, and a good spring seems assured.

The beef export trade has been stimulated by efforts to establish regular markets following improvement in chilling processes.

Recent sales indicate a more stable demand for wethers and fat lambs.

The maintenance of a firm market for all classes of fat sheep is very heartening to graziers after the long period of depressed markets. Fat sheep and cattle are coming from far afield in consequence of the better values, and Northern and Central district stock are being offered in Brisbane almost every week. Early forecasts of improvement in the fat stock market have been fulfilled, and on present appearances values should hold until well into the summer. Prime Western bullocks have been sold recently up to £10 a head. Similar cattle a few months ago would not have brought more than £6 10s. a head.

With a firming and increasingly profitable market for Queensland fine wools, pastoral prospects have been greatly improved, and a feeling of buoyancy is general.

For early sales in the present season a record number of bales was catalogued for the Brisbane wool sales, and quitted at almost pre-depression prices—an evidence of a general upward trend in wool values.

The area under cultivation in Queensland is approximately 1,500,000 acres of which roughly a fifth is under sugar cane which, apart from grain, is Australia's most important agricultural crop.

A mild and wet winter greatly improved cane crop prospects, and a record production of sugar is probable—exceeding that of 1931, the peak year, when 581,275 tons of sugar were manufactured. Most of the Northern and Central factories will attain their peak year production, and some will exceed it. In the Southern sugar areas which suffered a prolonged dry spell last season a fair average crop is being crushed. In all cases the early prospects for the 1934 cane campaign are particularly bright.

The unexpected winter rains if followed by a good spring should ensure a fair wheat harvest. Round about 375,000 acres have been planted, and a yield of 4,500,000 bushels is anticipated.

Extensive plantings of maize have been made in the Burnett and on the Darling Downs, and a heavy crop is in prospect. The Atherton Tableland crop is now in the barn, the yield being approximately 20,000 tons.

There is every indication that cotton planting in the coming season will equal last year's record of nearly 81,000 acres. Already seed has been distributed to sow nearly 50,000 acres. In the main cotton belt—Upper Burnett and Callide Valley—seasonal conditions are more favourable for a successful planting at the best time of the year than at any period in the history of cotton growing in those regions.

In Southern Queensland cotton as a side-line crop is coming back into favour. In dry conditions last year cotton stood up better than

maize, and provided sufficiently attractive returns to stimulate a substantial extension of cotton cultivation.

There is now a greater feeling of confidence in the future of cotton in Queensland, due to a more favourable Federal fiscal policy, which has helped to stabilize the industry.

Root crop prospects are also favourable, especially in districts where potato growing is both profitable and extensive.

Land preparation is well advanced for the forthcoming tobacco season. The total area cropped last season was about 7,400 acres, and the yield of cured leaf 2,250,000 lb. Capricious rainfall affected adversely the quality of the leaf, but most growers are facing the approaching season with every confidence, feeling fortified by their experiences and better knowledge of the essential requirements, both in cultivation and curing, of the tobacco crop.

Dairying in Queensland is rapidly approaching sugar in economic value. Queensland butter has won and retains a very favourable reputation on overseas markets, and has repeatedly gained first place for quality in open competition with the world's dairying countries.

In the tropical country among the foothills of the coastal ranges dairying is extending steadily. On the tropical tablelands the industry is already widely established, and dairy produce from the Atherton Tableland has gained first awards in export classes.

The industry is associated closely in Queensland with pig raising and mixed farming, for which conditions in our agricultural districts are generally suitable. With practical schemes of pasture and herd improvement in operation, with the practice of fodder conservation becoming more general, and with a wider understanding of the economics of rural industry, the dairying outlook is a prospect of sound if strenuously acquired prosperity.

CONCLUSION.

Economically the agricultural situation is still serious. Queensland farmers, however, are fortunate in their possession of an organised marketing system erected by them and backed by statutory authority, and which has proved in recent difficult years the best means of protection they could have devised.

General agricultural policy in Queensland is based on the aim to bring every branch of rural industry into line, as far as possible, with the State's most profitable enterprises.

Again, attention is called to a remarkable increase in dairy production and the general expansion of the industry during the year. Dairying continues to be a factor of first import-

ance in the maintenance and increase in the production of exportable commodities which help materially in preserving a national economic balance.

The major problems of the Department are those demanding scientific and economic research. The question naturally arises, however, why continue agricultural research when our farmers very often cannot sell at a profit what they already produce? The plain answer is that the primary object of scientific research in agriculture is to obtain precise information that will always be needed while the business of farming lasts. It is when times are hardest that exact information about soils, crops, and stock is most valuable. Changing economic conditions may demand an immediate alteration or improvement in methods that can only be brought about by complete and exact knowledge of particular agricultural problems that often soon develop into matters of major economic importance. It is gratifying to observe a greater interest among producers generally in the work of the scientific and technical branches of the Department.

It is recognised, however, that agricultural progress in Queensland depends very largely on the individual farmer; general instructional policy has, accordingly, been designed to maintain personal contact with him as far as possible. In this way it is aimed to demonstrate that the farm income can be increased by better selection of crops, improved field practice, and higher standards of animal husbandry.

Administrative responsibilities during the year have been heavy and onerous, and I have much pleasure in reporting that they were discharged, and all other Department services were performed with credit to the Service and to the benefit of agriculture and related industries in this State.

The statistics compiled by the Registrar-General are appended to this report, and they contain much interesting and valuable information in detail of our rural economy.

An account of the general activities of the year is contained in the accompanying reports of the Director of Agriculture, the Chief Inspector of Stock, the Supervisor of Dairying, the Director of the Animal Health Station, the Director of Cotton Culture, the Acting Director of Fruit Culture, the Chief Entomologist, the Government Botanist, the Agricultural Chemist, the Officer in Charge of Seeds, Fertilizers, Stock Foods, and Pest Destroyers Investigation Branch, the Registrar of Co-operative Societies, and the Director of Marketing, all of which are respectfully submitted.

E. GRAHAM,

Under Secretary and Director of Marketing.

REPORT OF THE DIRECTOR OF AGRICULTURE.

I have the honour to present the annual reports submitted by officers of the instructional staff and managers of State Farms, together with a review of the operations carried out during the year ended 30th June, 1933.

STAFF CHANGES.

The only addition to the staff was the appointment of Mr. Nixon-Smith as Field Assistant attached to the Townsville Office. Mr. Tarrant was transferred from Head Office as Tobacco Instructor to the Beerburrum Settlement.

Mr. N. Goodchild was attached to Beerburrum for a period of six months prior to his being transferred to Bowen. Mr. Cartmill was seconded in January from the Analyst's Branch to assist with tobacco work in the Southern Division. As a result of the closure of the Gindie State Farm, the Manager, Mr. E. R. Ashburn, was attached to the Instructional Staff, Rockhampton.

AGRICULTURAL DEVELOPMENT.

In reviewing the year's operations, it is customary to give an indication of the progress made in the production of our staple crops. In perusing statistical returns, it would appear at first sight that some of our important industries are declining—for example, our wheat crop for 1932 shows a decrease in yield of some 40 per cent. This is not, however, an indication that wheatgrowing is languishing when it is found that the acreage sown was only a little lower than that of the 1931 season. Again, in regard to tobacco, the area planted was considerably in excess of the previous year, but the total yield of leaf may not be correspondingly greater. This wide variation of crop production is to a large extent due to the erratic nature of our rainfall. The incidence of rainfall and its bearing upon crop production is reviewed in the appended reports submitted by the respective instructors.

Wheat.—The area of wheat harvested during the 1932 season amounted to 211,884 acres, giving a yield of 2,550,402 bushels. This is a serious decline of some 36,899 acres and 1,313,492 bushels of grain over that of the previous year. The average yield per acre was correspondingly low, being 12·03 bushels, compared with the ten years' average of 15·14 bushels. The absence of winter rains over the greater portion of the wheat belt was largely responsible for this falling-off in production. Hailstorms played havoc with the crops, principally in the Warwick area, the losses being assessed at 29,155 acres and 229,800 bushels of grain. The losses occasioned through frost and rust were also fairly considerable.

A new departure has been made in connection with the wheat-breeding work carried out at Roma State Farm in that a considerable por-

tion of the activities will now be undertaken on the Darling Downs. This will effect a considerable saving in the time taken to determine the suitability of new varieties for the heavy Downs soils in that those falling a prey to rust can be speedily eliminated. This procedure was not possible at Roma, where conditions of soil and climate were not conducive to rust infestation.

Experimental trials on the Downs this season embrace over 2,000 different varieties.

The prospects for the 1933 crop at the time of writing (14th July) are somewhat uncertain. The absence of moisture delayed sowing until the first week in July, when less than an inch of rain fell over the greater portion of the wheat belt. This was sufficient to give a satisfactory germination, but additional moisture is necessary to ensure the further development of the crop.

Maize.—The area planted in maize for 1932-33 is estimated at 150,000 acres, which is a slight increase over that of the previous season. This increase was mainly due to the partial failure of the wheat crop on parts of the Darling Downs, the land being subsequently sown with maize.

Onions.—Further investigational work is being undertaken in the Central district in determining the most profitable varieties of onions to grow and the most suitable time of the year to plant.

Tobacco.—As an indication of the activities engaged in by the instructional staff, it may be mentioned that, of the twelve attached to this branch, ten were almost wholly engaged during the year in tobacco work.

There was a considerable expansion of the tobacco industry during the past season, more particularly in the Northern and Central Divisions. Unfortunately, the excellent results secured by many growers last season were not repeated this year. This was largely due to the erratic and rather unusual climatic conditions experienced in the respective tobacco-growing areas. Insect pests and disease, more particularly leaf-spotting, were also responsible for considerable losses.

Much investigational work embracing fertilizer trials was undertaken in each of the divisions, the objective being to improve the yield and quality of the leaf.

An undertaking of some importance was the placing of some ninety unemployed families as tobacco-growers on the abandoned pineapple farms at Beerburrum. Owing to the fact that very few of the settlers had any previous knowledge of farming, the supervision of the project necessitated much care and attention. Although Beerburrum, in common with other districts,

suffered from the vagaries of the weather, most of the settlers, notwithstanding the setback, have shown a determination to succeed.

Roma State Farm.—Although wheat breeding and selection is the main activity at this institution, other crops, embracing cowpeas, grape vines, and Sudan grass, are receiving attention. A general survey of the operations undertaken is found in the attached report furnished by the Manager, Mr. R. E. Soutter.

St. Lucia.—With a view to fitting city lads for country jobs, a training farm to accommodate fifty trainees has been established at St. Lucia. The supervision of the work associated with erection of the buildings, fencing, water supply, electric light, and other facilities and services was undertaken by the staff of the Agricultural Branch. Training is proceeding smoothly, and it is anticipated that little difficulty will be experienced in placing the lads with suitable farmers.

Pasture Improvement.—Although Queensland enjoys a wide range of conditions favourable to diversified agriculture—embracing wheat, potatoes, maize, and sugar-cane, and other crops—our largest and most important crop is grass. It is one, moreover, that is receiving the least attention.

Apart from the problems attached to the improvement of our pastures in the western areas, the potentialities of the fertile jungle lands of the North for the production of grass and fodder crops are as yet unknown and await investigation and development.

It is a pleasing duty to pay tribute to the staff for the wholehearted assistance in carrying out the work during the past year.

G. B. BROOKS,
Director of Agriculture.

STAFF REPORTS.

SOUTHERN DIVISION.

Mr. C. J. McKEON, Instructor in Agriculture, reports:—

During the period under review considerable time was devoted to seed maize improvement work; other duties included general instructional work both at Head Office and on farms in the various districts, assisting with the sowing and harvesting of the wheat variety trials, and other experimental work.

Several weeks were also spent at St. Lucia in supervising the erection of boundary fences, the erection of telephone and electric light poles, breaking up new land, and generally preparing the place in readiness for its opening as a Farm Training School.

GENERAL.

Weather conditions during the past year were generally unfavourable for crop production, particularly summer growing crops, the rainfall in most districts being considerably below the average, with the result that crop production was much lower than usual.

During the early spring months useful falls of rain were recorded in many districts, but the heavy, soaking rains which are usually experienced during the summer months did not eventuate, and consequently crops and pasture suffered severely.

The heat wave during February took heavy toll of the late maize crops, and a large number of these were cut for fodder purposes, either in the form of green feed or for converting into silage. With the exception of the Atherton Tableland, where latest reports indicate that a good crop is being harvested, the maize crop as a whole will be below the average.

SEED MAIZE IMPROVEMENT.

Seed maize propagation plots totalling in all 150 acres were established in the Imbil, Kandang, Kilcoy, Pittsworth, Allora, and Yangan districts, the following varieties being included:—Funk's 90-Day, Star Leaming, Reid's Yellow Dent, Golden Beauty, and Improved Yellow Dent. These comprised eighteen separate plots ranging in size from $2\frac{1}{2}$ acres to 20 acres. Several smaller stud plots and ear-to-row test plots of each variety were also sown.

In view of the fact that the season was such an unfavourable one, the results, on the whole, were very satisfactory. Of the total area sown, eleven plots totalling approximately 90 acres gave good results, the balance resulting in light to moderate yields. No plot was a complete failure.

Apart from the seed selected from the stud plots, which has been reserved for next season's plot work, approximately 250 bags of seed of splendid quality were selected from the propagation plots for distribution to farmers.

This, after grading, will be sufficient to plant approximately 3,500 acres.

Funk's 90-Day.—Five plots totalling 42 acres were sown with this variety, as well as an ear-to-row test plot.

Two plots—one at Allora, and the other at Imbil—gave splendid results considering the season. The remaining three plots tasselled during very dry, hot weather, and the resultant crops were light. The fine growth made and the good yield which resulted under adverse weather conditions created a considerable amount of interest in the Allora district, and a large number of farmers in this and adjacent districts expressed their intention of growing this variety next season. It has proved to be an excellent variety for the Darling Downs district; in fact, it has given excellent results in every district in which it has been tried since its introduction from America by this Department some years ago, and it is now the most popular and one of the best-yielding early-maturing varieties grown in the State. A great improvement has been effected in the husk covering since its introduction, this at one time being both short and scanty, but which can now be classed as good both as regards length and quantity of husk.

Very good results were obtained from the ear-to-row test plot, details of which are attached.

Star Leaming.—Five plots totalling 45 acres were sown—one at Imbil, two at Kilcoy, and one each at Pittsworth and Allora. The plots at Kilcoy and Imbil yielded fairly well; but those sown on the Downs, although they made particularly fine growth and were most promising-looking up to the tasselling stage, suffered severely at this period from hot, dry winds, and the yields consequently were considerably reduced. Over a number of years this variety has proved to be much hardier than most varieties, and it is very suitable for inland districts which do not enjoy a generous rainfall. This has also been borne out in varietal tests conducted over a number of years on the Cotton Research Station at Biloela.

Reid's Yellow Dent.—Arrangements were made for three plots totalling 28 acres, and as all were sown in the Mary Valley district, where the weather conditions although not by any means good, were better than those experienced in most districts, very good results were obtained. An ear-to-row test plot was also sown, with very good results, details of which are attached.

The best yields obtained from the propagation plots were approximately 50 bushels per acre, which can be considered very good considering the conditions under which they were produced. A large quantity of seed was selected, which was particularly well developed and of excellent type. This variety had also given excellent results in the varietal trials conducted at the Cotton Research Farm at Biloela, and results to date have shown that there is very little between this variety and Star Leaming for districts of uncertain rainfall.

Golden Beauty.—Only two small plots totalling $6\frac{1}{2}$ acres were sown, and both suffered from lack of rain during tasselling. Both crops were revived somewhat by light showers which fell while the ears were developing, and yields of slightly over 40 bushels per acre resulted in both cases. Owing to the small areas sown and

the unevenness of the crops, only a limited quantity of seed of this variety will be available for distribution.

As this variety is an excellent yielder and produces grain of very attractive appearance which will always command top price on the markets, it is hard to understand why it is not more popular.

Improved Yellow Dent.—Three plots were arranged for, aggregating 24 acres, and all gave very good results. An ear-to-row test plot was also sown, and some excellent yields resulted.

As weather conditions at the time of planting were not promising, and in view of the fact that this variety makes very heavy plant growth, a lighter seeding than usual was carried out, with the result that the crops stood up well to the dry conditions and produced yields of over 60 bushels per acre. The ears were large and particularly well filled, and a large quantity of very fine-quality seed was selected for further plot work and for distribution to farmers. This is now the most popular and heaviest-yielding late-maturing variety grown in Southern Queensland.

It is now also being grown under the name of "Fitzroy," and since the changing of the name considerable confusion has been caused among growers who are under the impression that they are growing a new variety.

EAR-TO-ROW TEST.

Improved Yellow Dent.

| Ear No. | | | | Yield per acre. Bushels. |
|-----------|----|----|----|-----------------------------|
| 401 x 359 | .. | .. | .. | 82.8 |
| 401 x 360 | .. | .. | .. | 85.0 |
| 401 x 361 | .. | .. | .. | 89.2 |
| 401 x 362 | .. | .. | .. | 88.5 |
| 401 x 363 | .. | .. | .. | 107.8 |
| Check .. | .. | .. | .. | 86.4 |
| 401 x 364 | .. | .. | .. | 89.2 |
| 401 x 365 | .. | .. | .. | 85.7 |
| 401 x 366 | .. | .. | .. | 75.7 |
| 401 x 367 | .. | .. | .. | 87.8 |
| 401 x 368 | .. | .. | .. | 85.0 |
| 401 x 369 | .. | .. | .. | 70.7 |
| 401 x 370 | .. | .. | .. | 90.0 |
| 401 x 371 | .. | .. | .. | 74.2 |
| 401 x 372 | .. | .. | .. | 83.5 |
| 401 x 373 | .. | .. | .. | 103.5 |
| Check .. | .. | .. | .. | 81.4 |
| 401 x 374 | .. | .. | .. | 85.7 |
| 401 x 375 | .. | .. | .. | 92.1 |
| 401 x 376 | .. | .. | .. | 99.2 |
| 401 x 377 | .. | .. | .. | 90.0 |
| 401 x 378 | .. | .. | .. | 86.4 |

EAR-TO-ROW TEST.

Funk's 90-Day.

| Ear No. | | | | Yield per acre. Bushels. |
|-----------|----|----|----|-----------------------------|
| 413 x 151 | .. | .. | .. | 78.9 |
| 413 x 152 | .. | .. | .. | 74.2 |
| 413 x 153 | .. | .. | .. | 66.7 |
| 413 x 154 | .. | .. | .. | 73.2 |
| 413 x 155 | .. | .. | .. | 70.0 |
| 413 x 156 | .. | .. | .. | 61.0 |
| 413 x 157 | .. | .. | .. | 65.3 |
| 413 x 158 | .. | .. | .. | 69.6 |
| 413 x 159 | .. | .. | .. | 60.0 |
| 413 x 160 | .. | .. | .. | 57.1 |
| Check .. | .. | .. | .. | 69.6 |
| 413 x 161 | .. | .. | .. | 70.7 |
| 413 x 162 | .. | .. | .. | 75.7 |
| 413 x 163 | .. | .. | .. | 73.3 |
| 413 x 164 | .. | .. | .. | 76.9 |
| 413 x 165 | .. | .. | .. | 82.3 |
| 413 x 166 | .. | .. | .. | 85.5 |
| 413 x 167 | .. | .. | .. | 96.6 |
| 413 x 168 | .. | .. | .. | 68.2 |
| 413 x 169 | .. | .. | .. | 64.2 |
| 413 x 170 | .. | .. | .. | 54.6 |

EAR-TO-ROW TEST.

Reid's Yellow Dent.

| Ear No. | | | | Yield per acre. Bushels. |
|-----------|----|----|----|-----------------------------|
| 402 x 193 | .. | .. | .. | 46.0 |
| 402 x 194 | .. | .. | .. | 45.0 |
| 402 x 195 | .. | .. | .. | 53.5 |
| 402 x 196 | .. | .. | .. | 59.2 |
| 402 x 197 | .. | .. | .. | 54.6 |
| 402 x 198 | .. | .. | .. | 47.1 |
| 402 x 199 | .. | .. | .. | 57.8 |
| 402 x 200 | .. | .. | .. | 58.5 |
| 402 x 201 | .. | .. | .. | 52.1 |
| 402 x 202 | .. | .. | .. | 42.8 |
| Check .. | .. | .. | .. | 45.7 |
| 402 x 203 | .. | .. | .. | 45.0 |
| 402 x 204 | .. | .. | .. | 54.6 |
| 402 x 205 | .. | .. | .. | 56.4 |
| 402 x 206 | .. | .. | .. | 44.6 |
| 402 x 207 | .. | .. | .. | 55.0 |
| 402 x 208 | .. | .. | .. | 64.5 |
| 402 x 209 | .. | .. | .. | 40.7 |
| 402 x 210 | .. | .. | .. | 67.1 |
| 402 x 211 | .. | .. | .. | 55.7 |
| 402 x 212 | .. | .. | .. | 54.6 |

GRASSES.

Spartina Townsendii.—The first consignment of rootlets, which were planted along the foreshores of Redland Bay on the 27th August, 1930, continue to make only moderate growth, and, as many of these were being continually covered by sand washed up during high tides, they were removed further out to a position of a more muddy nature. Although better growth was made in the new position, the plants did not make rapid headway, the underground spread being fairly good, but very little growth was made above ground.

A further consignment of rootlets was obtained from New Zealand towards the latter end of 1931, and a number of these was planted along the Brisbane River near the old wharves at the back of the State Stores building. These continued to make good growth from the commencement, far exceeding that made by the plants at Redland Bay. Some of the stools, which were originally only a few inches in diameter, are now well over 3 feet in diameter, and are carrying a dense, healthy leaf growth from 10 inches to 12 inches in height.

The results so far have proved that this grass requires a muddy situation and thrives and spreads much more rapidly in situations covered only for short periods at high tide. Where the plants are submerged for fairly long periods, the growth and spread, so far, has been much slower.

Those planted along the Brisbane River would certainly appear to be now definitely established.

Digitarias.—A small parcel of rootlets of each of four further strains of this grass were obtained from South Africa—viz., *Digitaria Pentzii*, two strains of *Digitaria Polevansii*, *Inkruip* and *Kuruman*, and *Digitaria valida*.

Sufficient rootlets have been raised to permit of trials being conducted during the forthcoming season.

Excellent reports have been received regarding the ability of these grasses to withstand dry conditions in South Africa, and opportunity will be taken this season to try them in both the coastal and inland districts.

Townsville Lucerne.—As this valuable fodder plant had not been tried out under Southern Queensland conditions, a quantity of seed was secured and sown in a small plot. Although the seed was not sown until late in December, the plants made excellent growth and have produced a heavy crop of seed.

The results have been sufficiently encouraging to warrant experimenting with this plant on a larger scale during the forthcoming season.

CENTRAL DIVISION.

Mr. C. S. CLYDESDALE, Senior Instructor in Agriculture, reports:—

SEASONAL CONDITIONS.

The excessively dry conditions which prevailed during the previous twelve months continued to the end of the year (1932), and many old residents regard the season as the severest on record, pointing out that, although the actual rainfall recorded was a few inches in excess of a drought year such as 1902, the scarcity of grass and surface water was more pronounced. A lower mortality among stock is accounted for by better farming methods and water facilities, coupled with more extensive and improved pasturage.

In the southern section of the division the year (1933) commenced with fairly good rainfalls, which, although 25 per cent. below the general average, gave promise of a fairly productive season. A succession of heat waves, however, greatly mitigated the advantages that might have been gained, and, although pastoralists benefited to some extent, farm crops yielded but mediocre returns, which, coupled with rapidly declining prices, resulted in a disappointing and most discouraging period.

In the North, more particularly the Sarina district, persistent rains created water-logged conditions, and retarded, rather than encouraged, plant growth.

Western districts were not favoured to any extent during any period of the year under review, and, until recent rains which fell during early June, suffered from very dry conditions.

Depredations by insects were of more than usual severity.

| | | RAINFALL. | |
|-----------|-------|--------------|--------------|
| | | Rockhampton. | Jambin. |
| July | .. .. | .25 | .40 |
| August | .. .. | .11 | .00 |
| September | .. .. | .63 | .51 |
| October | .. .. | .63 | 4.67 |
| November | .. .. | 1.22 | 2.30 |
| December | .. .. | 4.31 | 6.09 |
| January | .. .. | 12.44 | 10.91 |
| February | .. .. | 1.67 | 5.19 |
| March | .. .. | .11 | .63 |
| April | .. .. | 1.57 | 2.01 |
| May | .. .. | .47 | .36 |
| June | .. .. | 1.55 | 1.82 |
| Total | .. .. | 24.96 inches | 34.89 inches |

ACTIVITIES.

In furtherance of the policy of previous years, energies have been mainly devoted to experimental plots and demonstrative areas, which work has been carried out in conjunction with general instructional duties.

Experiments embrace fertilizer trials with tobacco, and variety trials with wheat, onions, and cowpeas.

Seed increase plots of wheat, tobacco, and cowpeas were propagated; and the benefits of fodder conservation were demonstrated by hay and ensilage plots.

Winter root crops were also grown demonstratively; and a pasture improvement plot was established at Gracemere.

Judging of farm and other produce was carried out at various agricultural shows, including those at Bundaberg, Miriam Vale, Gladstone, Rockhampton, and Mackay. Time was also devoted to check-weighing of eggs at the Rockhampton Agricultural Society's egg-laying competitions.

EXPERIMENTAL PLOTS.

Tobacco.—Previous varietal trials with this crop had indicated the suitability of Hickory Pryor, Yellow Pryor, and Cash for Central Queensland, and, in consequence, no further trials of this nature appeared to be immediately necessary at this stage of the industry's development. This season's trials were, therefore, confined to fertilizer tests.

The Commonwealth Tobacco Investigation had inaugurated fertilizer trials throughout the Central Division with a view to observing the effect of various forms of fertilizers; and, in desiring to avoid duplication of such work, this Department's tests were abbreviated to rate of application trials, together with the pathological and physiological effects of lime, potash, and magnesia. The area of each experimental plot is 1 acre.

For the rate of application trials, the standard tobacco mixture (No. 4), containing $4\frac{1}{2}$ per cent. nitrogen, 15 per cent. phosphoric acid, and $4\frac{1}{2}$ per cent. potash, was used, being applied at the rates of 400, 500, 600, 800, and 1,000 lb. per acre in one-fifth acre strips adjacent to one another. Lime, potash, and magnesia were applied in cross sections, each mineral being limited to one-quarter acre. The fourth quarter section was a control area.

These trials were arranged in the three districts—Sarina, Miriam Vale, and Byfield—and Messrs. Brooks and Gerry, F. Gouvernett, and E. W. Meilland, respectively, co-operated by providing the necessary land and assisting in the cultivation and curing of the crops.

Weather conditions in each district were distinctly adverse, and not, in any instance, conducive to optimum results.

At Sarina heavy and continuous rain in January and February caused a severe check on growth and hastened maturity, with consequently lowered yields.

The data recorded suggests that no finality can be assumed until the effect of leachage by heavy rains on such sandy tobacco soil types can be determined. The possibility of such leachage is suggested by the rain records as shown, from which it will be seen that during the sixty-nine days of growth, thirty were wet, the total precipitation aggregating 24.91 inches.

Planting was completed on 23rd December, and harvesting on 2nd March.

| | RAINFALL. | | | Points. |
|---------------|-----------|----|----|---------|
| December— | | | | |
| 23rd | .. | .. | .. | 102 |
| 25th | .. | .. | .. | 25 |
| 26th | .. | .. | .. | 198 |
| 27th | .. | .. | .. | 5 |
| January— | | | | |
| 7th | .. | .. | .. | 4 |
| 23rd | .. | .. | .. | 34 |
| 24th | .. | .. | .. | 38 |
| 25th | .. | .. | .. | 202 |
| 26th | .. | .. | .. | 102 |
| 27th | .. | .. | .. | 56 |
| 28th | .. | .. | .. | 21 |
| 29th | .. | .. | .. | 4 |
| 30th | .. | .. | .. | 35 |
| February— | | | | |
| 2nd | .. | .. | .. | 239 |
| 3rd | .. | .. | .. | 16 |
| 4th | .. | .. | .. | 43 |
| 5th | .. | .. | .. | 205 |
| 6th | .. | .. | .. | 41 |
| 7th | .. | .. | .. | 80 |
| 8th | .. | .. | .. | 88 |
| 9th | .. | .. | .. | 31 |
| 10th | .. | .. | .. | 45 |
| 11th | .. | .. | .. | 143 |
| 12th | .. | .. | .. | 216 |
| 17th | .. | .. | .. | 11 |
| 18th | .. | .. | .. | 182 |
| 19th | .. | .. | .. | 2 |
| 22nd | .. | .. | .. | 18 |
| 28th | .. | .. | .. | 146 |
| March—1st | .. | .. | .. | 159 |
| Total | | | | 2,491 |

At Miriam Vale a poor, uneven strike was obtained, due to varying moist and dry hot climatic conditions. The stand was considered too uneven to allow of accurate yields being ascertained. Throughout this plot no noticeable difference was discernible in any of the respective applications. A brief pathological examination was also made of the plot, which showed no indications or variations.

At Byfield heavy rains restricted early growth and badly checked certain low-lying portions, but the crop as a whole made good progress and yielded fair quantities of good-quality leaf.

RESULTS.

Weights in lb. per acre— $4\frac{1}{2}$ —15— $4\frac{1}{2}$ Fertilizer Mixture Applied.

| Additional. | BYFIELD. | | | | | | SARINA. | | | | | |
|------------------|----------|-------|-------|-------|-------|--------|---------|-----|-----|-----|-------|--------|
| | 400 | 500 | 600 | 800 | 1,000 | Total. | 400 | 500 | 600 | 800 | 1,000 | Total. |
| Lime | 664 | 680 | 955 | 1,153 | 1,074 | 4,526 | 120 | 60 | 70 | 80 | 40 | 370 |
| Control | 297 | 441 | 524 | 486 | 595 | 2,343 | 80 | 110 | 100 | 70 | 110 | 470 |
| Magnesia | 216 | 407 | 305 | 440 | 418 | 1,786 | 130 | 90 | 160 | 100 | 90 | 570 |
| Potash | 356 | 278 | 386 | 442 | 480 | 1,942 | 70 | 90 | 160 | 105 | 60 | 485 |
| Totals | 1,533 | 1,806 | 2,170 | 2,521 | 2,567 | 10,597 | 400 | 350 | 490 | 355 | 300 | 1,895 |

Material for smoking tests from these two plots has been selected.

In conjunction with Mr. L. F. Mandelson, Plant Pathologist, curing tests were conducted at Sarina in an endeavour to check "barn spot." Messrs. Brooks and Gerry were good enough to place a full barn of leaf at our disposal for this purpose.

The object of the experiment was to determine the effect of humidity increased to 100 per cent. during the process. The effect was attained by the continued application of steam

from a boiler. Although the boiler was of insufficient capacity to maintain maximum humidity, the final results showed definite checking of "barn spot."

It is also interesting to note that in other respects an improved cure resulted.

The data obtained indicates the advisability of further trials of this nature next season.

No exploratory plots were arranged for this season, it being considered that those districts already established—i.e., Mount Christian, Koumala, Sarina, Blue Mountain, Munburra,

Dunwold, Miriam Vale, Torbanlea, Bundaberg, Byfield, Littlemore—would tax all the time available to officers of this Branch during the season. It is pointed out, however, that, with the possible exception of Sand Hills and certain Boyne Valley lands, no areas at present known show any prospects of being suited for tobacco culture.

Tobacco Seed Areas.—With a view to producing quantities of seed in disease-free areas, arrangements were made for the planting of four pure-seed areas in Central-Western districts.

Very hot conditions at Alpha and Theodore prevented the planting out of areas in these districts, and the disposal of Gindie State Farm caused the abandonment of that plot.

At the Callide Cotton Research Station assiduous attention to detail and unrelenting effort countered the effects of dry weather, and, with the aid of irrigation, a well-grown disease-free plot of approximately 1,200 plants yielded up to 80 lb. of well-filled clean seed. The variety planted was Hickory Pryor. Several plant selections were made in this area with a view to maintaining type. These, it is anticipated, will be used in plant-to-row sowings in recognised tobacco-growing areas next season.

To assure a sufficiency of plants for these plots, duplicate seed-beds were raised in Rockhampton, but, as previously stated, hot, dry weather conditions prevented their being transplanted, and they were, in consequence, not required and were destroyed.

Seed Supplies.—In view of the shortage of seed for the coming season, which was due to the failure of the stud seed plots, arrangements were made for further supplies from farmers in the Sarina area. An inspection of selected crops was made in company with Mr. Mandelson, Plant Pathologist, and reservation was made for 80 lb. of seed of the following varieties:—Cash and Yellow Pryor.

TOBACCO.

General Conditions.—Generally, seasonal conditions were not conducive to the production of good crops in Central Queensland this year. In the northern section continuous rains hampered cultivation and growth greatly, minimising yields, whilst in the South, although good conditions prevailed until early February, they suddenly ceased and became definitely adverse, much damage being caused by sun scald and other disorders. Despite these setbacks, however, some excellent crops of high-quality leaf were harvested, and good prices realised.

The total areas under tobacco in the several districts were as follows:—

| | | | | |
|--------------------|----|----|----|-----|
| Mount Christian | .. | .. | .. | 41 |
| Koumala | .. | .. | .. | 49 |
| Sarina | .. | .. | .. | 283 |
| Blue Mountain | .. | .. | .. | 46 |
| Munburra | .. | .. | .. | 50 |
| Dunwold and Mackay | .. | .. | .. | 40 |
| Miriam Vale | .. | .. | .. | 159 |
| Bundaberg | .. | .. | .. | 50 |
| Torbanlea | .. | .. | .. | 4 |
| Byfield | .. | .. | .. | 5 |
| Littlemore | .. | .. | .. | 3 |
| Grand total | .. | .. | .. | 730 |

Insect Pests.—Three districts—Byfield, Littlemore, and Torbanlea—suffered the least from insect attack, but in other districts insect ravages still remained a major problem; but experience gained from previous seasons proved invaluable in control, and spoilt leaf was probably less in evidence than in other years.

Pathological trouble was experienced in all centres. Damping-off in seed-beds was very prevalent, and "frog-eye" was probably more noticeable than previously. Other diseases, yet unidentified, appeared at Byfield and Bundaberg, and mosaic made its appearance on sucker leaves, but without affecting crop yields.

Prospects for Following Season.—General results have been sufficiently gratifying to encourage preparation for increased areas next season, more particularly in the newly cultivated localities of Byfield and Torbanlea, where clearing has already been commenced.

If a normal season is experienced—an occurrence which has not been recorded in Central Queensland since tobacco-growing began—a record crop of par-excellent leaf may be freely anticipated.

WHEAT TRIALS.

On account of an extremely dry winter, following a summer of parching heat and rain scarcity, wheat trials at Dululu failed to produce grain, while those at Biloela and Theodore, where the rainfall was slightly more generous, produced only very small quantities of pinched grain.

Of the thirty-five varieties planted, Boolaroo, Pusa, Florence, Bo x F x G 2606, Pusa x Novo 2901, and all the C.C.C. crossbreds showed most promise under droughty conditions.

C.C.C. 2701 once again dominated the trials, and would appear to be the most consistently productive variety under all conditions. Gem and Pinto exhibited good drought-resistant qualities. The B x IP x M crosses exhibited a decidedly poor root system, and, with the exception of Selection No. 2617, were rejected for further trial. Long-season wheats, such as Nabawa, were badly handicapped by the dry season.

Twenty-two varieties were selected for sowing this season, and have been planted again at Dululu, Biloela, and Theodore, with W. G. Llewellyn, Callide Cotton Research Station, and Letchford Bros., respectively, the varieties being as follows:—

| | |
|-------------|----------------------------|
| Amby | C.C.C. 2905 |
| Boolaroo | C.C.C. 2910 (2 selections) |
| Caliph | C.C.C. 2911 |
| Clarendon | C.C.C. 2912 |
| Flora | Bo x F x G 2606 |
| Gem | Bo x F x G 2613 |
| Pinto | Bo x F x G 2703 |
| Pusa | Pusa x Novo 2901 |
| Florence | B x IP x M 2617 |
| C.C.C. 2701 | Bunge (for Hay) |
| C.C.C. 2705 | |

Two bushels of a newly named crossbred—"Seafoam"—were received from Head Office, and have been planted with Messrs. Letchford Bros., Theodore, and Callide Cotton Research Station, Biloela.

Additional seed lots were forwarded from Head Office, but, unfortunately, arrived late in season. These supplies embraced 1 bushel each of the following:—

| | |
|-----------------|-------------|
| Watchman | C.C.C. 2708 |
| Reward | C.C.C. 2704 |
| B x IP x M 2804 | C.C.C. 2614 |
| B x IP x M 12 | C.C.C. 2613 |
| BFG 2902 | Three Seas |
| BFG 2627 | |

and, in addition, 2 oz. samples of—

| | |
|-----------------|-----------------------|
| Aussie | C.C.C. 2704 |
| Flora | C.C.C. 2709 |
| Kenya Gov. | C.C.C. 2908 |
| Kenya Gov. 6041 | C.C.C. 2911 |
| Kenya Gov. 6042 | C.C.C. 3016 |
| Kyperunta | C.C.C. 3021 |
| Minflora | C.C.C. 3201 |
| Maurgani | C.C.C. 3207 |
| Mavrotheri | Clar x Garnet 3014 |
| Psathias | Pinto x Clar 3004 |
| B2 x Flo 3004 | P x 3C x Se x 3C 3202 |
| B x F x G 2613 | Pusa x C.C.C. 3209 |
| B x F x G 2627 | Pusa x C.C.C. 3215 |
| B x F x G 3201 | Pusa x Glu 3012 |
| B x F x G 3205 | Pusa x War 3004 |
| B x F x G 3206 | SE x C.C.C. 3212 |
| B x IP x Man 12 | |

Due to late arrival, it was thought advisable to retain one-half of each of the bushel lots.

Two plots comprising one-half and one-eighth acre of each variety have been planted at Theodore and Emerald with the Messrs. Orme and McCosker respectively. These two growers also co-operated by planting up the single drills of those varieties of which the 2-oz. samples were supplied.

Increased areas have been planted at Biloela (5 acres) and Dululu (1½ acres) of Pusa x Novo 2901, from seed propagated at the Callide Cotton Research Station.

WHEAT—GENERAL.

The total area planted under wheat during last season showed a slight decrease on previous years. Crops in the Callide Valley, which were total failures, were, where possible, harvested for hay. At Theodore a yield of 3½ bushels per acre was obtained from approximately 260 acres, the resultant grain being of good quality, and classified by the State Wheat Board as Q1.

This season a still further decrease, due to last year's disparity of yield, is noticeable, and only some 630 acres are being planted, being dispersed as follows:—

| | Acre. |
|------------------|-------|
| Dululu | 210 |
| Biloela | 120 |
| Theodore | 300 |
| Total | 630 |

Difficulty was experienced in obtaining a good germination during the early planting period, but beneficial rains during the month of June accelerated growth, and good strikes are now being obtained.

Crop returns will, however, be dependent upon further winter rains.

The varieties under commercial areas comprise Pusa, Florence, Clarendon, and Three Seas.

ONION TRIALS.

Results from previous season's experiments served to indicate the possibilities of a variance in yield and general quality between onion crops produced from seed of different origin of supply. In consequence, this year's trials were designed to test any such variability between several seed supplies. The two varieties which had proved most successful in previous experiments—Early Hunter River Brown Spanish and Extra Early Golden Globe—were used. White Imperial, a variety which showed promise in the South, and which had not been previously tried here, was included to determine its suitability.

The farmers who co-operated with the Department in carrying out the trials were:—Messrs. J. E. Freeman, Theodore; A. E. Fisher and Sons, Gracemere; R. E. Willmot, Theodore; and J. L. Marr, Ulam. Following are the details of each trial:—

J. E. Freeman.—This grower distributed his sowings over two plots—one sown on 20th May, 1932, and the other on 5th June, 1932. On plot 1 the soil was slightly heavier than on plot 2, and was new to cultivation. On plot 2 the land had been under cultivation for several years. Both soils are a forest loam. Cultivation throughout was thorough and efficient, weed growth being kept in check. Both plots were irrigated prior to planting, and were in good physical condition at time of sowing.

R. E. Willmot.—This plot was established on a well-prepared sandy loam, and was planted on 1st June, 1932. Cultivation was fairly regular, and the plot was kept free from weeds. The plot was irrigated just before sowing. Where good germination prevailed, the stand was heavy, necessitating thinning. This work was carried out on 29th August, 1932, a spacing of 4 inches being left between the plants.

J. L. Marr.—This plot was on brown scrub soil of a light loamy nature. It was well prepared, and irrigated just before planting, which commenced on 14th May, 1932, and finished on 15th May, 1932. Unfortunately, on this plot the grower experienced difficulty with the planter, and a very uneven seeding resulted. This prevented an estimate of the original strike being made. The plot also became badly infested with panicum from an adjacent crop which had been allowed to go to seed. This circumstance militated greatly against the yields.

A. E. Fisher and Sons.—This plot was planted on 14th May, 1932, on a sandy soil fairly well prepared, but still carrying weed seeds. A fair strike originated, but the young seedlings were ravaged by a flock of ibis, which almost totally destroyed the plot. Yields were not computed.

At Theodore the plots were irrigated by flooding, the plants being grown on beds with the irrigation channels between them.

At Ulam spray irrigation was used. At Gracemere it was intended to use flood irrigation, but, owing to ibis ravages and to the fact that the well was in a very low condition, no watering was done.

RESULTS.

| Index No. | Origin Seed. | No. per yard. | | | Bulbs per yard Time of Harvest. | | | | Yields—Tons per acre. | | | | Approximate Average Weight of Bulbs—ounces. | | | |
|-----------|--------------|---------------|----|----|---------------------------------|---------|-----|-----|-----------------------|-------|----------|------|---|----|----|----|
| | | F1 | F2 | W | F1 | F2 | W | M | F1 | F2 | W | M | F1 | F2 | W | M |
| 1 | A | 6 | 16 | 8 | 4.6 | 11.6 | 9 | 3.2 | 13.58 | 13.72 | 13.79 | 7.6 | 10 | 4 | 5 | 3 |
| 2 | A | 6 | 17 | 8 | | Failure | | | | Not | computed | | .. | .. | .. | .. |
| 3 | B | 8 | 17 | 10 | 10.6 | 13.3 | 7.9 | 3.7 | 15.62 | 14.74 | 12.41 | 8.9 | 5 | 3½ | 5½ | 3½ |
| 4 | B | 3 | 12 | 4 | | Failure | | | | Not | computed | | .. | .. | .. | .. |
| 5 | D | 10 | 14 | 12 | | Failure | | | | Not | computed | | .. | .. | .. | .. |
| 6 | D | 23 | 16 | 14 | | Failure | | | | Not | computed | | .. | .. | .. | .. |
| 7 | E | 12 | 14 | 9 | | Failure | | | | Not | computed | | .. | .. | .. | .. |
| 8 | F | 5 | 6 | 6 | 5.0 | 5.8 | 4 | 2.5 | 9.78 | 10.95 | 8.91 | 6.56 | 6½ | 6¼ | 7¼ | 3½ |
| 9 | F | 10 | 7 | 14 | | Failure | | | | Not | computed | | .. | .. | .. | .. |
| 10 | C | 22 | .. | .. | 17.3 | .. | .. | .. | 14.3 | .. | .. | .. | 3 | .. | .. | .. |
| 11 | G | .. | 12 | .. | .. | 9.2 | .. | .. | .. | 11.24 | .. | .. | .. | 4 | .. | .. |
| 12 | H | .. | .. | 12 | .. | .. | 8.2 | .. | .. | .. | 11.39 | .. | .. | .. | 4½ | .. |

Legend: F1—J. E. Freeman, Plot 1, W.—R. E. Willmot.

F2—J. E. Freeman, Plot 2, M.—J. L. Marr.

J. E. Freeman—Plot 1.

Planted 20th May, 1932.

Rainfall, 702 points; month previous planting, 116 points.

Irrigated 30th July, 1932.

Harvested 29th November, 1932.

1 A.—Rather large and coarse, probably accentuated by thin stand.

10 C.—Fine neck and good shape. Most promising.

8 F.—Rather poor shape; necks coarse.

J. E. Freeman—Plot 2.

Planted 5th June, 1932.

Rainfall, 646 points; month previous to planting, 172 points.

Irrigated 29th July, 1932.

Harvested 29th November, 1932.

1 A and 3 B.—Occasional bulbs, inclined to be large and coarse.

8 F.—Poor shape.

11 G.—Better quality than others.

R. E. Willmot.

Planted 1st June, 1932.

Rainfall, 663 points; month previous to planting, 155 points.

Irrigated 9th August, 1932.

Harvested 30th November, 1932.

The individual lots exhibited very little, if any, variation—12 H, if any, showing to slight advantage. Of the Extra Early Golden Globes, 7 E appeared to have made slightly better progress than others. The actual yield of the plot approached 8 cwt. per acre. It was estimated that 6 per cent. of the plants formed saleable bulbs, 13 per cent. rotted in the ground, and 81 per cent. failed to bulb. Other plots of this variety were a total failure.

Mr. Willmot's yield from 7 acres was 37½ tons, or 5.5 tons per acre, but from a small area adjacent to the experimental plot, and which had received, in conjunction with the trial plot, more careful attention, 11.9 tons per acre were harvested.

J. L. Marr.

Planted 14th May, 1932.

Rainfall, 870 points; month previous to planting, 307 points.

Irrigated 12th September, 1932.

Harvested 7th October, 1932.

A somewhat poor stand in this plot prevents comparisons of different lots being made.

In all plots White Imperial showed to better advantage than Extra Early Golden Globe, and, although no saleable bulbs were formed, the general tendency to do so was strongly apparent, the shortness of the season preventing development.

During the season the plots, together with other onion crops, suffered an attack of thrips (*Thrips tabaci*), the infestation being first noticed on 23rd September, 1932, at Theodore, where it later became fairly severe. At Ulam and Gracemere the attack was only light.

Extract Last Season's Results.

Variety, Early Hunter River.

| Origin of Seed. | Number per yard. | | | Yield—tons per acre. | | |
|-----------------|------------------|-----|-----|----------------------|-------|-------|
| | F1. | F2. | W. | F1. | F2. | W. |
| A | 7.8 | 7.3 | 7.5 | 13.68 | 10.21 | 15.62 |
| B | 7.3 | 7.5 | 6.0 | 13.68 | 10.43 | 10.93 |
| C | 8.6 | 8.1 | 7.6 | 13.32 | 11.12 | 15.64 |

It will be noted variation in yields fluctuate somewhat consistently with the strike, and this also affects the average bulb weight.

Without a constant and complete planting of all plots, it would appear impossible to obtain any definite comparisons between the different strains, the only conclusion affording any degree of accuracy being that strain C shows a probable slight improvement in type to others.

To test the keeping quality of Theodore onions, a number of good-quality bulbs was selected and stored in Rockhampton, slung on a cord rack. The bulbs were stored on 1st December, 1932,

and to date it is shown that 4 per cent. decayed in January, 15 per cent. in February, and 9 per cent. in March. An additional 4 per cent. have sprouted. It is intended to use the remaining bulbs to attempt the propagation of seed.

It is surmised that most sources of seed supply have a common origin, and that more advantageous results will be obtained by attention to cultural methods, and, consistent with this impression, this year's trials have been designed to embrace depth of seeding and frequency of watering trials, together with varietal tests.

The varieties comprise New King, White Imperial, Early Golden Globe, and Early Hunter River Brown Spanish.

The growers co-operating are Messrs. J. E. Freeman and R. E. Willmot, of Theodore, J. Brown and Sons, of Archer, J. O'Donoghue, of Blue Mountain, A. E. Fisher and Sons, of Gracemere, P. Graff, of Nerimbera, and A. E. Newman, of Scrubby Creek.

These plots have been recently sown, and good strikes obtained.

GENERAL CROP CONDITIONS.

Last season, farmers at Theodore generally attempted the cultivation of onions in areas much in excess of that to which they had time to give adequate attention, with the result that the average yield of the district was, despite a good robust strike during the early stages, decidedly below its true capabilities, it being estimated that the average yield obtained would be only 4 to 5 tons per acre.

Some growers are of the erroneous opinion that weed growth serves the advantage of a shelter to the crop, and attempt to rectify the retarding effect of such growths by lavish irrigations.

In one field of 7 acres, where such weed growth totally covered the crop to a height of 5 or 6 feet, the actual gross yield did not exceed 4 tons.

The soil under such conditions of maltreatment becomes very hard, and normal bulbing is restricted. The produce from such crops is of poor quality, and has, on being marketed, received unfavourable comment, to the general detriment of the district's reputation.

In harvesting, growers appear to have been very lax, many bagging in the field without sufficiently drying the crop. Very little attention has been paid to grading.

Towards the end of September, and during October, tobacco thrips manifested themselves in the crop, and the use of Katakilla appeared to allay the attack, for, upon inquiry, no further apparent damage was discerned. Mr. Summer-ville's recommendation of more thorough cultivation could also be advantageously employed.

Opportunity was taken to inspect the effect of time of planting and number of waterings on one farm; also to inspect the effect of transplanting on another.

On the first farm, plantings were made in the second week in May and first and second weeks

in June. On the early-planted area a large portion of the crop had run to seed, which was estimated from counts made to be 46 per cent. On the later plantings only very occasional seed-heads were noticeable.

Owing to the neglected state of cultivation and abundant weed growth, no estimate could be made of the effect of number of waterings.

On the second farm a small trial plot of transplanted plants was established. At the time of harvest these showed a very even, although small, growth. The plot was closely planted, but was not given the same attention as the Departmental trial plots. The average yield was 9.7 tons per acre, and the average weight of the bulbs 2½ ounces.

Owing to last season's prices, which were rather low, due to inferior produce, the anticipated area this season is greatly reduced.

Well-graded good-quality onions, however, realised up to £8 per ton.

HAY CROP AND ENSILAGE CROP DEMONSTRATION PLOTS.

On requests from several settlers in The Caves district and from the Jambin Settlers and Farmers' Progress Association, demonstration plots of crops suited for hay and ensilage making were established in the respective districts.

In The Caves district Mr. Millar, of Barmoya, co-operated with the Department in planting both plots.

At Jambin Mr. J. R. Adsett planted the hay crop plot, and Mr. P. Price the ensilage crops.

The crops under trial were:—For hay or storer (½ acre each of)—

White Panicum;
Japanese Millet;
Liberty Millet;
Sudan Grass;
Saccaline Sorghum;

and for ensilage (3 acres of each of)—

Star Leaming Maize;
Saccaline Sorghum.

The Caves.—In The Caves district the ensilage crops were planted on 18th November, 1932. A good strike originated from the saccaline, but the maize showed only a fair germination. Both crops made poor growth, due to dry weather, and did not produce sufficient to allow a demonstration in stack silage being carried out.

The hay crops were planted on 25th November, 1932, after a fall of 1½ inches of rain, but only a poor germination resulted, and only poor growth was made. An additional ½ inch of rain later did not improve the crop, and the project of utilising the plot for hay had to be abandoned. These crops, together with other material grown by Mr. Miller, were eventually made into silage.

Jambin.—J. R. Adsett's plot was planted on 12th November, 1932, but did not germinate until the end of December, following good rains on the 18th and 19th of that month. With the exception of Liberty Millet, all crops struck well, and fairly good showers maintained a good and robust growth throughout their growing period.

Details of the respective crops are as follows:—

White Panicum.—Made very luxuriant growth and was particularly dense, attaining a height of 4 feet to 4 feet 6 inches.

Yield, 16.38 tons green fodder, or 5.57 tons of hay per acre. The dried sample was pliable, and exhibited a good, bright appearance.

Japanese Millet.—Grew to a height of 4 feet, averaging approximately 3 feet 6 inches. This crop, however, did not exhibit the luxuriant density of White Panicum, but showed robust and healthy growth, and was the earliest maturing of the varieties planted.

Yield, 12.04 tons per acre of green fodder, or 4.82 tons of hay.

Liberty Millet.—From an uneven and poor germination this crop made an uneven growth, and did not suggest itself as an equal of either Japanese Millet or White Panicum. Yields were estimated from those portions of the crop where a reasonably good stand was in evidence. The average height was 3 feet 6 inches to 4 feet.

Yield, 9.79 tons green fodder, or 3.02 tons hay.

Sudan Grass.—The height of this crop averaged between 8 and 9 feet, but the growth appeared to be sparse, and the crop did not exhibit the usual foliage, and was of a wilted nature, the stalks being dry and pithy, yields in consequence being reduced.

Yield, 10.32 tons per acre green fodder, or 5.36 tons of hay.

Saccaline.—Saccaline was grown to test its suitability for stover, but it is expected that such fodder cannot become popular, owing to the uncertainty of Central Queensland weather conditions and the time required to dry the succulent stalks.

Average height, 8 to 9 feet.

Yield, 20.64 tons green feed, or 6.01 tons dry weight as stover.

The ensilage plot on the farm of Mr. P. Price was planted during the latter part of October, and the seed germinated with showers at the beginning of November.

Saccaline struck well and made good growth, reaching a height of approximately 11 feet, but the rapid growth made by *Supple Jack* (*Sesbania aculeata*) prevented the clearing of the plot, and any attempt at harvesting for silage-making was too difficult to warrant continuing with the project.

The maize showed only a 50 per cent. strike, and, although it made good growth, it was eventually overgrown with *Supple Jack*.

| | RAINFALL. | | | | Inches. |
|----------|-----------|----|----|----|---------|
| October | .. | .. | .. | .. | 4.67 |
| November | .. | .. | .. | .. | 2.30 |
| December | .. | .. | .. | .. | 6.09 |
| January | .. | .. | .. | .. | 10.91 |
| February | .. | .. | .. | .. | 5.19 |
| Total | .. | .. | .. | .. | 29.16 |

General.—In The Caves district lack of rain prevented farmers from realising the return that would usually be expected from crops planted for general purposes. Crops generally only made fair growth, and the supply of green feed

had to be immediately availed of to maintain stock condition; consequently, although it was anticipated early in the season that several stacks would be erected and many crops harvested, the dry weather conditions made this impossible.

Some of the earlier-planted maize which was intended for grain purposes made a good growth up to the tasselling stage, when dry conditions prevailed. Farmers were doubtful as to these crops setting grain, and sought information as to the possibilities of conserving such crops into silage.

A stack silage demonstration was carried out on one farm, where a crop of immature maize and grass was utilised. Over twenty farmers attended the demonstration.

In the Callide Valley conditions were more congenial, and, although early spring rains were barely sufficient to promote rapid growth, good rains fell in December and January, and excellent crops of hay were realised. The principal crop grown was Sudan grass, and numerous large fields of this fodder could be witnessed throughout the valley. Maize crops were not, however, so successful; dry, hot conditions during February and March wilted the plants, but grain had set, and farmers, expecting a quicker return from this source, neglected ensilage-making in preference of the much-needed quicker monetary returns.

Ensilage demonstrations were also given at Bajool. Other farmers made conservations of ensilage, either in stacks, pits or tub silos, from previous experience gained.

ROOT CROP DEMONSTRATION PLOTS.

These trials were arranged with—

| | | | |
|-----------------|----|----|----------|
| W. L. Jacobsen | .. | .. | Sarina |
| E. Bryant | .. | .. | Dululu |
| A. Miller | .. | .. | Barmoya |
| Letchford Bros. | .. | .. | Theodore |

and comprised the following crops:—

Dwarf Essex Rape,
Yellow Aberdeen Turnip,
Swede Turnip,
Sugar Beet,
Yellow Globe Mangel,
Yellow Tankard Mangel.

Dry weather conditions so depleted the growth of these crops that none made sufficient headway to allow of yields being estimated, but the general results obtained emphasised to farmers the hardiness and possibility of such crops as stock feeds during winter months.

Similar plots have been arranged for this season with:—

| | | | |
|-------------------|----|----|------------|
| A. Miller | .. | .. | Barmoya |
| Letchford Bros. | .. | .. | Theodore |
| Muspratt and Sons | .. | .. | Littlemore |

COWPEA TRIALS.

With the object of testing and raising additional seed of the new crossbred cowpeas bred at Roma State Farm, experimental plots were established in the Archer and Jambin districts.

The results of last season's trials were not too promising, due to the unfavourable weather conditions that prevailed during the growing period.

Returns showed a slight increase in the quantity of seed sown, with the exception of Large White x Skewbald x Mammoth Sel. 1, which was lost at Jambin, but, fortunately, gave a return at Archer. Seed of this variety was used to complete the original series.

Conditions have been very favourable for the crop in the Jambin district, with the result that very robust growth was made and the yield of seed should be considerably increased, although no attempt was made to compute the yields, owing to the unevenness of areas planted.

At Archer this plot was sown on new land where irrigation (spray system) could be applied if natural conditions proved unfavourable. Planted during January when conditions were very promising and good moisture present, the germination of all varieties was good, and the plants got an excellent start. In February and March dry, hot conditions prevailed, and water was applied. All varieties showed good promise, with a capacity to produce luxuriant growth, but inclined to be shy seed-bearers. This may have been due to the seasonable conditions and also to a heavy infestation of insects, as the flowers and small pods appear to die and fall off.

Archer.—(1) Large White x Skewbald x Poonah Sel. 1.—This variety shows a large amount of foliage of dark-green colour, leaves large, and branching stems, coarse, very upright grower, height 3 feet 6 inches, early maturing, flowers yellow, seed-pods of medium size, medium bearer.

(2) Large White x Skewbald x Poonah Sel. 2.—Remarks similar to Selection 1.

(3) Large White x Skewbald x Mammoth Sel. 1.—Height 1 foot 8 inches to 1 foot 10 inches, foliage medium-green, with pronounced purple colour under leaf and on pods. The colouring becomes more distinct as plants reach maturity. Pods are very long and large, but inclined to be shy bearer. Procumbent, coarse growth, medium to late.

(4) Large White x Skewbald x Mammoth Sel. 2.—Remarks similar to Selection 1.

(5) Large White x Skewbald.—Crop shows higher green foliage than previous crossbreds, procumbent to semi-procumbent habit, growth medium to heavy, leaves of medium size, late maturing, pods forming, scarce, giving indication of light yielding. Height 2 feet to 2 feet 3 inches.

(6) Home Hill x Mammoth.—Crop averages 1 foot 6 inches in height, showing coarse and procumbent habit of growth, foliage medium-green colour, earlier in maturity than No. 5. Seed-pods forming well, and should produce fair quantity of seed.

(7) New Era x Poonah.—Dense matted, procumbent habit of growth, leaves very small, also pods; early maturing, foliage light-green colour, medium yielding variety, height 2 feet.

(8) Snake x Poonah.—Late maturing, procumbent habit of growth, leaves medium size, light-green colour, pods very long, medium bearer.

Jambin.—Details are identical with those at Archer, the only difference being that all varieties show a decided improvement in their capacity to produce seed.

Planted in the "dry" in November, and germinated towards the latter end of December with 100 per cent. strike, all varieties made an amazing growth, and towards the end of January the 3-ft. rows in which they were planted met across the rows.

An interesting and very noticeable feature was a crop of black cowpeas growing adjacent to the Roma crossbreds. The growth of the black cowpeas was slower and not nearly so prolific as the crossbreds 1, 2, 3, and 4.

As an indication of plant growth, two plants of these varieties were selected at random and weighed, the results being as follows:—

(1) Large white x Skewbald x Poonah Sel. 1—
3 lb. 3 oz.

(2) Large White x Skewbald x Poonah Sel. 2—
3 lb.

(3) Large White x Skewbald x Mammoth Sel. 1—
4 lb. 7 oz.

(4) Large White x Skewbald x Mammoth Sel. 2—
4 lb. 6 oz.

Black Cowpeas—1 lb. 2 oz.

Provided that additional supplies of these varieties can be procured, it is suggested that a test could be carried out next season to ascertain their respective yielding capacity as far as green fodder, hay, and seed.

Furthermore, information might also be ascertained as to their behaviour to resist nematodes.

Information supplied by Mr. R. E. Soutter, Manager, State Farm, Bungeworgorai, indicates that three of these crossbreds are fairly nematode-resistant—namely, Large White x Skewbald, New Era x Poonah, and Snake x Poonah.

Sufficient seed of these varieties has been harvested to sow 1 acre each, it being intended to utilise the seed in plots established in tobacco-growing districts this season.

PASTURE IMPROVEMENT.

In accordance with recommendations formulated last year, the pasture improvement plot at Archer is being removed to Gracemere; dry weather conditions, however, have greatly hampered effort, and little progress has been made.

At Archer, due to the bad state of repair of the surrounding fences, the plot was thrown open to stock, and has been continually grazed for the past twelve months.

Lack of moisture has proved fatal to many of the established grasses, and, owing to the adjacent creek having become dry, no water was available to maintain growth. The effect of droughty conditions has shown, however, a remarkable hardiness exhibited by some grasses.

Purple Top Buffel (*Pennisetum cenchroides*, var.) has not only maintained growth, but spread slightly, foliage being palatable and soft.

Awnless Buffel (*Pennisetum cenchroides*, var.), although not making very robust growth, has produced succulent feed, and shows no indications of dying out.

Wild Lucerne (*Stylosanthes procumbens*) has made several inches growth, and has seeded, although not giving any grazing.

A *Panicum* sp. appears to be a very flaggy grower, producing quantities of succulent feed under the most severe conditions, spreading rapidly by means of seed, which evidently germinates and attains a vigorous rooting system despite dry weather.

Blue Couch (*Panicum didactylum*) unexpectedly retained a green growth. It is not, however, eaten by stock with any avidity, and cannot be regarded as an advantage.

The Mitchell grasses (*Astrebla* spp.) retained their stand, but appeared to make but little, if any, progress.

Certain other grasses, although suffering partial annihilation, have remained established, and these include Giant Blue (*Andropogon nodosus*) and Satin Top (*Andropogon exianthoides*).

Original stands of the other grasses, including Rhodes, Kikuyu, Giant Couch, Red Top Rhodes, White Top Rhodes, Paspalum, Russell River, Coolah, Texas, Shot, Red Flinders, Early Spring, &c., have completely disappeared, only seedling growths being apparent.

Cuttings and roots, including the Woolly Finger grasses, received recently, have been maintained at my residence, where a portion of my garden has been set aside for the purpose.

Rootlets and cuttings and a few samples of seed have been distributed to farmers, but dry weather conditions have minimised the call for them, and has greatly affected, and in some instances totally eliminated, the supplies.

Spartina Townsendii.—This saltwater grass established at Gladstone, Raglan, and Casuarina Island is making slow but definite growth, more particularly at Gladstone, where a lateral spread has extended some 15 to 18 inches. Top growth, however, is inclined to be sparse.

Yalboroo Experiments.—At the instance of the Manager of the Agricultural Bank (Mr. H. C. Quodling), the establishment of a grass demonstration area in this country for the guidance of new settlers has been commenced, in co-operation with the Agricultural Bank and Lands Department.

The first of a series of anticipated experiments has been laid down on the property of Mr. A. MacLeod, Yalboroo. This comprises two areas, each of 5 acres, situated on jungle and forest lands respectively.

Plantings were made on the jungle area following an indifferent burn, while on the forest area preparation was made by skim ploughing and harrowing.

The grasses selected for this experiment were *Stylosanthes procumbens*, Molasses, *Paspalum dilatatum*, Giant Couch, and Kikuyu. Woolly Finger and Giant Blue were also selected for the forest section, and Rhodes for the scrub area.

Stylosanthes procumbens.—This plot is making rapid progress, and shows every indication of seeding freely.

Paspalum dilatatum.—Although germination was rather patchy, the areas where established are making good growth, and are now seeding.

Molasses Grass.—Making excellent growth, and producing a fair amount of foliage. Seed-heads are now developing.

Giant Blue.—Growth is somewhat slow, odd stools breaking into seed.

Giant Couch.—The general appearance of this plot is excellent, making quick growth and producing abundant quantities of succulent feed. The plot is the most forward and exhibited the quickest rate of growth.

Woolly Finger.—Good progress has been made by this grass, and it appears to be becoming well acclimatised, and should be a very suitable grass when once established. It is a quick grower, producing amounts of soft luxuriant growth.

Kikuyu.—This grass originally failed to become established, due probably to a heated condition of the cuttings on arrival at Yalboroo. The plots have since been replanted from fresh supplies recently obtained.

Rhodes.—Appears to be making fair progress, but is inclined to be patchy.

By the establishment of this area it is desired to facilitate the furtherance of a plan to propagate further plots, and to eventually test their stock-carrying capacities and milk-yielding potentialities.

OTHER CROPS.

Peanuts.—Slightly increased areas of this crop were planted during last summer, and, despite unfavourable weather, fairly good yields materialised. The general quality was a slight improvement on previous crops. The total area planted in Central Queensland approximated 450 acres, and the average yield 20 bags per acre.

It is expected that additional areas will be planted next season.

Winter Green Feeds.—The planting of winter cereals for green feed and hay has been, unfortunately, greatly retarded by dry weather, but, realising their importance in a seasonal rotation of fodder crops, increasing numbers of farmers have endeavoured to establish fairly extensive areas of these feeds.

Maize.—Maize crops have been generally on the light side, and many crops originally intended for grain have been diverted into silage stacks or green feed. In a few late-sown instances, however, well-developed crops show promise of giving good yields of well-filled grain.

Potatoes.—This crop has, perforce of unfavourable weather, been confined to irrigated areas. Crops have in most instances been light, but fairly good-quality produce has resulted. Yields were somewhat militated against by attacks of Jassid, and some fields badly spoiled by "scab."

Broom Millet.—Light crops of fairly high-grade millet have been harvested and marketed.

NORTHERN DIVISION.

Mr. N. A. R. Pollock, Senior Instructor in Agriculture, reports:—

SEASONAL CONDITIONS.

The total rainfall for the year has again been under average. The monthly precipitations for December were over average on the eastern coastal strip and the Tableland, and generally much under average elsewhere. Those in January were much under average in all directions, the registrations in the majority of recording stations being less than half of that usually experienced. In February, however, the rainfall exceeded the average over the whole of the division. March was a phenomenally dry month, the registration in many centres being the lowest on record. In April and May the coastal districts, coastal slopes, and the Tableland experienced good falls, many of which were over average, but in other directions precipitations were very light. Rainfall in June was over average at almost all recording stations.

No damage was occasioned from storms or floods, while the obstruction of transport by the latter was less than usual.

The winter promises to be mild, slight frosts only having been experienced on the high lands.

PASTORAL.

On the eastern coast and coastal slopes, from a pastoral standpoint, the season has been favourable. In these directions pasturage did not make a rank growth, and was renewed by the good rainfall in April, May, and June. The outlook for the coming year is bright.

In the western districts generally, the season could not be classed as favourable, but the June rains are calculated to have relieved the situation, and, if followed, as is probable, by further falls in July, the prospects for next year will be encouraging.

Cattle slaughtered at the northern meatworks are expected to total as follows:—

| | |
|-----------------------------------|--------|
| Bowen Meatworks, Merinda .. | 14,000 |
| Alligator Creek Meatworks, Oolbun | 29,854 |
| Ross River Meatworks, Townsville | 22,800 |
| Total | 66,654 |

The killing season is expected to continue until the end of July or early August. At each meatworks the cattle received are considered to be of high-average quality.

DAIRYING.

Seasonal conditions throughout the year in the dairying districts have been favourable, supplies to the various butter factories being maintained and in some instances increased. The approximate output of the northern butter factories is as follows:—

| | Tons. |
|--|-------|
| Atherton Tableland Co-operative Butter Association | 1,173 |
| Atherton Tableland Dairy Products, Limited | 231 |
| Millaa Millaa Co-operative Butter Company | 286.5 |
| Ravenshoe Co-operative Butter Company | 168 |
| Julatten Co-operative Butter Company | 48 |
| Silkwood Co-operative Butter Company | 19.5 |
| Daintree River Development Company, Limited | 74 |
| Total | 2,000 |

At Silkwood the number of suppliers has increased from twenty-eight to thirty-five and the output by a little over half a ton for the year. The increase in the number of suppliers to this factory was forecast in my last Annual Report, and it is expected the number will be further increased during the coming year.

At Daintree River the number of suppliers to the factory is twenty-four—an increase of one over the number last year.

In the Herbert River district a pasteurising plant has been installed by Frank Fraser Ltd. at Ingham. From this centre bottled milk is despatched to Townsville and western towns as far as Mount Isa, the former taking 560 gallons and the latter collectively 540 gallons weekly. The balance of milk from this district is separated and the cream supplied to the Silkwood Factory.

PIG RAISING.

The number of pigs handled by the Northern Pig Board for the twelve months ended on 31st May was 8,676.

Due to the drop in price, a number of farmers relinquished production, while others reduced their operations, but the decline is regarded as temporary.

PASTURE GRASSES AND LEGUMES.

The plots of introduced grasses established under subsidy at Woodstock have been extended and will allow of a supply of roots and seed for trial of promising sorts in other northern districts in the coming year. It is regretted the call in other directions has necessitated a limitation of the time given to this important undertaking, but, with the assistance now provided, and a subsidy for another series of propagation plots granted, more satisfactory progress should be made. Quantities of seed of certain grasses and legumes natural to tropical Queensland have been collected, and small quantities of promising sorts have also been received from overseas. These it is proposed to sow for trial in the coming season.

In the Herbert River district near Ingham certain trials of rye grass and clovers were noted as an extension of the work being attempted at Lawnton, near Brisbane.

Attempts to introduce grasses and legumes peculiar to cold or temperate climates into the tropics are obviously doomed to failure, as soil temperatures and general climatic conditions are very far from favourable. A parallel would be suggested in the trial of pineapples and bananas in Tasmania or gooseberries and raspberries in the vicinity of Innisfail.

The success of Kikuyu, Para, Paspalum, and Rhodes grasses and the legume *Stylosanthes* under tropical conditions is an indication of the desirability of introducing for trial such other exotic kinds as have proved of value in the tropical or semi-tropical countries of which they are indigenous.

Present varieties under trial that give promise of value are Woolly Finger (*Digitaria eryantha*), *Urochloa trichopus*, *Urochloa pullulans*, *Panicum coloratum*, *Panicum antidotale*, and *Cynodon plectostachyum*, but it is probable the importation of further kinds would, after trial, add considerably to that number.

FODDER CONSERVATION.

In the course of the year seed of Sudan grass was supplied for trial in the Richmond, Corfield, and Winton districts, respectively. Owing to the adverse season experienced, seed was not sown in the Winton district; that sown in the Corfield district did not receive sufficient rain to allow of germination; while that sown in the Richmond district, though providing a poor stand, received insufficient rainfall to promote satisfactory growth.

It is regrettable that these trials have again been attended with failure owing to a repetition of unfavourable conditions, this being the eighth consecutive abnormal season experienced in the West.

MAIZE.

Seasonal conditions on the Atherton Tableland were very favourable for the maize crop, which promises a much higher average than for some years past. Owing to the light rainfall and bright warm days in March, which are unusual, when the grain is ripening, the amount of damage from various species of fungi was much reduced, and the average sample promises to be of better quality than usual.

The quantity of grain handled by the Atherton Maize Pool Board during the year, and which was grown in the previous season, was 16,918 tons. That to pass through the Pool next year is expected to show a substantial increase.

Bad Patches.—During the season, as forecast in the last Annual Report, applications of filter press cake which has a high content of organic matter were made on bad patches selected on the farms of D. Faichney and D. Hooper, respectively, in the vicinity of Kairi. Though a poor strike was obtained in each instance, a definite improvement in growth was obtained on each treated plot, the plants producing cobs carrying good grain, while those on the controls were worthless. It is proposed to continue the experiment next season on other 'patches' in addition to those under trial last season.

PEANUTS.

The acreage under peanuts was extended during the past year on the Tableland, and generally a satisfactory yield obtained, but figures relating thereto are not available. The increased production, however, has prompted the Peanut Pool Board to open a depot at Atherton, where peanuts are received, graded, and shelled for supply to purchasers.

The quality of the product turned out is regarded as superior, and has received very favourable comment from the buyers.

POTATOES.

There appears to have been a considerable increase in the area cropped with potatoes during the season, for which the Herbert River district is largely responsible, and from which an output of upward of 500 tons is anticipated.

Of the crops inspected, freedom from fungus affections and insect attack was most marked, and the general healthy growth better than for many years. Crops at Giru, the Lower Burdekin, and Bowen promise good yields of excellent

quality, those now being marketed realising £9 10s. per ton f.o.r., which is regarded as satisfactory.

COTTON.

Several variety trials with cotton were instituted in the North at Dimbulah, Mareeba, Charters Towers, Hervey's Range, and the Lower Burdekin.

At Mareeba sowings were made on two farms on poor, sandy soils where two successive crops of tobacco, each fertilized at the rate of 1,000 lb. of 3-8-3 mixture per acre, had been grown. Though the season was favourable for the crop, the growth of plant was very poor and the yield not worth recording. It would appear on such a sandy soil the residual effect of the fertilizer applied to the preceding tobacco crop is insufficient and that it will be advisable to greatly increase the organic matter in the soil, and probably apply some fertilizer with the seed, before results can be secured.

At Dimbulah a much better growth was observed, but, owing to late planting, records of yield and the behaviour of the different varieties are not yet available.

At Hervey's Range a poor stand was obtained and, though misses were filled by subsequent plantings, the grower was dissatisfied and ploughed out the crop.

On the Lower Burdekin, at Home Hill, sowings were made too late in the season to allow of results being obtained. At this centre some quite good crops were noted, but records of yields are not yet available.

TOBACCO.

As anticipated in the last Annual Report, a considerable increase occurred both in the number of growers and in the acreage under crop. In the different districts the number of growers, the approximate collective acreage planted, and the estimated yields of saleable leaf therefrom are as follows:—

| District. | Number of Growers. | Approximate Acreage Planted. | Estimated Amount of Saleable Leaf. |
|--------------------|--------------------|------------------------------|------------------------------------|
| | | | Lb. |
| Mareeba | 600 | 4,000 | 806,400 |
| Dimbulah | 153 | 1,331 | 387,300 |
| Mount Garnet .. | 16 | 141 | 56,400 |
| Watsonville .. | 6 | 40 | 18,000 |
| Ingham | 10 | 50½ | 6,280 |
| Townsville .. | 3 | 14 | 500 |
| Hervey's Range .. | 30 | 232¼ | 23,000 |
| Woodstock | 41 | 137½ | 45,500 |
| Charters Towers .. | 8 | 20½ | 7,000 |
| Ravenswood .. | 1 | 2 | 500 |
| Reid River | 1 | 2 | 350 |
| Home Hill | 24 | 70¼ | 30,900 |
| Bowen | 40 | 130½ | 55,000 |
| Collinsville | 3 | 7¼ | 4,200 |
| | 936 | 6,178¾ | 1,360,390 |

Season.—While seasonal conditions in the previous year were not regarded as favourable for the tobacco crop, those in the year under review must be considered extremely adverse.

In order to secure high quality in tobacco leaf, it is imperative that even growth should be maintained from the time of setting out in the field to maturity. Checks in growth due

to a prolonged dry period or to saturated soil conditions both exert a prejudicial influence on evenness of growth, through which quality is depreciated. Each of the districts in the Northern Division experienced one or both of these conditions, as well as trouble from insect pests, and in lesser measure from disease. As a consequence, much of the collective acreage planted did not come to maturity, while of that harvested the average yield was low, and quality generally inferior.

Brightness of colour is an indication of light to medium bodied leaf being harvested at the correct period of ripeness and efficiently cured, but unless such leaf possesses the requisite texture and other desirable qualities it cannot be regarded as satisfactory.

In the Tableland districts—Mareeba, Dimbulah, and Mount Garnet especially—the crops suffered to a large extent during a period of saturated soil conditions, induced by an abnormal number of consecutive rainy days. Thus at Mareeba from 27th January to 25th February, inclusive—a period of thirty days—there were twenty-one wet days, in which 14.27 inches of rain fell. This quantity is not unusual for this period of the year, but its extension over so many days is a rare occurrence. Of the twenty-one wet days, four only experienced falls of upwards of 1 inch. Had the falls been heavier and on fewer days, as it usual, most of the water would have run off. Falling as it did—in comparatively light and prolonged showers—there was less run off and greater soil saturation. The excessive soil moisture thus engendered had an adverse effect on the root systems of the plants, through which many young transplants perished, while growth in others was retarded for several weeks until soil conditions allowed of further root extension. In the case of plants that were well grown the leaves yellowed as if becoming ripe, but when curing was attempted turned a dark, unattractive colour, with a leaf aroma strongly characteristic of immaturity. Much complaint was made regarding the difficulty experienced in curing, but, as inquiry revealed that the leaf was picked in each case from plants that had been set out in the field from forty-nine to sixty-three days, difficulty was resolved into impossibility. It may be noted that, normally, on the most forward of plants, leaf will not show signs of ripeness until after being planted out eighty days, while the usual period that elapses until the first picking is from ninety-one to one hundred and five days. The trouble from soil saturation was largely confined to the terraces of the Barron and Walsh Rivers, where the slope was very slight and the soil of fine texture, with a fair proportion of silt, and on other soils in which drainage was insufficiently rapid. On the well-drained soils much less trouble from this cause was experienced, and a reasonable average-quality leaf produced.

Other districts, with the exception of Hervey's Range, did not experience such a prolonged spell of wet weather, but with it suffered from an extremely dry period immediately following, which prejudicially affected yield and quality. At Hervey's Range no rain fell from the second week of February until the second week in May, the result of which was that growth was restricted and the leaf became coloured from

inaction through lack of soil moisture, just as that at Mareeba did through its excess.

Insect Pests.—Much damage was occasioned in all districts owing to the prevalence of insect pests, chiefly the stem grub and leaf miner. Leaf-eating larvæ and grasshoppers were plentiful, but were kept in check by dusting, spraying, and the use of poison baits; the latter method of control has found increased favour owing to its cheapness, ease of application, and efficacy.

Fungus Affections.—Blue mould (*Peronospora* sp.) was responsible for losses in many of the early-sown seed-beds, but its toll in the crops planted out prior to March was negligible. Crops planted out later than this, however, suffered severely, a total loss in several instances being observed. The susceptibility of young growth to attack by this fungus was most noticeable where crops of different ages were growing close together. At Charters Towers a severe outbreak in May destroyed a crop that had been planted out in April, while another crop, separated by a roadway not more than 12 feet in width, from which several pickings had been made, experienced only slight damage.

Frog-eye (*Cercospora* sp.) was rather pronounced in the Tableland districts, especially at Mareeba; it was also prevalent at Ingham and Hervey's Range and to a lesser extent in other districts. Infestation was chiefly confined to crops planted out later than is advised for the different districts, and to those in which priming had been neglected.

Barn-spotting was much in evidence at Mareeba, Ingham, and Hervey's Range. This trouble is usually associated with late-grown leaf in which ripening has been delayed through heavy falls of rain. In other districts it was less marked, and absent altogether in leaf cured from crops planted out early in the season. The prevalence of insect pests and also of fungus diseases has been most apparent in those localities where growers unwisely attempted to grow the crop throughout the year. Though growth of plants in this way is recognised as responsible for the perpetuation of disease and greater incidence of insect pests, many growers, particularly in the Bowen district, have intimated that they propose to grow crops from seedlings planted out from August onward and have prepared and sown seed-beds for that purpose. While it is practicable where irrigation facilities are available to produce successful crops from plantings made during August and the first half of September, later plantings until December are liable to loss, as the leaf would ripen in the wet season when heavy rains would be anticipated.

The regulation providing for the destruction by uprooting of all plants within a month of the completion of harvest is wise, but it is thought that another regulation that would inhibit the planting out of seedlings from 1st March to 1st August on the highlands, and from 1st April to 1st July on the coast, and the destruction of all plants remaining in the seed-beds on 1st March and 1st April, respectively, in those districts recommended for the production of bright tobacco would be of further benefit to the industry.

It is not suggested that this regulation should apply to the coastal districts from Rollingstone north which are not recommended for bright tobacco, for with their high annual rainfall any success possible would be achieved by setting out the plants from April to August, inclusive.

Mosaic.—Instances of plants affected with mosaic were not uncommon, especially in crops not well cultivated, but losses therefrom, on the whole, are regarded as negligible. It is worthy of note that at Bowen on a farm where a series of fertilizer trials was conducted, though mosaic occurred in plants here and there through the unfertilized main crop, it appeared to be less in the plots to which applications of a complete fertilizer were made and greater in the two plots to which superphosphate only had been applied. From this it may be deduced that a well-nourished plant is less susceptible, or offers a greater resistance.

Nematodes.—Yields in many instances were greatly lessened, owing to the action of nematodes on the root systems. This was particularly noticeable on coarse sandy soils, especially those on which the tobacco crop was grown for the second year in succession. Though the pest is present in virgin soils as well as in those that have been cropped, it is thought lack of or insufficient sterilisation of the seed-bed is chiefly responsible for heavy field infestation.

Varieties.—Of the varieties grown, it is estimated that quite 70 per cent. of the acreage was devoted to Hickory Pryor, the balance being made up with Warne, Yellow Pryor, and Cash, with small lots of Crutcher, Bonanza, Dunggowan, and White Stem Orinoco. The Warne variety is becoming increasingly popular on the more fertile sandy loams, but the four last-mentioned varieties do not appear to find favour.

Fertilizers.—The use of fertilizer was practised to a greater extent than in the previous year, especially in the Tableland districts. Various mixtures were used, such as 4-12-6, 3-10-5, 3-8-3, 2-15-4, 4½-12-4½, 4-11-5, the numerals in their order representing percentages of nitrogen, phosphoric acid, and potash, respectively. The rate of application in the Mareeba direction varied from 160 lb. to 1,000 lb., with an average of about 550 lb. per acre. There, instances of excessive application were not infrequent. In the coastal districts and highlands the mixtures chiefly used were 4-12-6 and 3-8-3, and the applications up to 400 lb. per acre.

Fertilizer Trials.—Four comparative trials of fertilizer mixtures were arranged at Dimbulah, Mareeba, Hervey's Range, and Bowen, respectively; the soils being a fine sandy alluvial at Dimbulah, a coarse sandy alluvial at Bowen, and coarse sandy soils at Mareeba and Hervey's Range.

On the alluvial soils at Bowen and Dimbulah half the area of each plot was top-dressed with ground dolomite at the rate of 500 lb. per acre,

and at Hervey's Range and Mareeba with pulverised filter press cake at the same rate. The plots were each one-tenth of an acre, treated as follows:—

| Plot. | Per Acre. Lb. |
|----------------------------|------------------|
| 1. Control—no fertilizer. | |
| 2. 4-8-6 mixture | 320 |
| 3. 4-12-6 mixture | 320 |
| 4. 3-10-5 mixture | 320 |
| 5. H.G. Super. | 160 |
| 6. 4-8-6 mixture | 480 |
| 7. 4-12-6 mixture | 480 |
| 8. 3-10-5 mixture | 480 |
| 9. H.G. Super. | 240 |
| 10. Control—no fertilizer. | |

At Hervey's Range and Dimbulah, soil saturation was responsible for the failure of the trials. At Mareeba, the plants were greatly affected by nematodes, and, though the leaf from each plot was harvested and cured, the yield and quality were so poor as not to merit comparison. At Bowen, the plants suffered from dry conditions until irrigation was available, when an excellent growth was made.

Though harvesting of the plots is not yet completed, field observation suggests that the 320-lb. application of 4-12-6 mixture to the acre will give the most satisfactory result, followed by similar applications of 3-10-5 and 4-8-6. The higher applications of these mixtures did not appear to make for any betterment. In each case there was a pronounced improvement in growth and leaf quality over the controls.

The application of 160 lb. and 240 lb., respectively, of high-grade superphosphate was far from encouraging, the resultant leaf being regarded as inferior in weight and quality to the controls.

Mosaic was very prevalent in each of these plots, in strong contrast to the other fertilized plots. No apparent benefit was noted in that portion of each plot top-dressed with ground dolomite.

In the coming season an extension of plot work is considered desirable to embrace not only variety in fertilizer mixture, but method of application.

Trials of growths to be turned under as a green manure are also advisable, as well as others in crop sequence.

Tobacco Leaf Prices.—The leaf from the previous season, of which the greater part was marketed in the first three months of this year, realised according to quality very satisfactory prices, some growers in each approved district realising 4s., and almost all 3s. or over, per lb. for their first quality. The majority realised an average of 2s. and upwards per lb., while a number who planted late did not pay sufficient attention to cultivation, harvested under-ripe leaf, or were careless in curing and bulking down, averaged less than 2s. per lb. for that portion of their crop that found a purchaser.

The prices at auction and by private treaty realised so far for the leaf produced this year,

when quality is considered, are held to be equal to those paid for that of last year. As the leaf produced this year, due largely to the season, is on the whole much inferior to that of last year, the average price is expected to be a good deal lower, while a considerable quantity of leaf will be found unsaleable. In the Mareeba district, for example, where the total leaf cured is estimated at approximately 900 tons, it is anticipated that 60 per cent. will not be sold.

Future of the Industry.—Though the monetary return received by the majority of growers for their operations during the year will be low, and in many cases indicate a loss, it cannot be said that the future of the industry in the North is at all imperilled. Rather will be the experience impress growers that quality must take precedence of quantity, and that there is a definite season when the crop can be most successfully grown.

ROMA STATE FARM.

Mr. R. E. Soutter, Wheat Breeder, reports as follows:—

The dry conditions which had set in when the Annual Report for 1932 was compiled prevailed throughout July, August, September, October, and well into November, when 4 inches were registered. This relieved the situation so far as the pastoral industry was concerned, but came too late to be of any service to the wheat-growers in this section of the State, other than to provide feed for their stock.

During December slightly under 2 inches were experienced, since when the conditions have been gradually getting drier, with the result that at the present juncture the position from both a grazing and farming standpoint is serious. In the rainfall table it will be noticed that half of the total was registered in November and December; also that during the last five months only 3 inches were recorded, in which total the heaviest fall registered was 78 points.

Details as to temperatures have been furnished from time to time in the monthly reports, but it might be just as well to mention that the maximum temperature recorded was in February (109 degrees), whereas the minimum was registered in July, the grass reading being 19 degrees F.

Appended is a tabulated list of the rainfall for the period under review:—

| Month. | Wet Days. | Heaviest Fall. | |
|-------------------|-----------|----------------|---------|
| | | Points. | Points. |
| July | 4 | 37 | 39 |
| August | 1 | 5 | 5 |
| September | 5 | 63 | 73 |
| October | 9 | 31 | 71 |
| November | 13 | 76 | 414 |
| December | 5 | 81 | 188 |
| January | 9 | 38 | 138 |
| February | 3 | 78 | 83 |
| March | 4 | 40 | 75 |
| April | 3 | 50 | 115 |
| May | 6 | 7 | 10 |
| June | 4 | 73 | 90 |
| | 66 | .. | 1,301 |

WINTER CEREALS, 1932.

Though there was very little subsoil moisture when these crops were sown, as a result of the rain in April and May a good germination was obtained, and in the initial stages the prospects of the crops were of the brightest; but, unfortunately, an unfavourable turn in the weather took place in June and continued throughout July and August—in fact, right to harvest time—with the result that the only returns were obtained from those crops growing on the light soils.

Fortunately, in the cross-breeding section no losses were sustained, but the series of adverse seasons being experienced have retarded progress very considerably.

The comprehensive smut experiments designed by the Plant Pathologist and carried out under his instructions were, unfortunately, amongst the plots which failed. The manurial experiment plots were also a failure for comparison purposes as to the relative values of the different applications, for the only blocks to furnish a return were the two or three situated on light sandy loam, which in itself is another demonstration that the lighter soils are the best adapted for agricultural pursuits in districts having a light annual rainfall. The "feeding-off" tests were again carried out, but as the conditions locally are not favourable for experimenting with the varieties grown on the Downs for this purpose—namely, Cleveland and Currawa—Florence had to be used, which renders the trials to some extent abortive. The results would be much more valuable if conducted in a centre where the two firstmentioned varieties could be utilised for the purpose.

Grain-eating birds did a great deal of damage amongst the crops at the farm, more particularly in the five-chain single drills, which were so injured by them as to be hardly worth harvesting, and it was indeed fortunate that a duplicate sowing had been made at Roma Downs, otherwise a whole season would have been lost.

FIELD PEAS.

Ten selections were sown in May, but owing to the unfavourable conditions, little more than sufficient seed was produced to carry on next season.

PEANUTS.

Sown September; harvested March. Owing to the very adverse conditions, these were a failure, only a few plants producing seed.

COWPEAS.

Sown September; harvested March. Drills 12 feet apart. Plants in rows 6 feet apart.

The sowings made consisted chiefly of new crossbreds, one or two of the best fixed selections being used as controls.

Growing in light soil, they again demonstrated their ability to withstand adverse conditions. In some instances the rows, though 12 feet apart, met. It is hard to understand why this crop is not grown more extensively to meet in some measure the protein deficiency which is nearly ever-present in the pastures on farms where sheep are carried. Some of the selections which last season

appeared to be of good promise from a green-manuring standpoint failed this season to produce sufficient seed to warrant being selected for this purpose. Some of the bush selections grown for seed alone produced in individual cases heavy yields, and the best of these have been chosen for further trial next year.

Many of the strains under observation again proved that they were much less susceptible to root parasites than some of the varieties more or less extensively grown. Unfortunately, so far, a type has not been evolved which the bean weevil will not attack. This pest is a serious problem here, as it is impossible to carry seed for longer than from one season to another unless held in airtight containers, large and small dark and light coloured seed being attacked to the same extent.

The following selections were under observation:—

- 4 rows Large White x Skewbald x Poonah.
- 1 row Large White x Skewbald x Mammoth.
- 1 row Large White x Skewbald.
- 2 rows Snake x Poonah.
- 9 selections Snake x Poonah. x Calif. Black and White.
- 4 selections Poonah x New Era x Mammoth.
- 1 selection Snake x Poonah x Mammoth.
- 1 selection Large White x Skewbald (fasciated).
- 2 selections Large White x Skewbald x C.B.W.
- 10 selections Home Hill x Mammoth.
- 1 selection Poonah.
- 1 selection *Vigna lanceolata*.

From the foregoing about 40 selections for further testing next season have been made.

SORGHUMS.

Soudan Grass.—Five selections were made in 1932, and these were sown in drills 12 feet apart, with individual plants 6 feet apart in these rows. Notwithstanding the adverse conditions, they did very well, and it was surprising the amount of material that some of the individual plants produced on the light soil on which they were growing. Of the selections under observation, the seed from three (2, 4, and 5) has been saved for bulk sowings next year, as these strains appear to be fairly uniform, whereas selection 1 had a fair percentage of coarse, strong plants in its population, while selection 3 consisted wholly of plants of this character.

Individual selections have been made for testing again next season, the heads being bagged prior to flowering to obviate the danger of pollination.

A new variety of Soudan grass (*Granowie*) was received from the Northern Instructor in Agriculture (Mr. N. A. R. Pollock), but under the conditions which prevailed it did not compare at all favourably with the local selections, producing a comparatively small amount of coarse material with brittle seed-heads, which results in a considerable loss of grain.

Feterita (Early-maturing).—This was also received from the same source as the *Granowie* Soudan. It gives promise of being of some value in districts where maize is too unreliable a crop to grow, and the grain-eating birds, such as parrots, are not too numerous.

The seed received, unfortunately, was low in vitality, but sufficient grain was obtained from the few plants raised to sow a five-chain drill next season.

Wadaker Sorghum.—Received from the same source as the previous. Sown 16th September, 1932. This is a dwarf, coarse, long-season sorghum with grain somewhat similar in appearance to *Feterita*, but possibly slightly larger. It withstood the adverse conditions very well, but it is considered that amongst the varieties already in cultivation in Queensland there are better all-round kinds.

GRASSES.

Rhodes Grass.—This has again shown that, given light showers when growing on light soil, it responds wonderfully quickly.

Stock are fond of it when young, but in the later stages of its growth they do not seem to relish it to the same extent.

Digitaria eriantha.—This has further upheld the reputation it gained here the previous season as to its ability to produce feed under rather adverse conditions on light soil, for it continued growing right throughout the dry period, and did not cease until frosts were experienced.

Quite a number of applications were received for plants, fifty plants being supplied in each instance.

Digitaria Plevanski I.N.—This is an erect-growing variety, woolly, earlier in habit than the strain from Ku., the first flowering head appearing in the first week in January. Does not appear to run so freely as *eriantha*.

Digitaria Plevanski Ku.—This is coarser than the strain marked I.N., and is more inclined to send out runners in the early period of its growth. First flowering head appeared a month later than the strain from I.N. The difference between these two strains is very marked.

Digitaria Valioa.—Slightly woolly on sheath and ligules. Straggly growth; foliage broader and softer than of any of the other finger grasses under observation, but proportionately shorter. This strain is a quick grower; does not run as freely as the other—in fact, the growth is more erect. This is the only strain in which seed has been observed so far here.

The following grass seeds were received from the Northern Instructor in Agriculture, viz.:—*Amphilopsis pertusa*, *Brachiaria soluta*, *Cynodon plectostachyum*, *Hyperrhenia rufa*, *Panicum antidotale*, and *Panicum coloratum*. These were all sown on the 17th November, but, unfortunately, only three germinated. The following is a short description of each of these:—

Cynodon plectostachyum.—A good germination was obtained, the young plants having the appearance of couch, covering the ground in the same way. The mature plants in appearance are like a very large couch, covering the ground with numerous long, coarse runners. Has under the conditions experienced last season shown up fairly well on our light soil. Flower-heads just appearing, which, unfortunately, is too late for the production of seed before winter.

Hyparrhenia rufa.—This grass is in many respects similar to the previous one, and appears to be of about the same value for our soils here, though probably not as hardy in constitution.

The flower-heads of this variety, which carry more of a beard than that of the *Cynodon*, are just emerging.

Should frost not injure these varieties seriously, sufficient plants will be available to plant long rows in the grass section in the spring.

Panicum antidotale.—This is a tall, rapid-growing grass, and if its feeding value is even only fair it should prove a wonderful variety to assist in reclaiming the pear country. The small plot here, which came up rather thickly, has not had any moisture since it was in the seedling stage other than the rain which has fallen. At the time of writing it is one compact mass 5 feet in height, and has produced enough seed to sow a plot a hundred times as large.

The seed, which is produced liberally throughout its growth—the first being collected in March—is of such a nature as to admit of its being sown with a seed-drill, which most of our cultivator grasses do not.

PASTURE IMPROVEMENT.

Owing to the uncongenial conditions, there is not very much to report in connection with the grass-manuring experiments. As in previous seasons, the manure (superphosphate) was applied in September, and the field mown for hay in January, the amount obtained being about one-third of that of last year, though possibly better in feeding value.

What is distinctly noticeable is the increased percentage of good-quality grass in the material cut; but too much credit cannot be given to the manure for this, as it is more likely the result of the stock being shut from it than any effect it has had.

In April the storm waters from some distance away covered a portion of the field, enabling a second light cutting to be obtained from it; whereas on the rest of the section the grass at the present time has the appearance of being dead.

That the material is palatable and of good feeding value is plainly evident by the little waste and condition of the cows which are being fed with it.

VINEYARD.

A good start has been obtained in the new sections notwithstanding the rather hard conditions experienced, which necessitated the continual watering of the cuttings during the summer. Nine rows planted in 1931 have been trellised.

The following varieties have been added to those previously under observation, viz.:—Purple Cornichon, Red Malaga, Red Hanifort, Waltham Cross, and Flame Tokay.

The most profitable variety grown again proved to be the Henab Turki, although a great many berries failed to develop owing to not

being fecundated. This seems to be a weakness of this variety under some conditions, but it has been observed that where growing between other varieties it is not so pronounced as when situated on the outskirts of a vineyard.

ORCHARD.

The trellised peaches blossomed freely last season, but, owing to late frosts, set very little fruit, with the result that they have made very heavy growth, which will necessitate a lot of cutting when pruning.

China Pear.—This tree produced a lot of fruit. It is admired by all who visit the farm.

Citrus Orchard.—The absence of rain has been felt more in this section than any other, particularly where the clay approaches the surface.

The mandarins and the grape-fruit have suffered worse than the oranges, and of these the Washington Navels have stood the best. They have produced fair quantities of fruit, but most of it is too small for marketing.

Borers and white ants have so affected most of the trees that it is intended to dig a number out after the fruit has been gathered. Scale has also been troublesome and is a much more serious problem in this locality, where so often the vitality of the trees is so low as to preclude spraying at a time most opportune for the destruction of this pest.

Owing to proving unfruitful, the row of cross-bred grape-fruit trees—twenty in all—have been grubbed out.

Eight two-year-old seedling citrus (Washington Navel x Grape-fruit) are ready for planting out next spring.

F1 plants of the following grape crosses will be ready for transplanting at the same time, viz.:—

Gordo Zante x Henab Turk.
Muscat Hamburg x Grand Turk.
Henab Turk x Doradilla.

F2 of the following:—

Gordo Zante x Gros Coleman Doradillo.

Of the fruiting crossbred seedlings mentioned as being of some promise last season, one stands out as being worthy of extended trial, so possibly a row will be devoted to it this season.

TOBACCO.

The seed of the Cash variety forwarded from Head Office with the idea of growing it here and obtaining disease-free seed was sown on the 17th November and an excellent germination resulted. When the plants were large enough for transplanting, it was found that in every instance nematoid was present, and also a large percentage were harbouring stem-borer, which, in conjunction with the unsatisfactory season, resulted in the venture proving a failure. Even had the foregoing not interfered, the final result would have been the same from a seed-production standpoint, as the two or three plants which survived have not yet flowered.

Next season it is intended to select a site on a loamy soil for both seed-bed and planting out, as well as endeavour to have the plants ready for the latter purpose by the beginning of November.

An endeavour was made to cross this tobacco with both the native varieties, but, although the flowers set, no seed was obtained.

The two native varieties were also crossed and F1 plants obtained, which, though they flowered profusely, failed to set seed, this result being the same as was experienced years ago when Yellow Pryor was crossed with the native tobacco *Nicotiana suaveolens longiflora*.

PUMPKINS.

The combination dry weather and nematodes resulted in these failing; but, fortunately, sufficient seed of the several selections is on hand to make another sowing in the spring.

More often than not the conditions are unfavourable here for this crop, and there is the constant danger of the results of many seasons' work being lost. Were such not the case, the pumpkin plant, on account of its value, would figure more prominently in the plant-breeding section than it does.

ROCKMELONS.

A very poor germination resulted from the seed sown, and the plants obtained did very poorly in the early part of the season, but responded wonderfully to the November rains, and finally produced numerous fruits of good quality.

The two kinds Netted Gem and Rocky Ford were grown.

WATERMELONS.

These did fairly well, and, although the fruit on the whole were late and a little on the small side, were of excellent flavour—that is, the best varieties—and a fair demand existed for them. The following sorts were sown, viz.:—Market Wonder, Sugar Stick, S.F., Dark Chilian, Tom Watson, and Kleckley's Sweet. Of these, S.F. and Dark Chilian proved to be the best, the others in most instances having thick-skinned pale-fleshed fruit.

In addition to the foregoing, a few seeds of Iowa Belle, Iowa King, and Prince of Muscavine—American wilt-proof kinds—were received from the Plant Pathologist's branch and sown with a view to obtaining pure seed, as well as to test them as to their resistance to wilt. A few melons of each variety were obtained from the numerous flowers which were subjected to controlled pollination.

MAIZE.

As a grain-producing proposition this crop was a failure, but furnished a good deal of fodder at a critical period.

OLIVES.

Only a few trees set fruit, which failed to develop to their usual dimensions, in consequence of which they were not gathered and marketed.

DATE PALMS.

Most of these are growing well and make an attractive approach to the house.

In addition to the two female trees which had their origin in Algeria, four of the seedlings (Deflect noir variety) produced fruit.

REPORT OF THE SENIOR INSTRUCTOR IN PIG RAISING.

The Senior Instructor in Pig Raising, Mr. E. J. Shelton, reports:—

POSITION AND STATUS OF THE INDUSTRY.

Allied to dairying, mixed farming and other branches of agriculture, the breeding, feeding, and marketing of pigs has developed into an important industry, and one from which farmers throughout the State are able to obtain satisfactory financial returns, although, as is common the world over at present, low and uncertain prices make live stock raising a more speculative business than is usual or desirable.

In Queensland, pig raising is associated with the following branches of agriculture:—

- (1) In conjunction with dairy farming, with milk products forming the greater portion of the farm food supply.
- (2) With mixed farming and grain growing, where a portion of the crops (depending on their market value) is used as food for pigs. In this class of pig raising, milk from a small dairy herd may be available or may be replaced by purchased concentrates rich in protein such as meat meal, pollard, &c. Succulent green lucerne, or lucerne chaff suitably combined in the rations with or without purchased concentrates is also used.
- (3) Commercial pig farms where large numbers of pigs are raised and are fed chiefly on buttermilk, whey, or other by-products.
- (4) On farms where the main food supply is in the form of hotel, restaurant, and factory kitchen refuse. Pig farms of the latter description are usually situated near cities or large towns, the food being collected regularly. Pigs are also kept at many of the Government Institutions, where a quantity of kitchen waste is available each day. At some of these institutions and at the Agricultural College and State Farm, stud pigs are bred.

- (5) Slaughter-house piggeries are conducted in conjunction with butchering establishments, the pigs being fed largely on animal offal suitably prepared by cooking, skimming, &c., the feeding of the raw offal being prohibited by law.

The production of pigs as a business was at one time looked upon more in the nature of a noxious trade than as a commercially successful agricultural enterprise, but with a better understanding of the job and an appreciation of the value of pigs as an economic factor in farm life, the position has improved and nowadays the farmer raising pigs profitably is looked upon with appreciation, and there is a healthy rivalry apparent which counts more for the success of the venture.

With this rivalry has come a general desire to do the right thing, particularly in regard to the breed of pig kept and the way in which these animals are prepared for market. In fact, so keen has this desire for information become, that farmers everywhere throughout the State are looking to the Department far more than formerly for advice and guidance.

The fact also that at live stock shows, such as the Royal National Exhibition at Brisbane, exhibits in the pig section total up to 500 head, and that following the stud sales a large number of these animals are distributed through the State as breeding stock, indicates the growing importance of the industry in its relationship to the economic life of the community.

STATISTICAL.

Statistics show that there has been a steady advancement in the number of pigs kept on Queensland farms, until to-day we can safely quote the total number of pigs of all ages in the State as 230,000, or approximately one-fifth of the total number in the Commonwealth, the totals for the latter for the year 1931 being 1,167,845, the Queensland total for the same year being 222,686 (see Table I.).

TABLE I.

SHOWING NUMBER OF PIGS IN QUEENSLAND AS COMPARED WITH OTHER AUSTRALIAN STATES.

| State. | 1925. | 1926. | 1927. | 1928. | 1929. | 1930. | 1931. |
|-----------------------------------|-----------|---------|---------|---------|-----------|-----------|-----------|
| New South Wales | 382,331 | 332,827 | 301,819 | 311,605 | 323,499 | 334,331 | 385,846 |
| Victoria | 339,601 | 284,271 | 212,785 | 222,084 | 265,978 | 281,245 | 286,780 |
| Queensland | 199,598 | 183,662 | 191,947 | 215,764 | 236,037 | 217,528 | 222,686 |
| South Australia | 90,794 | 79,108 | 69,733 | 62,823 | 74,906 | 82,991 | 109,780 |
| West Australia | 74,316 | 69,798 | 59,810 | 49,243 | 64,522 | 100,664 | 120,521 |
| Tasmania | 41,009 | 38,906 | 41,752 | 48,304 | 52,899 | 54,556 | 41,459 |
| Northern Territory | 382 | 343 | 292 | 407 | 359 | 327 | 665 |
| Federal Capital Territory | 343 | 94 | 69 | 51 | 124 | 37 | 108 |
| Commonwealth | 1,128,374 | 989,009 | 878,207 | 910,181 | 1,018,324 | 1,071,679 | 1,167,845 |

Comparing the percentage of pigs to proportion to the human population, we have the following data:—

TABLE II.

| Country. | No. of Pigs. | No. of Inhabitants. | Pigs per cent. of Human Population. |
|--|--------------|---------------------|-------------------------------------|
| Denmark | 3,728,623 | 3,434,555 | 108.56 |
| United States of America | 55,969,000 | 105,720,620 | 55.77 |
| Canada | 4,470,771 | 8,788,483 | 50.87 |
| Irish Free State | 1,177,637 | 2,972,800 | 39.61 |
| New Zealand | 520,143 | 1,344,384 | 38.69 |
| Germany | 22,880,318 | 63,180,619 | 36.21 |
| South America | 20,652,000 | 66,512,885 | 31.04 |
| Hungary | 2,386,664 | 8,457,852 | 28.21 |
| West Australia | 120,521 | 421,609 | 28.75 |
| Spain | 5,267,328 | 22,290,162 | 23.63 |
| Yugo-Slavia | 2,806,182 | 12,017,323 | 23.35 |
| Queensland | 222,686 | 963,711 | 23.10 |
| South Australia | 109,780 | 584,968 | 18.76 |
| Tasmania | 41,459 | 223,390 | 18.55 |
| Victoria | 286,780 | 1,801,294 | 15.92 |
| New South Wales | 385,846 | 2,517,759 | 15.32 |
| Great Britain and Northern Ireland | 3,124,412 | 45,448,000 | 6.87 |

The figures quoted above may not represent the census for the same period throughout, but may be taken as a reliable guide.

From this table it will be seen that the number of pigs in Queensland compares favourably with those of any other Australian State, and with most other countries, the exceptions being Denmark, United States of America, and Canada, where the industry has been established for a longer period and where dairying and grain growing are more extensively engaged in.

The figures indicate that further development of the pig industry here is possible if judiciously organised and controlled. They also emphasise that, in comparison with the development that has taken place in other countries, the industry is in its infancy, especially considering the vast tracts of fertile country in Queensland not yet in a productive state from a farming point of view. Denmark, it will be noted, is in reality the most intensive pig raising country in the world, for with a human population approximately 50 per cent. less than Australia, that country has more than five times the number of pigs per cent. of human population. Here also is emphasised the value of pig raising as an adjunct to dairying in centres suited to a combination of these important branches of farming. Denmark's success should be an incentive to Queenslanders to make further progress, although in advocating expansion of the industry we do so with the full knowledge that it is essential to improve the quality and lower the cost of production and to prepare for lean years if the number of pigs is to be increased.

Adverse seasonal conditions constitute our greatest problem, but as they are inseparable from agricultural development in sub-tropical countries they must be taken into account. Other industries, both primary and secondary, have their "ups and downs," and in this respect the pig farmer is no worse than his neighbours on the land.

Experience in Queensland proves that, following on continuous dry weather, there is invariably a rapid return to normal conditions and appreciably increased production during periods characterised by more liberal rainfall.

PRODUCTION AND CONSUMPTION OF PORK PRODUCTS.

From a manufacturer's point of view, Queensland production of bacon and hams averages around 20,000,000 lb. annually, or approximately one-fourth the production of Australia. This would indicate that in pork products, including fresh and frozen pork, the Queensland quota is valued at from £1,500,000 to £2,000,000 sterling annually.

Australia's average annual production of bacon and ham over the past five years may be stated as, approximately, 72,000,000 lb. As indicating the importance of bacon and ham production in this State as against the other States the following recent figures are of interest:—

TABLE III.
PRODUCTION OF BACON AND HAM IN AUSTRALIA.

| State. | 1926. | 1927. | 1928. | 1929. | 1930. | 1931. |
|-----------------------------------|------------|------------|------------|------------|------------|------------|
| New South Wales | 24,600,275 | 25,479,208 | 23,087,271 | 21,616,472 | 21,901,194 | 20,468,259 |
| Victoria | 20,952,310 | 20,605,148 | 19,401,447 | 18,888,537 | 18,232,219 | 18,287,404 |
| Queensland | 18,288,690 | 18,264,855 | 22,043,114 | 19,195,176 | 20,177,550 | 20,008,227 |
| South Australia | 5,165,670 | 5,111,465 | 5,110,352 | 5,232,878 | 5,710,784 | 7,034,439 |
| West Australia | 2,678,830 | 2,760,694 | 2,557,068 | 2,713,127 | 3,042,702 | 3,473,433 |
| Tasmania | 1,946,323 | 2,780,304 | 2,298,745 | 2,454,548 | 1,984,454 | 1,930,630 |
| Federal Capital Territory | 2,790 | .. | 1,400 | 1,243 | 1,230 | 300 |
| Commonwealth | 73,634,888 | 75,001,674 | 74,499,397 | 70,101,981 | 71,050,133 | 71,202,692 |

LOCAL CONSUMPTION OF PORK PRODUCTS.

Although the State figures are not available, it is of interest in reviewing this industry to note that on a basis of production, exports and imports, the quantity of bacon, ham, and other pork products consumed is, approximately, 11 to 12 lb. bacon and hams and 6 to 7 lb. of pork per head of the population. In this connection, a comparison of the consumption of these products in other countries is of additional interest.

According to figures supplied by the Commonwealth Statistician, of the total of 244 lb. of meat which an Australian consumes individually during the year, only 11 lb. consists of bacon and ham and 7 lb. of pork and lard. During the same year the same Australian consumes 158 lb. of beef and 68 lb. of mutton and lamb.

The average Canadian consumes 87 lb., and the American 77 lb. of pork products each year in addition to other meats.

The pork per capita consumption in other countries is as follows:—

| | Lb. |
|----------------------------------|-----|
| Canada | 87 |
| United States of America | 77 |
| Germany | 63 |
| France | 46 |
| United Kingdom | 42 |
| Denmark | 37 |
| Belgium | 29 |
| New Zealand | 28 |
| Argentina | 24 |

This indicates that, apparently there are many homes in our midst that rarely serve pork products, and impresses upon those interested in pig production the possibilities ahead of the industry if and when our people can be induced to consume more of these nutritious and appetising farm-grown foodstuffs.

EXPORT TRADE IN PORK PRODUCTS.

In recent years, Queensland's export trade in frozen pork has developed considerably, and during the last two years more than 100,000 carcasses of frozen pork were sent to the markets of the United Kingdom, this total, of course, representing but a very small portion of the requirements of those markets. The export of heavier weight carcasses suitable for manufacture into bacon and ham in Great Britain is now receiving a great deal of attention, and during recent months many hundreds of sides cut specially to suit English trade have been sent overseas. Bacon and ham are also exported from Queensland to other Commonwealth States and to British Malaya, East Indies, and the Philippine Islands; lard mostly to England,

British Malaya, Germany, and Belgium; frozen pork to England, to other States, and British Malaya, and the Philippine Islands.

It can be stated that the quality of these Queensland products compares favourably with that produced elsewhere. Quality being of paramount importance, producers, manufacturers, distributors, and consumers all realise that fact when raw and manufactured goods are purchased.

Reports from the United Kingdom on the suitability of frozen pork from this State, indicate that at Smithfield and other important distributing centres, our pork has created a favourable impression and is in increasing demand, although we are not yet able to supply sufficient to satisfy their immediate requirements.

In competition at agricultural shows with the products of factories in other Australian States, Queensland bacon and hams always stand out prominently and secure premier awards, which indicates that manufacturers are able to turn out from the raw products received bacon and hams that find ready sale, even in face of the competition of Southern brands which are very extensively advertised. Small goods, sausages, and canned goods are also of high quality and are in increasing demand everywhere.

Even the pork casings (the chitterlings of the old English days) are so much in demand locally that there is an insufficient supply, which is made up by the import each year of thousands of pounds worth of casings from other countries—a state of affairs that will, of course, be overcome as production increases and our goods become better known.

IMPORTS.

There is no import of pork and bacon into Queensland, except possibly small experimental consignments of which no statistical record is kept, but, as indicated, during the period 1st July, 1931, to 30th December, 1931, hog casings from New Zealand, 61 cwt. valued at £740, and from the U.S.A. 177 cwt. valued at £2,329 were imported; the previous year's imports costing manufacturers here £6,402. Apparently the trade is realising the necessity for greater use of the local product, which is recognised as quite the equal of imported lines for ordinary trade requirements. There was no export of similar casings during the period stated.

Table IV. gives interesting information in that it indicates Queensland employs more people in her bacon and ham manufacture than any of the other States, and has an output equal to the largest Southern factories.

TABLE IV.

PARTICULARS OF FACTORIES ENGAGED IN BACON CURING IN EACH STATE OF THE COMMONWEALTH DURING THE YEAR 1930-31.

| Items. | N.S.W. | Victoria. | Queensland. | South Aus. | West Aus. | Tasmania. | Australia. |
|--------------------------------------|----------|-----------|-------------|------------|-----------|-----------|------------|
| Number of employees | 306 | 498 | 526 | 167 | 50 | 38 | 1,585 |
| Number of factories | 23 | 19 | 9 | 8 | 5 | 6 | 69 |
| Value of land and buildings | £158,225 | £226,800 | £177,543 | £58,596 | £17,059 | £17,678 | £655,901 |
| Value of plant and machinery | £56,375 | £122,395 | £97,786 | £25,267 | £8,533 | £6,393 | £316,749 |
| Salaries and wages | £92,363 | £120,994 | £123,824 | £39,707 | £11,480 | £6,952 | £395,320 |
| Value of output | £899,541 | £954,873 | £1,092,740 | £304,708 | £148,638 | £56,617 | £3,457,117 |

Table V. shows the number of pigs killed and bacon and ham manufactured by bacon curing factories in each State for a similar period, i.e., for the year 1930-31.

| State. | Pigs Killed. | Bacon and Hams. |
|--------------------|--------------|-----------------|
| New South Wales .. | 245,965 | 20,984,266 |
| Victoria | 208,593 | 17,340,287 |
| Queensland | 248,897 | 19,842,633 |
| South Australia .. | 50,405 | 5,208,597 |
| West Australia .. | 28,717 | 2,912,772 |
| Tasmania | 14,873 | 1,213,343 |
| Commonwealth.. .. | 797,450 | 67,501,898 |

This table shows pigs killed in bacon factories only. The average annual slaughter of pigs in Queensland, inclusive of all slaughtering plants, works out at around 400,000 head. The number for 1931 was 416,715.

QUEENSLAND BACON FACTORIES.

There are nine bacon factories operating in Queensland; all these organisations arranging for regular and frequent trucking days at the pig-raising centres throughout the State. The names and location of factories is as follows:—

| Factory. | Situation. |
|---|--|
| Conaghan Bros., Ltd. .. | East street, Rockhampton |
| Darling Downs Co-operative Bacon Association, Ltd. | Willowburn, via Toowoomba, and at Doboy, near Brisbane |
| Foggitt, Jones Proprietary, Ltd. | Oxley, near Brisbane |
| Gerns Ham and Sausage Co. | Geebung, near Brisbane |
| Huttons, J. C., Proprietary, Ltd. | Zillmere, near Brisbane |
| North Queensland Co-operative Bacon Association, Ltd. | Floreath Siding, Mareeba |
| Queensland Co-operative Bacon Association, Ltd. | Murarie, near Brisbane |
| Reeds, Ltd. | Maryborough |
| Warwick Bacon Co. .. | Mill Hill, near Warwick |

Pork butchers operating at the Brisbane Abattoir purchase their porkers at the weekly auction sales conducted by live stock agents; they also have agents and itinerant buyers in country districts purchasing pigs for railing to their works. Auction sales at country centres provide an opportunity for trade in weaner and store pigs and for other grades. In addition to pigs treated for export at the Brisbane Abattoir the following are some of the firms engaged in the export of frozen pork:—Central Queensland Meat Export Company, Lakes Creek; Borthwick, Thos. and Sons (Australasia) Limited, Brisbane; Brisbane Wholesale Meat Works Proprietary, Limited, South Brisbane; Anderson and Cameron, Brisbane; and principal bacon factories referred to previously.

WHITE PIGS IN DEMAND.

One of the problems to be faced in connection with the export trade is the fact that markets in Great Britain prefer pigs white in colour and that dress to advantage and carry that "bloom" which every buyer looks for when purchasing his stocks.

Up to the present, white pigs in very limited numbers only have been kept in this State; hence, with the growing importance of the export trade, a movement is being made in the direction of developing a scheme to make available, on easy terms of purchase, stud boars (Large Whites principally) for mating with selected sows for the production of increasing numbers of pigs for export.

BRITISH BREEDS.

British breeds of pigs are in principal demand in Queensland, and in the Large White and Middle White, Tamworth, and Berkshire breeds some very choice animals are available, and numerous pedigree herds have been established. The Wessex Saddleback breed has been recently introduced and is being subject to experiment; the other British breeds like the Gloucester Old Spot and the Large Black are not in request, while American breeds are not as suitable as British breeds for our requirements.

The tendency now is to specialise on the four principal British breeds—Large and Middle Whites, Tamworths, and Berkshires—these to be used both for pure breeding and cross breeding along the lines approved by Departmental officers.

ORGANISATION OF THE INDUSTRY.

The Queensland Pig Industry Council was formed during the year, its objective being to continue and enlarge on the work formerly carried out by the Queensland Pig Industry Committee—a branch of the Australian Pig Industry Council.

Following the inauguration of the Council in this State, various committees have been set up and considerable progress made, the most recent development being the unanimous decision by the combined marketing committees to recommend "that a sum of money be allocated to purchase suitable stud pigs (stud boars in particular) for distribution on a subsidy basis to approved farmers."

Inquiries are now being made from stud breeders of the types referred to, and it is hoped early in the coming year to have this scheme in operation.

PIG EXPERIMENT STATION AT YEERONGPILLY.

Another scheme, the result of the forward movement, has been to allocate a sum of money (£1,000), in addition to any State funds that may be provided, for the establishing of a Pig Experiment and Research Section in conjunction with the Animal Health Station at Yeerongpilly.

Plans and specifications for the new pig pens and equipment are in hand, and a plan of work to be undertaken is under consideration. In this matter, also, it is hoped to have early finality.

It is anticipated that the services of an officer will be made available to carry out research into methods of preventing the heavy losses incurred as a result of infestation of pigs by external and internal parasites.

Similarly, with the development of the Dairy Cattle Improvement Act and eradication of tuberculosis, it is hoped that losses from this disease in pigs will be still further reduced. Attention will be given to research into methods of preventing paralysis of the hindquarters, pneumonia, and other specific and nutritional diseases which take heavy toll of young pigs prior to marketing age.

The Pig Industry Council's activities are at present confined to a series of inquiries on subjects mentioned hereunder. It is hoped finality will be reached in several of these in terms to permit of their introduction during the coming year:—

- (a) Grading of pork and bacon carcasses and payment for such on a quality basis.
- (b) Systems of identification of live pigs and of pork carcasses.
- (c) Legislation to eliminate payment for pig carcasses or parts thereof condemned on slaughter.
- (d) Stabilisation of prices.
- (e) Standardisation of breed types.
- (f) Commission of inquiry into all phases of the industry.
- (g) Extension of operations to largely increase export of pork products and increase local consumption.
- (h) Improvement of marketing conditions.
- (i) Pig industry legislation.
- (j) Conservation of fodder for pigs.
- (k) Supervision of pig sales.
- (l) Research and nutrition work.
- (m) Extension of instructional activities inclusive of pig clubs, correspondence courses, schools of instruction, country itineraries, &c.

PIG RAISING ON THE ATHERTON TABLELAND.

The bacon factory at Mareeba has now been in operation for eleven years and has successfully established itself and created a widespread demand for its products. It functions under the North Queensland Co-operative Bacon Association, Limited, and is closely associated with the Northern Pig Board.

In general, the animals kept on farms on the Tableland are healthy, and no heavy losses are incurred. The prospects for expansion of the industry are good, although present values do not encourage rapid development.

A census of the farms engaged in the industry has been taken by the Board, and includes more than 300 farmers actively engaged in pig production. Stud pig breeding is carried on by a number of breeders, including the State farm at Kairi, where a good stud of pigs is maintained.

Foods used for the pigs include dairy by-products (skim milk, &c.), maize, pumpkins, melons, sorghums, root crops, pasture, and greenstuff.

OTHER ACTIVITIES.

In the course of their work the Instructors in Pig Raising visit the following centres:—

- St. Lucia Farm School, Brisbane;
- Farm Home for Boys, Westbrook;

Salvation Army Training Farm, Riverview;
Scots College Farm, Warwick;
Thornborough College Farm, Charters Towers;

and the following Government hospitals:—

Mental Hospital, Goodna;
Mental Hospital, Sandy Gallop;
Mental Hospital, Willowburn;
Benevolent Asylum, Dunwich;
Jubilee Sanatorium, Dalby.

At these various institutions the farm stock includes pigs, and at several, registered studs are maintained. There has been considerable improvement in quality, and better financial results are now being obtained than formerly. Visits are also paid to the Queensland Agricultural High School and College, where the Annual School of Instruction to Pig Raisers is held as opportunity offers. The series of pig-breeding experiments and a number of feeding experiments were concluded at the College during the year. A series of experiments in the use of cotton-seed meal as a food for pigs is now being carried out in co-operation with the Cotton Board.

FEEDING TESTS.

It is anticipated that a lengthy series of experiments in the feeding of meat meal will be initiated shortly in co-operation with various interests; those to be carried out at Yeerongpilly are now being planned.

There is a big field for work in the testing of various foods and in nutritional work generally. The feeding of hotel and restaurant refuse to pigs needs attention.

OTHER RESEARCH WORK.

Experiments at the Brisbane Abattoir in matters affecting the transport of pork carcasses in both chilled, frozen, and cured form are being closely watched.

PIG CLUBS.

The series of Pig Club lessons prepared by this branch have proved a great success. There is abundant room for extension of these lessons.

School club work in which officers co-operate with the Education Department continues to develop as the attached figures indicate:—

| Year. | Clubs. | Membership. |
|------------|--------|-------------|
| 1927 | 74 | 546 |
| 1928 | 121 | 897 |
| 1929 | 253 | 1,002 |
| 1930 | 374 | 2,494 |
| 1931 | 399 | 3,182 |
| 1932 | 338 | 3,110 |

CORRESPONDENCE COURSES.

With the Minister's approval these courses were introduced twelve months ago. They have continued to prove attractive, the enrolment varying between 150 and 180. The course includes all phases of pig raising and also anatomy and physiology.

RADIO LECTURES.

Lectures have been broadcast regularly during the year.

REPORT OF THE POULTRY EXPERT.

The Poultry Expert, Mr. P. Rumball, reports:—

During the past year exceptional interest has been displayed by settlers in Queensland in poultry raising. This naturally meant that much time was occupied in placing before those already settled on the land, and those proposing to settle, the possibilities of poultry affording remunerative returns.

Throughout the world poultry raising has been receiving considerably more attention during recent years than ever before, with the result that many countries have a surplus of which they must dispose. Australia and, incidentally, Queensland, is in the same position, as is evident by our yearly increase in exports. Great Britain at the present time appears to be the only overseas market worthy of consideration. Local production there is increasing annually, and in order to cope with spring production many of the eggs produced are going into cold storage for sale during winter months. The eggs exported from Australia will have to be sold in competition eventually with the English produced cold stored egg. In these circumstances, only those who can produce eggs at a minimum cost have been encouraged to embark upon poultry raising. This policy is considered the only sound basis upon which to work.

For many years the White Leghorn has been most keenly sought for and used by commercial breeders. The lower feed values and the general increase in productivity of flocks of Australorp has, to a large extent, been responsible for a slight easing in favour of this variety. This is considered a wise move on the part of producers on account of the increased value of old and discarded birds from a table point of view. The overseas export of table poultry does not appear to be a highly profitable venture at present, but it is a regrettable fact that the Australorp, a well-fleshed bird, and a breed that is becoming very popular, does not carry all the features required by the best trade in Great Britain.

Consideration should therefore be given to the development of breeds possessing the desired characteristics for the British market, as it is considered that, with the right feed values, there may be possibilities in this direction, and with the further development of the industry a necessity to export dressed poultry.

During the Egg Export Season the Queensland Egg Board exported every egg that would meet

the requirements of the Egg Export Regulation. This action resulted in the export of 1,300,440 dozen eggs—a record for Queensland. Losses on exports are more than covered by £40; in fact, when one or two claims have been finalised, it is probable that there will be no loss at all.

Overseas export of eggs in shell, unfortunately, will not absorb all surplus production. Eggs are still being marketed that are unfit for the export trade. Officers of this Branch have endeavoured to educate producers to the advantages to be gained by the greater care of eggs and by prompt marketing, but there are still, unfortunately, individuals who will do nothing to remedy the causes of poor quality. This class of egg makes it exceedingly difficult to obtain the best general values, and the quantities are at times large and have a very weakening effect upon the market.

Southern markets were used during the past season to a minimum extent without pulping, but there appears to be every reason to believe that this method of handling some of the surplus production will be resorted to during the coming season, especially if a market is found in this State for pulp manufactured in the South.

The quantity of eggs received by the Queensland Egg Board is suggestive of a considerable expansion in the industry. This is strengthened by the further installation of large incubation plants and the increased turnover by poultry farmers' co-operative societies. Breeders report fairly heavy bookings of chickens during the coming season, which is also suggestive that the strength of the industry will be maintained.

During the year officers of the Branch have co-operated in work performed at the Animal Health Station, particularly with reference to experimental work dealing with the raising of chickens.

Diseases of poultry have necessitated visits to many farms. In this work the industry has had the able assistance of a veterinary officer of the Animal Health Station. Coccidiosis was apparently more prevalent among chickens than in previous years, likewise Black Comb among laying stock. Fowl pox, a mild disease causing serious economic loss to poultry raisers every year, is being attacked to a greater extent by vaccines. From information supplied by producers from time to time it appears that the form of attack is proving fairly satisfactory.

REPORT OF THE DIRECTOR OF COTTON CULTURE.

The season under review, while decidedly better than the previous one, has not been favourable generally for the production of profitable yields of cotton. It appears likely, however, that the total crop which will be produced will be above the average of the better total yields of previous seasons. Although considerable difficulty was experienced in the early stages of disposing of the crop, eventually all of it was contracted for by Australian spinners, excepting 500 bales, which were shipped overseas to cover hedges sold to finance the payments of the first advances made on cotton received at the ginneries during the first few weeks of the season, and 100 bales sold in Japan.

Although a very small crop was produced last season—6,171,254 lb. of seed cotton yielding 1,990,138 lb. lint from 61,000 acres planted—the prices obtained made cotton-growing attractive compared to other cash crops, and, as the Australian spinners were confident that their requirements would continue on a high level for this past season, increased acreages of cotton were planted in nearly all the main cotton-growing districts. A total of 80,743 acres was reported by 3,881 growers, at mid season, as having crop prospects, while an appreciable acreage for which seed was obtained was either not planted through lack of suitable rain, or failed from insufficient moisture after the crop had germinated.

The season generally was one in which light storms predominated during the first half, and heavy storms with lengthy intervals between them in the second half. Periods of intense heat were experienced between the storms in January and February, which greatly retarded plant development. These heat waves were especially severe on the crops, as there was little subsoil moisture owing to the combined effect of the drought of the previous season and the failure of the winter rains. The crop was therefore a shallow-rooted one developed with frequent light showers in the spring and irregular conditions in mid-season. Good rainfall was thus required in March to carry the crop on to maturity. Unfortunately no rain occurred, and nearly record high temperatures were experienced in most districts. As would be expected, the prospects for profitable returns deteriorated rapidly under such conditions, and only a small percentage of the fields yielded better than 500 lb. seed cotton per acre.

As was the case last season, in the midst of adverse climatic conditions, advice was received from the Australian spinners that they would only be able to purchase a small proportion of the crop. Although the mills had been operating at full capacity at planting time, and the market for a large crop seemed assured, the competition of Japanese yarns, certain tariff evasions, and the uncertainty concerning the effects of the Ottawa Conference, changed the

outlook for Australian spinners so badly that they could not see their way clear to contract for the crop. The situation made the financing of the payments to the growers most difficult, and hedging had to be resorted to in order to make first advances on the consignments arriving at the ginneries. Eventually, owing to an improved outlook for the spinners in relation to the evasions of the spirit of the tariff regulations, rises in prices for lint and yarn overseas, and the severe reduction in the size of the Queensland crop, arrangements were made to sell to the Australian spinners what will probably be the total yield for the season, excepting the cotton sent overseas. This improved the outlook for obtaining an average price in keeping with those of previous seasons, and made it possible to arrange with the Commonwealth Bank the financing of the first advances on a more satisfactory basis than at first seemed possible.

The following schedule sets out the prices for the different staple lengths of each grade of seed cotton, the Commonwealth bounty on seed cotton being included, paid as a first advance to the grower upon receipt of his cotton at the ginnery. As the crop is sold and sufficient credits accumulate, further advances on a flat rate per lb. of seed cotton will be paid.

TABLE OF FIRST ADVANCES PER LB. OF SEED COTTON.

| Grade. | Staple I. | Staple II. | Staple III. |
|----------|-----------|------------|-------------|
| | <i>d.</i> | <i>d.</i> | <i>d.</i> |
| A | 2.35 | 2.45 | 2.6 |
| B | 2.25 | 2.35 | 2.5 |
| C | 2.15 | 2.25 | 2.4 |
| D | 1.5 | 1.65 | 1.75 |
| X | 2.25 | 2.35 | 2.5 |
| XX | 2.15 | 2.25 | 2.4 |
| XXX.. .. | 1.4 | 1.5 | 1.65 |

Realising that the competition of imported yarns and the general uncertainty as to the future of both the spinning and cotton-growing industries were detrimental to both, representations were made by the spinners to the Federal Government to rectify the conditions. The Tariff Board accordingly commenced, in June, to hear evidence on the application of the spinners, which asked for sufficient protection to maintain markets already developed in the country and to allow of expansion in certain new directions. It has been estimated that a yearly supply of 35,000 bales of lint will be required if these markets are granted to the Australian spinners. Evidence was submitted to the Tariff Board while in Brisbane by the manager of the Cotton Board supporting the applications of the spinners, and also showing the potentialities of cotton-growing in this State. The hearings of the Tariff Board have since been continued in Sydney and Melbourne, and have not been completed at time of writing.

DIVISIONAL RESULTS.

The climatic conditions were of the same general character in all districts and affected the crops somewhat similarly, especially during the dry severe heat early in January, when heavy shedding of flower-buds and bolls occurred in all varieties in every district. Outstanding exceptions to these general results were obtained, however, especially in crops in the newly burned scrub and on soils brought under cultivation this season either from virgin forests or from freshly stumped scrub country which had been under Rhodes grass for some years. Improved yields were also obtained by growing cotton on land which had been under shallow-rooted fodder crops, such as sorghum, panicum, maize, &c. Several factors may have contributed to these results, and investigations are in hand to determine them. The growing of cotton following grass or fodder crops has so generally shown gains as compared to where cotton has followed cotton during the last two dry seasons that growers are being advised to adopt this practice regularly.

The most important feature relating to divisional development has been the marked expansion in acreage which took place in the Callide Valley this season. Owing to the crop failure in that district last season in the worst drought in sixty years, many of the growers who have been steadily clearing and developing their holdings since selecting them in 1924 did not have sufficient financial reserves to finance their crop for this season. Loans were accordingly made to them from a special joint fund of the Commonwealth and State Governments for the relief of unemployed. In addition to the regular farmers, loans were also made to share farmers for the purpose of falling scrub and clearing forest land for cotton-growing. Altogether some 40,000 acres of cotton were planted, most of which as the result of these loans and advances made by the Agricultural Bank to the regular clients of that institution. Had this financial assistance not been given, only a small portion of the acreage could have been planted, for many of the settlers were in very serious difficulties. Undoubtedly much good was done by the loans, not only through improving the lot of several hundred growers, a large percentage of whom had families, but also the total wealth

produced by the cotton crops in the district will amount to a substantial figure, even under such disastrous seasonal conditions. The improved value of the scrub land through the falling and burning of the scrub and the planting to Rhodes grass at the end of the season will also amount in the aggregate to considerable figures, as some 15,000 acres were felled. An appreciable amount of assistance was likewise given to settlers in the Upper Burnett and Mundubbera districts. Altogether 745 growers and share farmers in the three districts received from the relief fund a total sum of £32,000. Even with such poor crop results it has been estimated that upwards of 60 to 66 per cent. of the loan will be repaid this season. As the relief scheme will be continued in the coming season, it is to be anticipated that, given conditions at all favourable to crop production, most of the outstanding debts will be collected.

Although the crop results have been generally poor to only fair, all growers realise that, had more normal conditions existed in March, much better returns could have been expected. Undoubtedly the cotton plant has remarkable drought-resisting properties, and the yields obtained from cotton-growing in many sections of the State during the last two years of drought, when all other crops produced little or no returns, clearly indicate the desirability of including cotton-growing in the cropping systems. It is to be hoped, therefore, that the present sitting of the Tariff Board to hear evidence regarding the application of Australian spinners for sufficient protection will produce results that will enable both the cotton-growing and spinning industries to be put on a basis which will allow of a steady and permanent development. Given this, it would appear, from the increased interest now being shown in cotton-growing, that an industry will be developed within the State of a magnitude little visualised at present.

The table of rainfall recordings for representative centres in various sections of the main cotton belt is included to allow of a better understanding of the nature of the moisture conditions under which the crop was grown. As the mean rainfall of the previous June for the same centres was .63 inches, it can be appreciated what a lack of subsoil moisture existed for this season.

MONTHLY RAINFALL.

1ST JULY, 1932, TO 30TH JUNE, 1933.

(In 100ths of an Inch).

| Station. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | March. | April. | May. | June. | Total. |
|----------------------|-------|------|-------|------|------|------|-------|------|--------|--------|------|-------|--------|
| Boonah | 0.71 | 0.34 | 4.48 | 3.16 | 3.67 | 1.39 | 10.56 | 3.85 | 0.9 | 3.08 | 0.65 | 0.94 | 32.92 |
| Kalbar | 0.55 | 0.22 | 4.29 | 3.18 | 2.37 | 1.58 | 8.64 | 3.50 | .. | 3.50 | 0.65 | 1.04 | 29.52 |
| Laidley | 0.78 | 0.47 | 2.91 | 2.61 | 3.77 | 0.87 | 7.36 | 2.19 | 0.6 | 2.15 | 0.37 | 0.97 | 24.51 |
| Gatton | 0.65 | 1.17 | 2.77 | 2.36 | 4.72 | 1.66 | 10.82 | 3.94 | .. | 2.38 | 0.28 | 0.82 | 31.57 |
| Lowood | 0.71 | 0.53 | 2.36 | 3.37 | 3.17 | 0.92 | 12.31 | 2.76 | 0.13 | 3.69 | 0.25 | 0.55 | 30.75 |
| Murgon | 0.63 | 0.41 | 1.41 | 3.31 | 3.25 | 2.20 | 9.93 | 2.56 | 0.3 | 2.33 | 0.36 | 0.75 | 27.17 |
| Gayndah | 0.45 | .. | 1.00 | 3.58 | 5.31 | 2.09 | 6.40 | 1.71 | .. | 2.92 | 0.25 | 1.00 | 24.71 |
| Eidsvold | 1.03 | .. | 1.31 | 3.24 | 2.82 | 1.41 | 8.98 | 3.14 | 0.13 | 2.40 | 0.42 | 0.96 | 25.84 |
| Camboon | 0.90 | .. | 1.06 | 1.83 | 2.82 | 1.26 | 4.74 | 2.40 | 0.21 | 0.99 | 0.33 | 1.08 | 17.62 |
| Many Peaks | .. | 0.25 | 1.45 | 2.41 | 2.37 | 2.85 | 7.91 | 3.88 | .. | 5.67 | 0.12 | 1.68 | 28.59 |
| Mount Larcom | 0.10 | .. | 0.56 | 4.32 | 0.79 | 5.60 | 6.58 | 1.70 | .. | 3.85 | 0.10 | 1.89 | 25.29 |
| Rockhampton | 0.25 | 0.11 | 0.63 | 1.22 | 4.31 | 9.54 | 12.44 | 1.67 | 0.11 | 1.57 | 0.47 | 1.55 | 33.87 |
| Westwood | 0.33 | .. | 0.98 | 1.77 | 0.81 | 4.73 | 4.63 | 1.63 | 0.80 | 0.83 | 0.64 | 1.81 | 18.96 |
| Wowan | 0.56 | .. | 0.58 | 4.77 | 0.58 | 6.82 | 6.56 | 4.23 | .. | 1.70 | .. | 1.91 | 27.71 |
| Biloela | 0.49 | .. | 0.30 | 2.91 | 1.77 | 3.22 | 7.08 | 4.06 | 0.40 | 2.82 | 0.23 | 1.53 | 24.81 |

STANDARD OF CULTIVATION.

The standard of cultivation for the crop as a whole improved over that of last season. There was still a tendency, however, for an appreciable number of growers to neglect cultivating sufficiently to prevent growth of pigweed (*Portulaca oleracea*) and bullhead (*Tribulis terrestris*) both in the early and mid-season stages of the growth of their crop. Both of these weeds are attractive to the moths of the corn-ear worm and cutworm, and undoubtedly considerable damage is done by these pests each season through the above weeds being either in the crops or closely adjacent fields. Undoubtedly more cultivating of the cotton crops at mid-season should be practised, especially on the heavier clay loam soils. The beating nature of the mid-seasonal rains obviously causes a heavy run-off of water, and unless a loose surface allows of good penetration little or no benefit is obtained from such rainfall at periods when additional moisture is frequently required.

CROP YIELD.

The yield for this past season to the fifth of July has been 14,563,869 lb. of seed cotton. The crop is still arriving at the two ginneries in fair quantities, so that it is uncertain what will be obtained eventually. It is doubtful, however, if it will exceed 16,500,000 lb. This is a disappointing yield for the acreage planted, and indicates clearly how the seasonal conditions affected the crop.

QUALITY OF THE CROP.

The quality of the crop has varied according to soil and climatic conditions in each district. Generally speaking, the bulk of the crop, although light-bodied, has stood up to the adverse season remarkably well.

COTTON RESEARCH STATION.

The climatic conditions at the research station have been appreciably better than those experienced last season. In keeping with the rest of the cotton belt, the conditions in March were adverse to cotton production. Had a heavy beating storm received at the end of February been of a soaking nature the bulk of the cotton plots on the station would have produced highly profitable yields. As it was, an average yield from all of the main plantings was obtained that was considerably higher than those of adjacent commercial crops. The combination of lack of subsoil moisture and the disastrous climatic conditions greatly affected many of the experiments and reduced their yields so as to make the results of somewhat doubtful value. Investigations dealing with problems touching upon the effect of subsoil moisture or utilisation of same gave the most interesting and clear-cut answers. Very marked advantages were again obtained through growing cotton in rotations with fodder crops, a gain of 370 lb. seed cotton per acre having resulted in the wheat-maize-cotton rotation. Likewise plant spacings reducing the competition for the limited moisture available were beneficial. Increases amounting to as much as 300 per cent. were obtained from crops grown on land the first year in cultivation from the virgin state as compared to the yields off land under cotton cultivation for several seasons, and in which a low c/n ratio with a high nitrogen content existed.

PURE SEED OPERATIONS.

The development of supplies of improved seed of the Durango variety was again retarded by seasonal conditions. Some progress was made in the Callide Valley with the best strain there, and approximately 4,000 acres will be planted in the coming season. The next older strains were also increased, so that there should be ample seed to replace the main commercial stocks at the end of the coming season. Greater progress was made in the Upper Burnett due to the better climatic conditions, and sufficient seed to plant 12,000 acres will be available for planting next season.

Good progress was made in increasing the supplies of the best strain of the Acala variety, and ample seed to meet all requirements will be available.

The Lone Star variety has continued to give satisfactory results in the Mundubbera district. Unfortunately, the increasing of supplies of seed of this variety was likewise affected by the climatic conditions, but it will be possible to distribute sufficient to plant 1,200 acres of this variety in the Mundubbera district in the coming season. It would appear that not only is this cotton going to be very suitable for a large acreage in the drier portions of the Central Burnett, but the length and character of the fibre produced will supply a wide range of the types now required by the spinners.

The results obtained in the 1930-31 and 1931-32 tests of the more recently introduced varieties have indicated that for certain soil types the Indio, Acala, and Mebane cottons appear to have decided possibilities. Accordingly 600 lb. of seed of the former and 3,000 lb. of the latter variety were imported from California and Texas, U.S.A., for planting this season. Unfortunately, the climatic conditions greatly reduced the yields of most of the increase plots, so that development of stocks of seed has been seriously retarded. It is to be hoped that the further tests of these varieties likewise indicate their promise of being suitable for Queensland conditions. Both are of the big boll, high lint percentage type and produce medium staples of the character required by the Australian spinners. Every effort will be made, therefore, to expand seed supplies of them as rapidly as possible in order that their suitability to the conditions in all the cotton-producing districts can be early ascertained.

GRADING.

The Government cotton graders have again graded the seed cotton as it arrives at the ginneries and the resultant bales of lint prior to delivery to the spinners. As in previous years, a considerable number of lint samples representing the various grades and staple lengths of Queensland cotton were also supplied to inquirers at the request of the Cotton Board.

INSECT PESTS AND DISEASES.

The rough boll worm (*Earias huegeli* Rozenk), for the second season in succession, has been the outstanding pest attacking the cotton crops. In fact, it has become increasingly more important in each of the last three seasons. The explanation is not clear, although it is possible that the mild open winters of these seasons have allowed of larger populations coming through for the following crop than is usually the case when

cold, wet winters occur. In all districts serious losses have been experienced from attacks by this pest, not only through the loss of terminal of the main stalk with a resultant delay in the development of the fruiting structure, but by the actual attacking of the young bolls throughout the first half of the season. As was the case last season, parasites (not yet identified) obtained control at mid-season. Following on the April rains, however, a further population of rough boll worms developed, which increased appreciably towards the end of the season. As the minimum temperatures during June have been much colder than those of the previous two winters, the incidence of the rough boll worm during the coming season will be closely watched with interest.

Corn-ear worm (*Heliothis obsoleta* Fab.), while present sufficiently to be of economic importance in some districts, could not be classed as a serious pest of the season. In the districts where the most damage was done by it, definite causes explained the presence of large populations. Growers are well advised not to plant cotton adjacent to lucerne or uncultivated fields where heavy growths of pigweed and bullhead will develop. Huge populations of the corn-ear worm build up in such centres, and when the host plants become unpalatable migrations into the cotton occur on a large scale, resulting in total wreckage of the crop and often of the plants if prior to the mid-seasonal stage of growth. The maintenance of clean cultivation not only in the cotton crop but in adjacent fields will greatly assist in reducing losses from the corn-ear worm in most seasons.

The cutworm (*Euxoa radians* Guen.) did considerable damage in isolated fields in all districts. This was to be expected, for there appears to be a very high correlation between dry winters and early springs and the incidence of this pest. Effective demonstrations of controlling attacks of cutworm were carried out in all the main areas by the officers of the field staff and in the Callide Valley by the Assistant Entomologist stationed there. Undoubtedly all growers should have stocks of paris greed or lead arsenate, bran, and molasses on hand prior to planting, for the poison bait made of these ingredients is most effective if applied properly.

The pink boll worm (*Platyedra* species ?) has occurred in economic numbers in various sections of the Callide Valley this season. Examinations of possible sources of infestation

of the cultivated fields which have been relatively free of this pest in past seasons indicated that the main source was from old fields of stand-over cotton in the adjacent scrub burns. The usual practice in growing cotton in the newly burned scrub is to sow Rhodes grass seed amongst the cotton towards the latter part of the season. A good stand of grass is usually obtained if climatic conditions are favourable, and in the following spring the burning of the grass destroys the old cotton stalks. During the last two seasons, due to drought conditions in the winters, the grass has not developed sufficiently to give good burns, hence a large amount of stand-over cotton has existed in the scrub areas around the edges of the Valley. It has thus been possible for the pupæ to overwinter amongst the cotton and breed up in considerable numbers in the crop of bolls on the new shoots in the following spring, from which the moths have infested adjacent fields of annual cotton in both scrub and cultivated areas later in the season.

With the return of more normal seasons the growth of grass obtained in the scrub cotton will enable the burning of the old cotton stalks to be done each spring, which should help control the situation to a marked extent.

The different stainers were present to varying degrees in all districts, but did not cause any unusual amount of damage.

ACKNOWLEDGMENTS.

The Principal of the Queensland Agricultural High School and College has again kindly made land available for breeding plots for several varieties of cotton and loaned students to assist in various operations connected with the work carried out by them.

The Agricultural Chemist and various members of his staff have given valuable assistance during the year in problems relating to soil chemistry and soil moisture studies.

The Chief Entomologist and members of his staff have also given valuable assistance in connection with entomological problems and in the inspection of quarantine plots sown with newly imported cotton seed.

Thanks are also due to the Director of Agriculture for making available the services of several of his officers in the Northern Division in connection with testing the suitability of cotton for growing in the tobacco areas.

W. G. WELLS, Director of Cotton Culture.

REPORT OF THE ACTING DIRECTOR OF FRUIT CULTURE.

It is with the keenest regret that the decease, during the year, of the late Director of Fruit Culture (Mr. George Williams) has to be recorded. His passing was a sad loss to the fruit industry and to those closely associated with him. His inexhaustible fund of knowledge of matters horticultural was of the greatest assistance to all who sought his advice. He was loved by his staff for the kindly disposition so natural to him and the sympathetic manner with which he dealt with all their difficulties, whether personal or official, and the realisation that he had taken his last long journey came as a severe shock to all.

Like most of the agricultural industries, the fruit industry has suffered and is still suffering from the depressing economic influences of the past few years. While production and quality generally have been up to standard, and in many instances show marked improvement, prices have not been all that could be desired. It is pleasing to note that packing and general get-up of the fruit marketed has greatly improved, and credit for this must be given in large measure to the diligence of the field officers of the Fruit Branch, who keenly interest themselves in this branch of their duties.

The Stanthorpe district produced a record crop, and the export of apples overseas increased by a further 150 per cent. over the previous season.

The pineapple industry, which suffered a serious setback through the loss of the Canadian preference on our canned pines, is again developing a considerable export market. During the ten months from 1st July, 1932, 146,500 dozen cans were exported, and the United Kingdom was our best customer.

The reduction of the tariff on bananas imported into Australia, following the Ottawa Agreement to permit the introduction of 40,000 centals of this fruit from Fiji, appeared at the time to be a serious blow to local banana-growers. Fortunately, however, it has since been demonstrated that Fiji still is unable to compete economically with the home production. Banana-growing is one branch of fruitgrowing which continues to bring in comfortable returns, and many newcomers have lately taken up land, chiefly in the southern parts of the State, with the intention of sharing in its profits.

In the case of citrus the closure of the New Zealand market to Australian fruits has brought about the realisation that citrus growers throughout the Commonwealth are faced with an over-production of 10 per cent. of fruit. Schemes have been put forward in an endeavour to ease the position, but nothing practicable has so far been demonstrated. One thing is certain—*i.e.*, that a thorough investigation must be carried on to ascertain the most modern and improved methods of packing, storage, and marketing if we are to capture a potential share of the overseas markets. We can produce citrus fruits in suitable districts equal to those produced anywhere in the world and, provided it is marketed, from an appearance point of view, at least on a par with that from other countries, the local

problem of over-production will ease. The provision of an export standard and the establishment of a chain of central packing houses in districts proved to be capable of producing fruit of exportable quality will overcome the apparent difficulty now raised by some—that the variation in quality of the fruit in the different citrus districts is too great to develop an export trade under a common label.

THE STANTHORPE DISTRICT.

The Granite Belt had a huge crop of fruit during the last season, according to a report of the local instructor, Mr. H. St. J. Pratt. Over 22,000 tons of fruit and vegetables were exported by rail, while a big quantity entered New South Wales by motor lorry for distribution throughout the Northern Rivers. This tonnage represents an increase of at least 6,000 tons over the previous year's output.

Unfortunately, a year of very large supply cannot be regarded always as a blessing. Last season every tree bore a full crop of fruit, and to a great extent the same condition applied to neighbouring States as well, the natural result being that the marketing problem became more complicated. Whilst many growers did well, particularly where their own enterprise aided them, it was anything but a good season financially for the majority.

From such a season, however, some good must come, and in this instance it has been demonstrated forcibly to the growers that it pays to produce only the very best. Thinning out the fruit will be more systematically practised in future, and still more trees of the poorer and out-of-date varieties will be worked over to standard varieties.

Of the growers of the various kinds of fruit, the grape-growers had the best results. The crop was not too large, and the prices generally were very satisfactory and compared more than favourably with those obtained for apples and stone fruits. There was no export of grapes last season, and with the difficulties that seem to confront the successful export of this fruit, one solution of the grave question appears to be in better distribution throughout the State.

The increase in the export of apples was very gratifying. During the season 1930-31 8,000 cases were exported; in 1931-32 13,000 cases were exported; and in 1932-33 32,000 cases were exported. Great care must, however, still be exercised in the future to prevent the export of unsuitable fruit, and the question of immaturity is still a vexed one.

Root Stocks.—The root stocks of apple trees is still a much debated question. Some authorities advocate seedling stocks, while others press the claims of those raised vegetatively. In 1931 the Department imported a number of apple-root stocks from East Malling, England, and these are now established at Stanthorpe. Seventy-five per cent. of each variety of stock has been worked with standard varieties of apples, while the remaining 25 per cent. have been turned into "stool beds" for further use should any show worth-while characteristics.

Other stocks are being tried out, as well as stocks raised vegetatively from roots of some of the most vigorous seedlings in the district. Trees on seedling stocks are also being tried out side by side with those on Northern Spy and those growing on their own roots.

It is hoped that a stock specially suited for the Granite Belt will be evolved, but it must take several years yet before anything definite can be announced.

Packing Houses.—In the course of the year the Committee of Direction of Fruit Marketing established two additional packing houses, making a total of four for the district. When the initial difficulties experienced in any new venture were overcome, the new houses operated successfully and turned out a first-class pack.

Diseases and Pests.—There was a heavier infestation of fruit fly during the season than was the case for the last four or five years. The outbreak can probably be traced to the combination of several circumstances. The existing low prices prevented many growers from employing the extra labour necessary to pick up and destroy infested fruit; in addition to which the lack of the spirit of co-operation among a section of growers necessitated constant visits to their orchards and packing sheds by inspectors to ensure that these were kept in a sanitary condition. It is well worthy of mention, however, that practically all growers who carried out instructions had no serious loss from fly.

Generally speaking, Stanthorpe may be regarded as a particularly favoured district as regards diseases and pests, due to a large extent to its isolation and climatic conditions. Many serious diseases which do considerable damage in the other States are practically unknown in the Granite Belt.

The district is improving all the time, necessitating the constant extension of markets. The services of the Department are being sought increasingly for instruction in packing, pruning, grafting over trees to more profitable varieties, selection of sites for trees, and general orchard management.

CITRUS FRUITS.

In the North Coast districts the serious effect of the dry conditions prevailing over the past two years is reflected in the impaired vigour of trees and small crops of fruit in orchards not particularly favourably situated, and dependent rather more than desirable on the elements for profitable results.

Many citrus orchards are undoubtedly located in situations altogether unsuitable to their general good and to the advantage of the orchardist. The uneven climatic conditions experienced over the past several seasons are combining with other undesirable factors in the gradual elimination of orchards producing low-grade fruits, and eventually only those orchards more favourably situated will remain.

In the case of the better located orchards the industry is progressing slowly but surely, and where systematic care and attention is being given, particularly with respect to fertilising, pruning, and cultivation, good crops of fruit of excellent quality are being carried,

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In the Gayndah district, essentially an irrigation district, the effect of the long dry seasons has not been so severe on the trees, though through the visitation of a severe hailstorm at the end of last year the present crop was considerably reduced. The damage to the trees was exceptionally severe, but fortunately the area affected was limited. The fruit is up to the usual high standard of excellence for this locality, and the tree growths are generally very satisfactory, which augurs well for next season's crop. Great progress has been made in this district, and the area under trees is increasing rapidly. New plantings are being made on sound commercial lines, and it is believed that if the present careful policy and general good orchard principles are continued the district will eventually become one of the premier citrus producing regions of the Commonwealth.

At Tamborine Mountain many new citrus orchards have been planted, and the young trees are showing up well. The crop in this district also has been greatly reduced on account of the dry spring affecting the setting of the fruit. A big percentage of the trees in many orchards in this locality are also in need of reworking, and progressive growers have commenced this necessary practice.

The present condition of overproduction of citrus and the prevailing poor prices have brought to the notice of many growers the assurance that if they are to remain in the industry in successful competition with progressive neighbours then every tree in the orchard must become a profitable tree, producing only the best quality fruit. Thus the elimination of the drone trees from otherwise good orchards has commenced. In this way the industry is advancing another step in the direction of elimination of inferior fruit. When this problem has been overcome citrus growing will then, in combination with the most scientific methods of marketing, be built up into a substantial and remunerative business.

Selection of Citrus Budwood.—Several years ago it was realised that too great a percentage of off-type citrus trees was being supplied to growers, and to overcome this a citrus budwood plot was established at Gayndah, from which eventually all supplies of budwood will be drawn by nurserymen. To bridge over the time which must elapse before the trees are big enough to supply all the budwood required, it was decided, in the course of the year, to select trees in established orchards which displayed desirable characteristics of vigour, productivity, and freedom from disease, and to obtain nurserymen's requirements of budwood from these trees under the supervision of an officer of the Branch. The scheme is well in hand, and the majority of nurserymen have expressed their willingness to co-operate in an endeavour to improve the quality of trees purchased by growers. Supplies of wood for the next budding season will be selected very largely from the approved trees.

PINEAPPLES.

The summer crop of pineapples was not a large one, the protracted dry spell affecting adversely the growth of plants in many areas. Fruit was, on the whole, smaller than in normal seasons, and sunburn was responsible for quite a lot of damage in plantations on the North Coast. The winter crop promises to be a good one, and this

will help to compensate, to some extent, for the summer returns.

In the past few years there has been a falling-off in pineapple production in some localities, chiefly due to factors such as faulty cultivation, soil erosion, wilt, and other lesser diseases.

The replanting of old pineapple land without thorough preliminary preparation is reflected in impaired vigour of the plants, leaving them more susceptible to disease, and naturally the fruit produced cannot be up to the desired standard. Although this condition is true of a number of plantations, there is much land which is being satisfactorily renovated by good fallowing, fertilizing, and ploughing under of green manure crops to provide humus. Replants in these lands are producing good quality and profitable crops, and the methods employed in bringing such land again into successful production are worthy of note by other growers who, as their available virgin land becomes exhausted, must have recourse to this practice.

BANANAS.

The planting of about 7,500 acres of new land during the past year has brought the total area for the State up to 19,000 acres of bananas, exclusive of a further 3,700 acres which were destroyed on account of old age and the incidence of diseases and pests.

Production in the North Coast has fallen off considerably during several years, chiefly on account of Thrips and Beetle Borer damage. The elimination of plantations which have got beyond the profitable stage, however, and the careful supervision of the agents of the Banana Board have done much to encourage closer attention to remaining areas. In consequence of somewhat better prices prevailing, it is anticipated that next season there will be extensive plantings in isolated districts on the North Coast.

On the South Coast the area under bananas continues to increase greatly each year. This is probably the premier producing district in the State at present, and has resumed the position it held prior to the occurrence of Bunchy Top some years ago. This disease is still present on isolated plantations in some of the districts, and, although there appears to have been a slight increase in the number of affected plants recently, there is no cause for alarm.

As a precautionary measure, and also because of the great increase in the number of plantations, it has been decided to transfer another permanent inspector to the district and to appoint honorary inspectors from among the most progressive growers to watch the position more closely.

The Board appointed under the Banana Industry Protection Act continues to function satisfactorily in the interests of the growers.

In the course of the year a number of areas of land suitable for banana-growing were opened for selection by the Government, and blocks were eagerly sought after. Several community settlement schemes are in course of development with every prospect of success.

THE FAR NORTH.

The fruit industry in the far North is gradually expanding, particularly with respect to citrus fruits and pineapples. The approximate

area under citrus groves between Townsville and Cooktown is at present 600 acres, while about 140 acres of pineapples are being cultivated. The disadvantage of the Northern districts being so far away from metropolitan markets is partly compensated for by reason of the fact that Northern fruits mature earlier than they do in the South. Consequently, Northern fruits can be marketed in the South at a time when good prices are ruling.

The area under bananas has been dwindling for some years past and further plantings are necessary, if only to meet the local demand. Six hundred acres are at present being cultivated, and there is plenty of scope for expansion.

Excellent papaws, passion fruit, and granadillas are produced in the region previously mentioned, and there is always a good local demand for these varieties.

MISCELLANEOUS CROPS.

The market for small crops generally was again not equal to the production, and resulted in the turning under of quite a lot of vegetables in some districts. Factory supplies were also more than could be absorbed.

The custard apple crop has been only a moderate one, and fair prices have been received for fruit of first quality.

Bowen district has again experienced unfavourable weather conditions. Following the heavy midsummer rains a continuous dry spell has held up early planting for the present season. Prices during winter, when the bulk of the crop is marketed, were during last season only fair owing to the big quantities offering.

Passion fruit and papaws are being produced in increasing quantities. A new hybrid papaw, known as the Yarwun variety, has been commanding top market prices during recent months. The fruit is of excellent quality, and the original was raised in the district by which name it is known.

Several orchards of avocado pears were established during the year, so that in a few years we may expect to have a supply of this excellent fruit on the market.

Remarkable progress has been made in the Queensland nut (*Macadamia ternifolia*)—or Australian nut as it is now known—industry. Judging from the very numerous inquiries for plants and seed, the area planted with these trees must now be several hundred acres. The invention of a machine to crack the nuts, whether thick or thin shelled, with ease has assisted in placing the industry on a firm footing.

FERTILIZER EXPERIMENTS.

Experiments were continued with citrus trees on the Blackall Range and at Gayndah, and, despite the adverse weather conditions, very fair results were obtained.

In response to the request of Tamborine Mountain citrus-growers for fertilizer experiments, two plots have been established in the district.

A return compiled by the Senior Inspector showing the imports and exports of fruit and vegetables for the year is given hereunder.

H. BARNES,

Acting Director of Fruit Culture.

EXPORTS AND IMPORTS FOR QUEENSLAND—YEAR ENDING 30TH JUNE, 1933.

INTERSTATE EXPORTS.

| | FRUIT. | | | | | | | | | | | SEEDS AND PLANTS. | |
|-------------|----------|-----------|---------|---------|-----------|---------------|---------|----------|------------|-----------------|---------|-------------------|-----------|
| | Bananas. | Passions. | Citrus. | Pines. | Tomatoes. | Strawberries. | Grapes. | Mangoes. | Egg Fruit. | Various Fruits. | Melons. | Bird-seed. | Plants. |
| | Cases. | Cases. | Cases. | Cases. | Cases. | Trays. | Cases. | Cases. | Cases. | Cases. | Bags. | Bags. | Packages. |
| Brisbane | 4,504 | 13 | 248 | 16,916 | 15,079 | 87 | 9 | 209 | 366 | 1,747 | 37 | 16,003 | 102 |
| Clapham | 348,480 | .. | 3,724 | 254,205 | 320,113 | 5,025 | 3,049 | 5,001 | .. | 51,097 | 1,315 | 1,040 | 355 |
| Wallangarra | 4,897 | .. | .. | 3,232 | 41,311 | .. | .. | .. | .. | 51,160 | .. | .. | 21 |
| Rockhampton | 59 | .. | .. | 909 | 297 | .. | .. | 51 | .. | .. | .. | .. | 5 |
| Bowen | 1,737 | .. | .. | 11,092 | 173,089 | .. | .. | 4,536 | 366 | .. | 174 | .. | .. |
| Townsville | .. | .. | .. | 453 | .. | .. | .. | 173 | .. | 661 | .. | .. | .. |
| Innisfail | 475 | .. | .. | 3 | 3,280 | .. | .. | .. | .. | 10 | .. | .. | .. |
| Cairns | 1,571 | 13 | 72 | 386 | .. | .. | .. | .. | .. | 230 | .. | .. | 11 |
| Totals | 357,881 | 13 | 3,972 | 274,353 | 376,503 | 5,112 | 3,058 | 9,970 | 732 | 104,004 | 1,574 | 17,043 | 457 |

NOTE.—Totals made up Brisbane, Clapham, and Wallangarra. All other Ports included in these.

| | PRODUCE. | | | | | | | | | | | VEGETABLES. | | |
|-------------|-----------|-----------|---------|---------|----------|------------|---------|-----------|-----------|-----------|------------|-------------|-------------|--|
| | Pumpkins. | Potatoes. | Maize. | Onions. | Peanuts. | Arrowroot. | Ginger. | Tobacco. | Coconuts. | Cane. | Cucumbers. | Chillies. | Vegetables. | |
| | Bags. | Bags. | Bags. | Bags. | Bags. | Packages. | Bags. | Packages. | Bags. | Packages. | Cases. | Packages. | Packages. | |
| Brisbane | 70,257 | 904 | 132,198 | 7,364 | 35,076 | 7,885 | 263 | 9,241 | .. | .. | 6,132 | .. | 4,341 | |
| Clapham | 16,867 | 743 | 2,154 | 2,645 | 412 | 38 | .. | .. | .. | 90 | 33,644 | 700 | 42,095 | |
| Wallangarra | 9,679 | 1,813 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9,381 | |
| Rockhampton | .. | .. | .. | .. | 1,325 | .. | .. | .. | .. | .. | 6,565 | 673 | .. | |
| Bowen | 10,954 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 27 | |
| Townsville | 223 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Innisfail | .. | .. | .. | .. | 1,400 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Cairns | .. | .. | 63,745 | .. | .. | .. | .. | 5,125 | .. | .. | .. | .. | 8 | |
| Totals | 96,803 | 3,460 | 134,352 | 10,009 | 35,488 | 7,923 | 265 | 9,241 | .. | 90 | 46,341 | 1,373 | 55,817 | |

INTERSTATE IMPORTS, YEAR ENDING 30th JUNE, 1933.

| | QUARANTINE IMPORTS. | | | | | | | | | | |
|-------------|---------------------|-----------|-------------|-----------|---------|-----------|---------|---------|-----------|---------|-----------|
| | Fruit. | Potatoes. | Vegetables. | Plants. | Onions. | Nuts. | Garlic. | Swedes. | Seeds. | Grapes. | Tomatoes. |
| | Cases. | Bags. | Packages. | Packages. | Bags. | Packages. | Bags. | Bags. | Packages. | Cases. | Cases. |
| Brisbane | 469,614 | 203,140 | 2,903 | 147 | 35,656 | 110 | 17 | 12,358 | .. | .. | .. |
| Clapham | 188,040 | 33,964 | 605 | 234 | 120 | 19 | .. | .. | 1,426 | 411 | .. |
| Wallangarra | 60,151 | 45,626 | 11,927 | 659 | .. | .. | .. | .. | 1,188 | .. | .. |
| Rockhampton | 1,690 | 21,855 | 2,286 | 69 | 3,839 | 17 | .. | .. | 1 | .. | .. |
| Bowen | .. | 4,317 | 2 | 8 | 971 | .. | .. | .. | 1 | .. | .. |
| Townsville | 18,930 | 36,896 | 1,234 | 32 | 11,082 | 110 | .. | .. | .. | .. | .. |
| Innisfail | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cairns | 16,912 | 32,099 | 531 | 40 | 6,606 | .. | .. | 704 | 179 | .. | .. |
| Totals | 717,805 | 282,740 | 15,435 | 1,040 | 35,776 | 129 | 17 | 12,358 | 2,614 | 411 | .. |

NOTE.—Totals made up Brisbane, Clapham, and Wallangarra. All other Ports included in these.

A. PERSON, Senior Inspector.

REPORT OF THE SUPERVISOR OF DAIRYING.

The period reviewed was a momentous one in the history of dairy farming; climatic conditions varied considerably. General rain over the dairying areas, so essential in maintaining an average output, was not experienced. The rain which fell was chiefly associated with thunderstorms, and precipitations varied accordingly. Some districts benefited by a liberal rainfall, while in other sections the falls were light and patchy.

Towards the end of the term dry conditions prevailed throughout most of the dairying districts, causing a sharp decline in production. Excessive heat was experienced during midsummer, detrimentally affecting pastures and fodder crops, causing irregularities in supplies, and affecting the quality of the product.

BUTTER PRODUCTION.

Although the season was generally unfavourable, the output of dairy products from the factories exceeded that of the previous year by 4,977,840 lb.

This can be attributed to the entry into the industry of farmers who had previously confined their activities to grazing and/or agriculture. The low prices ruling for wool and meats necessitated attention being given to dairying by graziers conveniently located, while the low prices and the unfavourable seasonal conditions for crop growth were responsible for a more extensive combination of dairying with agricultural pursuits.

An important factor influencing output was the settlement of Crown lands in the Upper Burnett and Dawson Valley. In the Mackay district also, there has been a noteworthy extension of the industry, due to the establishment of a modern co-operative factory there.

In North Queensland the industry is also making a notable advance, and the product of the northern butter factories is of a high standard of quality.

Generally, the natural adaptation of soil and climate, coupled with the adoption of modern methods, has been favourable to the expansion of the industry, making Queensland a great dairying State.

The following table shows the monthly manufacture of butter during the period:—

| BUTTER PRODUCTION, 1932-33. | | lb. |
|-----------------------------|-------|-------------|
| 1932. | | |
| July | .. .. | 6,044,635 |
| August | .. .. | 5,523,507 |
| September | .. .. | 4,960,553 |
| October | .. .. | 7,495,270 |
| November | .. .. | 8,925,279 |
| December | .. .. | 10,659,957 |
| 1933. | | |
| January | .. .. | 10,317,921 |
| February | .. .. | 12,488,764 |
| March | .. .. | 11,923,137 |
| April | .. .. | 8,776,251 |
| May | .. .. | 7,630,526 |
| June | .. .. | 5,282,778 |
| Total | .. .. | 100,028,578 |

MARKETS.

Great Britain is the chief market for our exportable surplus of dairy products. Comparatively small quantities are shipped to Eastern Asian markets—Singapore and Hong Kong—from this State. The United Kingdom is the world's greatest market for dairy products, and on this market is determined the world's values. In the course of the year imports of butter into the United Kingdom attained a peak period; as a consequence, the price in that market ruled at the lowest rate for some thirty years, and was below the cost of production. Oversea marketing conditions still remain unstable and carry many elements of uncertainty. However, the outlook appears more favourable than it was during the mid-period, and it is hoped that the firming tendency existing at the close of the term is an augury for sustained increase in values.

The work of the officers of the grading division reveals the quality of the butter manufactured in the State from year to year. The product of every factory has been examined and reported on to the managements concerned. This work admits of a comparison being made between butters manufactured throughout the year, and helps in the solution of problems associated with the effect of varying conditions, seasonal and otherwise, on methods of production and manufacture.

Grading records disclose that a number of brands have shown considerable improvement, and that there has been a commendable degree of uniformity in the output of our leading factories. The product of some factories, however, has failed to reach a standard of quality so desirable in the general interests of the industry. Defects in flavour are too frequently met with, and on a weak market they have a depressing influence on values. Insistence on more frequent deliveries of cream and careful grading at the factory is necessary to ensure the manufacture of a uniform high-grade product, possessing the good keeping qualities essential in an export trade.

There was evidence of increased efficiency in the manufacturing division. Defects in manufacture are inexcusable, as our factories are equipped with modern manufacturing plants and equipment. The body, texture, and condition of butter were generally satisfactory, which is an indication of the proficiency of those to whom is entrusted the manufacturing section of the industry.

Determinations of the moisture content of butter on local markets received attention. The objective of maintaining moisture content appreciably close to the standard necessitates frequent checking. A small percentage of the samples dealt with was found to exceed the legal limit, and the butter was withheld until reconditioned to conform with the standard.

CHEESE PRODUCTION.

The very high temperatures that prevailed during a part of the summer affected detrimentally the quality of a large proportion of the cheese output.

In view of the importance of cooling in controlling the development of fermentations in milk, this practice under hygienic conditions requires most careful attention on the part of the suppliers. The disadvantages of our hot summer can be minimised by the application of the information that has been available for years but only partly used.

Defects associated with poor quality of milk may be eliminated by the practice of hygienic principles in the production and cooling of milk on the farm. It is noteworthy that most dairymen deliver a high-grade milk, thus demonstrating that milk of a quality suitable for the making of high-grade cheese can be produced in a subtropical climate.

The following table shows the quantity of cheese manufactured each month during the period:—

| CHEESE PRODUCTION, 1932-33. | | lb. |
|-----------------------------|-------|------------|
| 1932. | | |
| July | .. .. | 879,665 |
| August | .. .. | 934,521 |
| September | .. .. | 890,373 |
| October | .. .. | 1,119,894 |
| November | .. .. | 1,120,825 |
| December | .. .. | 1,517,047 |
| 1933. | | |
| January | .. .. | 1,433,113 |
| February | .. .. | 1,385,985 |
| March | .. .. | 1,233,166 |
| April | .. .. | 968,183 |
| May | .. .. | 881,330 |
| June | .. .. | 715,894 |
| Total | .. .. | 13,079,996 |

INSTRUCTIONAL WORK.

The services of the Departmental instructional staff were fully availed of by many factory managements. Early consideration was given to factories at which the products scoring below first grade were manufactured. The work of the officers was effective in reducing the factory output below first grade produced during the period.

RESEARCH WORK.

The services of Mr. O. St. J. Kent, Bacteriologist and Chemist, were frequently requisitioned to carry out investigatory work in both butter and cheese sections, and, in co-operation with instructors and inspectors, a number of dairy farms have been visited.

DAIRY SCIENCE SCHOOLS.

The service rendered the industry through periodical short refresher courses for dairy factory employees and producers in dairying centres is much appreciated, as is evidenced by the attendance and the interest taken in the instructional programme.

HERD-RECORDING.

Herd production recording is of very great importance to dairymen, and this has been stressed by the Departmental officers for many years. The results tabulated in the report of

the Senior Herd-testing Officer illustrate the activities of this Branch, and demonstrate the benefits of herd-recording.

With a view to increasing efficiency in this activity, arrangements have been made for the co-operation of dairy factory managements in the carrying out of this useful section of work. The inauguration of a service by which the testing of samples will be done at a dairy factory, centrally situated, will tend to stimulate interest in recording.

The recording and culling of the unprofitable cow will help to liven the interest of the dairy farmer in the management of his herd, and will lead to his making provision for fodder for the lean year which will inevitably recur.

ADVANCED REGISTER RECORDING.

The work of purebred recording has been carried out by the field officers throughout the dairying areas of the State. Breeders of stud dairy cattle are taking advantage of this service in increasingly large numbers, thus indicating the attention that is being given to the selection of sires from officially recorded dams.

FACTORY ACCOUNTS.

The Inspector of Accounts (Mr. G. B. Gallwey) associated with the Branch has carried out the usual inspection of the books of the several co-operative factories. In most cases the books were well kept and in a satisfactory condition. The amendment of the Dairy Produce Act which was passed last session has rendered the inspection of accounts more complete, and has made the annual returns of the co-operative dairy associations statutory and uniform. Under the amendment the payment of freight on cream by associations has been abolished.

BULL REGISTRATION.

In the course of the year "*The Dairy Cattle Improvement Act of 1932*" was brought into force. The object of the Act is to assist those engaged in the industry to place at the head of their herds bulls bred on production lines, to further extend the herd-recording services, and to co-operate in the control and eradication of animal diseases.

DAIRY COMMITTEE SCHEME.

With a view to bringing more effectively under the notice of dairymen the activities of this Department on behalf of the industry, and to extend the educational provisions of the Dairy Cattle Improvement Act, arrangements have been made to form dairy committees within local producers' associations. This movement has met with the general approval of members of local producers' associations, and 105 committees have been formed and leaders chosen. Suitable papers on matters of interest are prepared and forwarded for reading and discussion at each monthly meeting.

Courses of instruction in matters pertaining to the breeding, care, and health of dairy stock, and farm management generally, are being arranged for committee leaders. These courses include lectures and demonstrations at the Animal Health Station and in the laboratories of the Department of Agriculture and Stock.

STAFF REPORTS.

The following reports have been submitted by the Senior Grading Inspector, Dairy Science Officer, Inspector of Accounts, and the Senior Herd-testing Officer, covering their respective activities:—

GRADING.

Mr. G. H. E. Heers, Senior Grading Inspector, reports:—

From a dairying point of view the season just closed may be regarded as somewhat below normal; besides being low, the rainfall was irregular. The failure of our regular wet season the previous year, no doubt, somewhat accentuated the position, as the subsequent periodical falls were insufficient to maintain a steady and ample growth of our pastures. Unfortunately, our usual January to April rains did not fall this year, causing a premature falling-off of winter supplies; and, although it cannot be said that serious drought conditions exist, many of our dairying districts report a lower production than is usual for this period of the year.

Taking everything into consideration, it is gratifying to be able to report that the production has reached the record quantity of 100,028,578 lb. for 1932-33. Cheese also has shown an increase of 2,063,333 lb. over the previous year.

QUALITY OF BUTTER.

It is regrettable that, even with our highly equipped factories and the advancement of science as applied to dairying, our quality generally cannot be regarded as entirely satisfactory. There are indications that some butter suffered from over-processing, by which it was to some extent deprived of its natural character. High processing makes for flat stearine flavours and hard, brittle, and crumbly textures; whilst the natural colour is frequently bleached to a chalklike white.

With the exception of this bleaching, other colour faults, such as mottle and streakiness, have been less apparent, and may be regarded as having shown a general improvement. So also has the packing, but the finish has frequently been less attractive than formerly.

QUALITY OF CHEESE.

Notwithstanding that additional pasteurisation plants have each year been installed at our cheese factories, the quality of the output of some factories is far from satisfactory. Flavours, while being affected considerably from herbage and weed taints, also were frequently manifestly unclean. There was also evidence of gassy and high acid milks being used in its manufacture. Texture and body, with a few exceptions, have been faulty throughout most of the year. Mottled and faulty colours have not been excessive. While the finish has been generally good, there were many instances where cheese was rejected for export on account of cracked rinds. Crating and marketing left nothing to be desired.

In addition to examining and reporting on all butter and cheese exported to the United Kingdom from Brisbane, State officers have also given supervision to the local market, especially in Brisbane and suburbs. There were a number

of irregularities regarding quality, which upon investigation were frequently found to be due to the use of ice chests and electric refrigerators for other classes of foodstuffs as well as for butter.

The following are the Brisbane grading results for the year ended 30th June, 1933:—

BUTTER AND CHEESE SUMMARY—JULY, 1932, TO JUNE, 1933.

| Butter. | Choice. | First. | Second. | Third. |
|-------------|--------------------|--------------------|-------------------|------------------|
| | Boxes. | Boxes. | Boxes. | Boxes. |
| Salted .. | 260,148 | 702,829 | 92,263 | 51,456 |
| Unsalted .. | 47,762 | 78,225 | 11,302 | 3,710 |
| Totals .. | 307,910 (24.7%) | 781,054 (62.6%) | 103,565 (8.3%) | 55,166 (4.4%) |
| | | Crates. | Crates. | Crates. |
| Cheese .. | .. | 17,044 (32.2%) | 32,451 (61.4%) | 3,386 (6.4%) |

CHEMISTRY AND BACTERIOLOGY.

Mr. O. St. J. Kent, Dairy Science Officer, reports:—

In the course of the year a number of butter and cheese factories were visited for the purpose of investigating the cause of defects in butter and cheese.

QUALITY OF BUTTER.

In two cases it was found that old vats and old churns were responsible for the deterioration of the butter, and when these were replaced or their use discontinued the trouble was rectified. The use of defective equipment of any description is to be deprecated, for it is a constant menace to the quality of butter. It is false economy to continue using such equipment, and its immediate removal and replacement is well advised.

Cooked flavours have again been kept under observation, and an investigation is proceeding. "Surface taint" in butter has, fortunately, not been much in evidence this season, but another taint, which resembles this defect in some respects, has caused some factories much concern. This is the fermented cheesy flavour, which attacks unsalted butters principally. This defect is also under investigation at the present time. Other minor defects have been traced to their various sources.

MOISTURE-TESTING.

Improvement was noticed in methods used in factories for carrying out the moisture-test in butter. Where necessary, instruction was given in this matter and faults rectified. There are still a number of factories using moisture-testing scales of an inferior or out-of-date type. These should be replaced by one of the more suitable types which are now available.

DAIRY SALTS.

In the course of the term a number of samples of salt were subjected to analysis. Some of these could not be recommended for butter-making on account of the coarseness of the grain—a defect which should be rectified by manufacturers.

CHEESE FACTORIES.

A large number of samples of milk were again examined at cheese factories, and the results support those obtained during the previous year.

There is room for improvement in the quality of the milk supplied to cheese factories. In all factories visited it was found that the majority of producers supplied milk with a low bacterial count. It was also found that others were far below the standard set by their fellow-suppliers. When it is realised that cheese manufacture is essentially a process largely involving bacteriological control, the bacterial content of the milk received at the factory must be considered as a vital point.

DAIRY SCIENCE SCHOOLS.

Schools were held at Toowoomba and Maryborough. They have proved a very popular institution, and their continuance will be beneficial to the industry.

Whenever possible, opportunity has been taken to address senior boys and girls at schools on dairying subjects and, in particular, on dairy hygiene.

FACTORY ACCOUNTS.

Mr. G. B. Gallwey, Inspector of Factory Accounts, reports:—

The inspection of the accounts of dairy associations south of Rockhampton has been carried out during the year.

The amended system of accounts is in operation throughout the portion of the State inspected, and is working most satisfactorily. Payments by all associations during the period have been well maintained, and no serious cases of under-payment were found.

An amendment of the Dairy Produce Act gazetted in January of this year has provided for a complete verification of figures with greater facility through a uniform system of accounts. This will assist also in placing the position of each association fairly before its suppliers.

The prohibition of the payment of freight on cream by associations has had the effect of making many suppliers forward cream to its natural manufacturing centre.

The survey of the balance-sheets of dairy associations in the State has continued, and the transactions showed the following:—

| | |
|---|------------|
| Average cost of manufacture per lb. | 3.13d. |
| Number of suppliers | 22,215 |
| Amount distributed to suppliers | £4,595,558 |
| Trade and wages payments | £1,214,162 |
| Average price paid per lb. | 11.86d. |
| Number of persons employed in factories | 864 |

The cost of manufacture has been reduced by 0.11d. per lb. during the period. There has been a further increase of 1,743 suppliers over the year.

The distribution to suppliers has decreased, as also have the expenses. The diminished return to suppliers is a reflex of the depressed markets oversea. It will, under the uniform system of

accounts, be possible to extend this survey and to obtain valuable information in regard to the industry.

HERD-TESTING.

Mr. L. Anderson, Senior Herd Tester, reports:—

The past season has been a very trying one for the dairy farmer, not only from a productive but also from a financial point of view.

The rainfall in most parts of the State has been below normal and very erratic, while in many areas droughty conditions prevailed during long periods.

Coupled with low production, the ruling prices for dairy produce has been the lowest on record during the last thirty years, and, consequently, the dairy farmer has had a particularly anxious time.

The total number of herds submitted during the period under review was 400, as against 272 last year; while the actual number of cows submitted was 12,690—an increase of 2,307 on last year's figures.

Grouped in districts, the herds were submitted as follows:—

| | |
|----------------------------|-----|
| Darling Downs | 113 |
| West Moreton | 82 |
| Burnett | 79 |
| Wide Bay | 74 |
| Central Queensland | 40 |
| North Queensland | 12 |

When comparing the yield of milk and butter-fat, it is remarkable how closely the figures correspond year after year.

The average yield of milk from cows which were tested for the full lactation was 4,006 lb., as against 3,994 lb. last year; while the average production of butter-fat this year was 166 lb., showing an increase of 1 lb. over last year.

The complete records of 4,814 cows were computed during the year and forwarded to their respective owners.

Considering the number of cows tested, this number may appear to be low, but the cause is attributable to the fact that a large number was submitted during the last few months of the financial year, and, consequently, the cows have not yet completed their lactation. In other cases, dairymen were unable to continue the testing owing to continuous dry weather.

Analysing the figures of the main groups, it will be seen that the Darling Downs again holds pride of place, not only in the number of herds submitted, but also in production.

The number of herds under test was 113, comprising 3,200 cows; while the average production of the cows completing their lactation was 5,343 lb. of milk and 223 lb. of butter-fat, as against 230 lb. last year.

A comparison of these figures with the average production of other parts of the State indicates that the dairy cows on the Downs yield on an average 79 lb. of butter-fat more per annum than the average production of cows in other districts.

The district showing the next highest average production is North Queensland, with 167 lb. of butter-fat, although the number of herds submitted was only twelve.

In the Burnett seventy-nine herds were tested, comprising 2,355 cows—an increase of approximately 900 cows—the average yield being 4,082 lb. of milk and 164 lb. of butter-fat.

This district, unfortunately, suffered from droughty conditions, and many dairymen were forced to discontinue testing; in fact, in many cases, it was found necessary to dry the cows off in order to save them.

Wide Bay submitted a total of 74 herds and 2,276 cows, the average yield being 3,416 lb. of milk and 148 lb. of butter-fat.

West Moreton dairymen submitted 82 herds, with a total of 3,836 cows, the production being 138 lb., as against 144 lb. of butter-fat last year.

Central Queensland submitted 40 herds for a total of 726 cows. Extremely droughty conditions prevailed in this district; and the production of cows which were under test a sufficiently long period to allow any records to be compiled shows the very low average production of 104 lb. of butter-fat.

The best average production from a district point of view was recorded in the Killarney district, with 249 lb. of butter-fat, closely followed by Allora with 244 lb.

The best average was obtained from a herd in the Warwick district, where 12 cows yielded the excellent average return of 8,628 lb. of milk and 367 lb. of butter-fat.

Taking larger herds containing about 40 cows, the best returns recorded were from a herd in the Killarney district, where 41 cows produced on an average 280 lb. of butter-fat—a very fine return indeed, particularly when it is noted that in the same district herd averages as low as 144 lb. are recorded, which again shows what can be done when systematic testing and culling are practised.

From the Oakey district returns, a very creditable performance of a herd of 86 cows is noted, which produced on an average 224 lb. of butter-fat, in spite of the adverse season experienced.

As a contrast to this, mention is made of the returns of a herd of 135 cows, with an average production of 101 lb. of butter-fat. Only one of these cows succeeded in reaching the average yield of 166 lb. of butter-fat.

The following table sets out the comparative positions of these two herds from a gross return point of view:—

| | Herd 1. | Herd 2. |
|-------------------------------|----------|-----------|
| Number of cows | 86 | 135 |
| Year production of butter-fat | 19,264 | 13,635 |
| Value at 1s. per lb. | £963 4 0 | £681 15 0 |

The best individual yield during the season was recorded by a cow in the Warwick district, with a production of 438 lb. of butter-fat. This

is a very fine record when it is considered that this yield was produced under natural conditions without concentrates, and during a rather poor season.

The records of all cows completing their lactation have been classified according to their production of butter-fat, and the following table shows the position at a glance:—

| Total cows completing lactation | No. of cows. | Per cent. |
|---|--------------|-----------|
| .. 4,814 | | |
| Cows yielding under 100 lb. of butter-fat | 502 | 10.42 |
| Cows yielding from 100 to 200 lb. of butter-fat | 3,086 | 64.10 |
| Cows yielding from 200 to 300 lb. of butter-fat | 1,036 | 21.52 |
| Cows yielding from 300 to 400 lb. of butter-fat | 178 | 3.70 |
| Cows yielding over 400 lb. of butter-fat | 12 | .25 |

The question of what standard of production is payable is often asked, but it is difficult to answer. What is payable in one district may not be payable in another, and a standard set for a good district may be economically unattainable in other places. The basic factor is cost of production, and this determination should be made by the dairy farmer.

It is obvious from the above figures that a great number of dairy cows cannot be paying their way, and it behoves our dairymen to discard these uneconomic units.

Some 2,000 cows were found to be under 150-lb. butter-fat mark, and it can be plainly seen that cows yielding less than that amount, at present prices, are not assisting their owners in their struggle to keep down the overdraft.

It may not be possible for some owners to cull out up to the 150-lb. mark, but dairy farmers should look at it from a business point of view, and cull to the extent of at least 15 per cent. of the lowest producers each year. This cannot be done by guesswork. There is only one way, and that is by using the scale and the Babcock tester.

A change has recently been effected in the working of the herd-recording scheme—a change which it is hoped will bring many thousands of herds under test during the coming season.

Negotiations seeking the co-operation of all butter and cheese factories in herd-recording work have been in progress for some time, and it is pleasing to record that the response has been most encouraging. Practically all factories have willingly agreed to assist.

As a result, the actual testing of milk samples will in future be carried out by the butter or cheese factory to which the dairy farmer is a supplier, while all the recording work will be carried out by this Branch.

This change will eliminate the railage of milk samples over long distances, as well as delays on the railways, and save a considerable amount of freightage, while the composite sample bottles can be more economically used under the new scheme.

The first factory which took over the testing was the Maryborough Co-operative Dairy Association's branch at Mundubbera, and this was quickly followed by Maleny, Killarney, Woodford, and all branches of Caboolture, Warwick, and Queensland Farmers' Co-operative Associations.

Many other companies, including cheese factories, have agreed to assist, and the change-over will be effected in each district as circumstances warrant.

The appended table furnishes a summary of the recording results during the period.

HERD RECORDING—SEASON 1932-33.

| District. | Number of herds. | Number of cows tested. | Number of tests. | Cows completed lactation. | Average yield of milk. | Average yield of butter-fat. | Number of cows yielding under 100 lb. butter-fat. | Number of cows yielding from 100 to 200 lb. butter-fat. | Number of cows yielding from 200 to 300 lb. butter-fat. | Number of cows yielding from 300 to 400 lb. butter-fat. | Number of cows yielding over 400 lb. butter-fat. |
|--------------------|------------------|------------------------|------------------|---------------------------|------------------------|------------------------------|---|---|---|---|--|
| Darling Downs | 113 | 3,200 | 7,949 | 1,249 | Lb. 5,343 | Lb. 223 | 20 | 461 | 591 | 165 | 12 |
| North Queensland | 12 | 297 | 810 | 138 | 4,099 | 167 | 5 | 106 | 24 | 3 | .. |
| Burnett .. | 79 | 2,355 | 4,762 | 785 | 4,082 | 164 | 67 | 515 | 198 | 5 | .. |
| Wide Bay .. | 74 | 2,276 | 5,147 | 903 | 3,416 | 148 | 119 | 667 | 112 | 5 | .. |
| West Moreton | 82 | 3,836 | 9,603 | 1,662 | 3,354 | 138 | 250 | 1,305 | 107 | .. | .. |
| Central Queensland | 40 | 726 | 1,407 | 77 | 2,386 | 104 | 41 | 32 | 4 | .. | .. |
| Totals .. | 400 | 12,690 | 29,678 | 4,814 | .. | .. | 502 | 3,086 | 1,036 | 178 | 12 |
| General average | .. | .. | .. | .. | 4,006 | 166 | Per cent. 10.42 | Per cent. 64.10 | Per cent. 21.52 | Per cent. 3.70 | Per cent. 0.25 |

ACKNOWLEDGMENT.

I desire to acknowledge the full co-operation and assistance rendered at all times by the managements of Dairy Associations, Butter and

Cheese Boards, and of officers of the Dairy Branch in furthering the interests of the industry.

CHAS. McGRATH,
Supervisor of Dairying.

REPORT OF THE CHIEF ENTOMOLOGIST.

I have the honour to submit herewith a report of the activities of the Division of Entomology and Plant Pathology for the year ended 30th June, 1933. As usual the entomological work of the division is reviewed by myself, while the pathological work is discussed by Mr. J. H. Simmonds.

STAFF AND ACCOMMODATION.

During the year under review Mr. T. H. Strong was appointed Assistant to Entomologist. He commenced duty at the beginning of September, 1932, and has since been engaged mainly on the investigation of the corn ear worm in so far as it is associated with cotton. Mr. N. E. H. Caldwell also joined the staff as Assistant to Entomologist, commencing duty on 26th June, 1933, his province being the investigation of the very serious problem created by the continued prevalence of the banana thrips. Mr. Caldwell's appointment was made possible by a grant from Federal funds. Dr. M. Gwen Evans resigned on the completion of a post graduate course at Cambridge University, England. Mr. W. E. Hagger was transferred to the Agricultural Chemist's Branch, and the clerical duties are now carried out by Miss D. Goy.

Early in February Messrs. J. Harold Smith and D. O. Atherton were transferred to Atherton, which is now the headquarters of the North Queensland Entomological Field Station. Prior to their transfer from Cairns a new entomological laboratory was completed at Atherton, and the Northern station is now well equipped in so far as accommodation is concerned. Mr. F. H. S. Roberts, who specialises in veterinary problems, was transferred to the Animal Health Station at Yeerongpilly on the completion of the new laboratories at that centre.

QUEENSLAND FRUIT FLY.

The Queensland fruit fly, *Chaetodacus tryoni* Froggatt, was more abundant than has been the case during recent years. In last year's annual report it was possible to claim that the losses at Stanthorpe were the lowest during a decade. This year fruit flies were first trapped at Stanthorpe on 8th November, and full-grown maggots were obtained from plums on 18th November. No serious losses, however, occurred for two or three months, but towards the end of February apples and pears on some orchards were heavily infested. Strict attention to orchard hygiene and luring is essential for the control of this pest, and the Departmental officers stationed at Stanthorpe are strongly emphasising the necessity for the enthusiastic adoption of these control measures. In the case of the citrus districts fruit fly was also more troublesome than usual, due very largely to the prolonged summer weather experienced this year. Even so the losses were slight, and fruit fly can still be regarded as a minor pest in so far as citrus is concerned.

Field experiments with fruit fly repellents were instituted at Stanthorpe in November, the repellents tested being tar oil, paradichlorobenzene-carbon bisulphide, and paradichloro-

benzene-kerosene. These repellents were applied to balls of cotton waste, 2 inches in diameter, placed among clusters of fruit and protected from the weather by cones of waterproof paper. A second experiment with repellents was started some weeks later, but in this case kerosene was exclusively used as the solvent for paradichlorobenzene. The earlier experiment indicated that with kerosene as a solvent the odour of paradichlorobenzene was retained for a longer period than when benzene was employed to obtain solution. Baker's fruit-fly bait was also tested. The results of these experiments were somewhat inconclusive, because when they were carried out the expected fruit-fly infestation did not materialise. It will therefore be necessary to repeat these experiments next season.

CODLING MOTH CONTROL EXPERIMENTS.

During the year under review two codling moth control experiments were successfully undertaken. The first dealt with control by non-arsenical sprays, while the second tested control by chemically treated bandages. In the former very promising results were achieved, and these warrant a repetition next season in order to obtain confirmation or otherwise of this year's results. The percentage of sound fruit in the case of one of these non-arsenical sprays was 98.2. The second experiment was undertaken to demonstrate the value of chemically treated bandages for codling moth control. Bandaging trees to trap codling moth grubs was one of the earliest measures employed against this pest. Its application, however, involved the regular examination of the bandages to destroy the grubs assembled thereunder, and the time devoted thereto during the busier part of the year was such that this control measure fell into disfavour. The new system of chemically treated bandages has as its objective the killing of the grubs without repelling them, thereby eliminating the necessity for regular examination of the bandages. Dr. Seigler and others recently evolved a bandage which gave very good results overseas, and the Stanthorpe experiment was designed to determine its degree of efficiency under our conditions. The results indicated a high percentage kill, which in one case reached 94.2.

These two experiments are fully discussed in a report by Mr. Hubert Jarvis, which it is hoped will appear at an early date in the "Queensland Agricultural Journal."

WOOLLY APHIS.

The position with respect to this pest, *Eriosoma lanigerum* Hausm., continues to be highly satisfactory as a result of the establishment of the parasite *Aphelinus mali* Hald. The pest is largely kept in control as a result of the presence of this minute wasp and, whereas prior to its establishment six sprayings a year with nicotine sulphate were necessary, only two are now required, one in autumn to clean up and one in spring to keep the aphis in check until the parasite breeds up to numbers sufficient to exercise adequate control.

RED MITE.

The red mite, *Bryobia pratiosa* Koch, was very abundant in the 1931-32 season, its incidence being favoured by the abnormally hot, dry conditions prevailing during that period. During the recent season, however, it did not cause serious damage largely because of the fact that most growers adopted adequate control measures.

BLACK PEACH APHIS AND GREEN PEACH APHIS.

Where orchardists had used suitable sprays black peach aphis, *Aphis persicae-niger* Smith, caused little trouble. Seven different sprays were tested for the control of this pest in conjunction with soil fumigants and banding. Some of the results obtained at Glen Aplin were very encouraging, for trees which in previous years had been badly infested with black peach aphis were practically free from infestation as the result of the adoption of a definite spraying programme. The results of this experiment will be available for publication at an early date.

Late in November a Braconid parasite appeared in large numbers in orchards where aphis was at all abundant, and did extremely good work in controlling the pests, more particularly the green peach aphis, *Myzus persicae* Sulz. Mr. Jarvis bred fifty-four parasites from three aphis-infested leaves.

RICE WEEVIL ATTACKING APPLES.

In last year's report mention was made of the fact that the rice weevil, *Calandra oryzae* L., had frequently been observed attacking apples, both on the tree and in the packing shed. Such instances were again recorded during the year under review, but infestation was much less prevalent.

GRAPE PHYLLOXERA.

Grape phylloxera, *Phylloxera vitifoliae* Fitch, is once more present in the State, an infested vineyard being discovered at Pinkenba, close to Brisbane, during November, 1932. A quarantine area was gazetted, and the removal therefrom "of all plants, or portions of plants, of all and every species of *Vitis*" excepting only the fruit thereof is now prohibited. An illustrated advisory leaflet was also immediately issued.

OTHER GRAPE VINE PESTS.

The large weevil, *Orthorrhinus cylindrirostris* F., which is a common pest on citrus, was recorded as attacking grape vines in the Stanthorpe district. The same locality also supplied records of white ant infestation.

In the central coastal districts and in areas adjacent thereto fruit-sucking moths were abnormally abundant and were responsible for very severe losses in the limited number of vineyards in that part of Queensland. The principal offender was the common sucking moth, *Othreis fullonica* L. These pests will be further referred to when dealing with citrus insects.

CITRUS SCALE INSECTS.

As in the previous year the most important project at the Nambour Field Station has been the investigation of the seasonal life histories of the various scale insects on citrus. Field con-

trol experiments have been conducted by Mr. Summerville, concurrently with these life history studies. It is considered that the bulk of the work has now been completed in this project and that it will be practicable to publish the results at a comparatively early date.

LEAF-EATING WEEVIL.

Spraying experiments for the control of the leaf-eating weevil, *Eutinophaea bicristata* Lea, were conducted at Montville with distinctly satisfactory results.

CITRUS ROOT BARK CHANNELLER.

Work on the citrus root bark channeller, *Decilaus citriperda* H.T., has been confined to life history observations in the field and in the grounds of the field station at Nambour. Our knowledge of the life history is still incomplete, and we will not be satisfied until certain gaps are filled in. When that has been done it is hoped that the control of this important pest will be placed on a satisfactory basis.

RUTHERGLEN BUG.

Rutherglen bug, *Nysius vinitor* Berg., was very common in citrus orchards at Howard and Gayndah, and was responsible for appreciable damage at the former centre.

FRUIT SUCKING MOTHS.

Fruit sucking moths were very numerous in central coastal Queensland, and in certain orchards heavy losses of citrus were reported as a result of their presence. A field survey was made of the position, and plans have been formulated for baiting experiments when the next flight of moths occurs.

ONION THRIPS.

The onion thrips, *Thrips tabaci* Lindeman, appeared in epidemic proportions in the Theodore district during the year under review, and the outlook for the infested onion crop became decidedly unpromising. A field investigation was accordingly made by Mr. Summerville, and certain sprays were tested. The possibility of effective control was demonstrated, and the results of this work were published in the January issue of the "Queensland Agricultural Journal."

BANANA THRIPS.

Banana thrips, *Scirtothrips signipennis* Bagnall, continues to be a very serious problem, but it is considered that, speaking generally, the losses were not so serious as in the previous season. A very comprehensive report on North Queensland control experiments has been prepared by Mr. J. Harold Smith, and is now available for publication. The experimental work on this pest has been transferred from North Queensland to the southern portion of the State, and during the year Mr. J. A. Weddell carried out field control trials at Tamaree and Pinbarren. As already indicated, Mr. N. E. H. Caldwell has been appointed to work exclusively on the control of this pest, and it is therefore hoped that the present available control measures will be improved on as a result of the intensive study of the problem that is now possible.

CORN EAR WORM.

During the summer months Mr. T. H. Strong was stationed at Biloela, in the Callide Valley, and devoted most of his time to the investigation of cotton pests, particular attention being given to the corn ear worm, *Heliothis obsoleta* F.

A comprehensive ecological study was undertaken, and our knowledge of the pest was appreciably enhanced.

Field experiments of swabbing with a lead arsenate, molasses, and water mixture gave distinctly promising results, a heavy mortality of larvæ being obtained on the treated plants. It is considered desirable to carry out larger scale trials next season should a suitable degree of corn ear worm infestation be available.

BROWN CUTWORM.

The brown cutworm, *Euxoa radians* Guen., was responsible for serious losses of cotton during November, and much of Mr. Strong's time was then occupied in demonstrating the very satisfactory measures which may be adopted for its control. Losses from this pest also occurred elsewhere in other crops, and such may be expected each spring in varying degrees of intensity. As indicated, however, this pest can be readily and effectively controlled.

TOBACCO SEED-HARVESTING ANTS.

Seed-harvesting ants have been responsible for heavy losses in tobacco seedbeds in North Queensland, and Mr. Smith accordingly investigated this problem early in the Departmental year. It has now been demonstrated that the losses in North Queensland can be completely eliminated by slight alterations in seed bed management. The trouble is overcome by applying a covering of sand to a depth of one-eighth of an inch after the seed is sown. Medium grade river sand is recommended for this purpose.

TOBACCO STEM BORER AND LEAF MINER.

The tobacco stem borer, *Phthorimæa heliopa* Low., and the tobacco leaf miner, *P. operculella* Zell., constitute two of the most serious entomological problems confronting tobacco growers in North Queensland; hence Mr. D. O. Atherton has devoted a large proportion of his time to life history studies of these pests. Field control experiments have also been conducted, and progress reports on both aspects of the two projects have been received.

PIN-HOLE BORERS OF WALNUT BEAN.

Mr. Smith continued the investigation of the pin-hole borers of walnut bean, and some extremely interesting and important information was obtained which should further simplify the problem of control. A comprehensive progress report is available for publication.

BEAN FLY.

As it had been reported that certain varieties of beans showed some degree of resistance to infestation by the bean fly, *Agramyza phaseoli* Coq., experimental plots of the varieties in question were sown in the Departmental grounds at Nambour. These plots yielded no evidence in support of the claims made.

WHITE GRUBS.

The white grub problem on the Atherton Tableland is once more acute, and heavy losses of paspalum have again occurred in the vicinity of Malanda. The species responsible for these losses is *Lepidiota caudata* Blackb., and a programme for the investigation of this pest during the coming season has accordingly been drawn up.

BEEKEEPING.

Mr. H. Hacker's time has been largely employed on beekeeping matters, and visits of inspection have been made to a large number of apiaries. A very considerable volume of advisory work is also being handled by that officer.

INSECT COLLECTIONS.

The revision and rearrangement of the head office insect collections has been completed by Mr. Hacker, and he is now at work on the identification of the reference collection of the North Queensland Field Station.

OTHER TAXONOMIC WORK.

As in previous years, Mr. A. A. Girault has been engaged mainly on taxonomic work on the important groups of parasite Hymenoptera.

ILLUSTRATION WORK.

During the year under review Mr. I. W. Helmsing has prepared seventy colour figures, seven pencil drawings, and sixty-five black and white figures. Seven new exhibition cases were completed, these dealing mainly with household pests. Ten coloured reproductions of exhibition cases were also included in the year's work, as well as a number of plans and maps.

BIRD COLLECTION.

The bird collection has been maintained in good condition, and a number of accessions have been dealt with by Mr. Helmsing.

TIMBER COLLECTION.

The collection of timber specimens showing insect infestation has been added to by accessions received in the course of routine work, and material has also been obtained from the Sub-Department of Forestry.

LIBRARY.

A large number of exchange accessions have been received in the library, and these have been dealt with by Mr. A. R. Brimblecombe. Additional shelving was provided towards the end of the year, and this has made possible the storage of these accessions.

SHOWS.

As usual a display was staged in the Departmental Court at the Royal National Show. This display gave special attention to tobacco pests, tobacco diseases, pineapple diseases, and insectivorous birds. A good range of general exhibition cases and specimen jars was also displayed. Exhibits were also staged at a number of country shows.

ADVISORY WORK.

This report has so far dealt almost exclusively with the research side of the entomological work. Mention might, however, be made of the great volume of advisory work handled by the staff both at headquarters and at the field stations.

CLERICAL WORK.

The clerical work of the Division is now handled by Miss Goy, who also assists with the cataloguing of the pathological section of the library.

PUBLICATIONS.

The following contributions from the Division appeared in the "Queensland Agricultural Journal":—

- (1) Report of Maize Diplodia Experiments 1930-31, by R. B. Morwood.
- (2) The Banana Weevil Borer—Brief Notes on *Plaesius javanus* Er., the Histerid Predator, by J. A. Weddell.
- (3) The Honey Bee, by Henry Hacker.
- (4) Powdery Spot and Fruit Scab of the Passion Vine, by J. H. Simmonds.
- (5) Pin Hole Borers of the Walnut Bean (*Endiandra palmerstoni*), by J. H. Smith.
- (6) The Tobacco Stem Borer, by J. H. Smith.
- (7) The Botflies of the Horse, by F. H. S. Roberts.
- (8) A Survey of the Helminth Parasites of the Domestic Fowl and Domestic Pigeon in Queensland, by F. H. S. Roberts.
- (9) The Selection of Pineapple Planting Material, by H. K. Lewcock.

- (10) Rust in Wheat, by R. B. Morwood.
- (11) Pests of Cotton in the Callide Valley, by D. O. Atherton.
- (12) Experiments in the Treatment of Stomach Worms in Sheep, by F. H. S. Roberts.
- (13) Banana Leaf Spot—Progress Report, by J. H. Simmonds.
- (14) Notes on the Onion Thrips, by W. A. T. Summerville.
- (15) The Grape Phylloxera, by Robert Veitch.
- (16) The External Parasites of Sheep, by F. H. S. Roberts.
- (17) Timber Borers, by Robert Veitch.
- (18) Caterpillar Plagues in Grasslands and Cultivation Paddocks, by J. H. Smith.
- (19) Preliminary Experiments on the Mass Treatment of Poultry for the Roundworm, *Ascaridia lineata* Schneider, by F. H. S. Roberts.
- (20) Hints to Beginners in Beekeeping, by Henry Hacker.
- (21) Diseases of Vegetables, by J. H. Simmonds.

The last mentioned item was reprinted from the Division's handbook, "Pests and Diseases of Queensland Fruits and Vegetables," by Robert Veitch and J. H. Simmonds.

A new edition of the Departmental handbook on tobacco growing was issued, and this Division's sections dealing with pests and diseases were largely rewritten for the new edition, incorporating much fresh information therein.

ROBERT VEITCH,

Chief Entomologist.

THE WORK OF THE PATHOLOGICAL BRANCH.

Mr. J. H. Simmonds, Plant Pathologist, reports as follows:—

The work of the Plant Pathology Branch has been carried out along much the same lines as in previous years. The volume of advisory work is increasing from year to year, but notwithstanding this it has been possible to make considerable progress in most of the research projects undertaken. It is mainly this latter phase of the work which is dealt with in this report. For the sake of convenience, investigations concerning individual crops are grouped together.

CEREALS.

Mr. Morwood has continued his experiments with seed dressings for cereal smuts with the object of ascertaining whether any of the numerous proprietary lines are more efficient than the older standard procedures when used under Queensland conditions. Two diseases—covered smut of barley and bunt of wheat—are being used for this work. Last season Abavit B proved most effective in controlling the former disease. This year a further trial of this dressing, along with some fifteen other methods of seed treatment, has been provided for on the Darling Downs and at the Roma State Farm.

COTTON.

In co-operation with the officers of the Cotton Branch, a survey was made of recently introduced varieties. Fortunately these were found

to be free from any new diseases. Verticillium wilt still appears to a limited extent. One interesting and authentic case of lightning injury was observed. This proved to be similar to a trouble which had been reported previously from several localities, but for which a satisfactory explanation had been lacking.

TOBACCO.

As was anticipated at the time of writing the last annual report, disease is proving a major factor in influencing the development of the tobacco industry. In the South, blue mould is by far the most important of these diseases, and planting in many cases has been seriously delayed by loss of seedlings. In the Northern districts, frog eye leaf spot (*Cercospora nicotianae*) was of more consequence than blue mould. The exceptionally wet weather experienced last season resulted in an epidemic development of this disease, which became specially noticeable during curing. As a further result of the wet weather in the North, physiological troubles arose, which resulted in a very poor cure in many cases.

Mr. Mandelson has been devoting the major portion of his time to the consideration of tobacco diseases, and has made considerable progress in this work. The results of this from the practical side are embodied in the pathological section of the recently revised Tobacco Handbook. Interesting results have also been obtained in experimental work on the control of blue mould

by fungicides. It is hoped that early next season a satisfactory means of controlling this disease in the seed bed will be available. Attention was also given to finding a variation of the usual curing practices which might alleviate barn spotting. This work was commenced somewhat late in the season, but the preliminary tests showed prospects of considerable success. The results of these experiments will be made available to growers before next season per medium of the "Journal."

A number of minor troubles of a nutritional nature have been investigated in co-operation with the Agricultural Chemist, and as supplementary to this a series of pot cultures was established.

BANANA.

Banana diseases have received considerable attention during the year. A progress report dealing with leaf spot (*Cercospora musae*) and other leaf diseases appeared in the January number of the "Journal," and summarised the position up to that date. This year the work on these leaf diseases has been concentrated within a single district, with the result that frequent observations have been possible. As an interesting outcome of this, it has been shown that speckle—a disease which has been regarded as of minor importance—is capable of causing greater loss of leaf than leaf spot itself. It must be remembered, however, that this year the summer rains were abnormally light and a different position might arise in a normal season. The light infestation of leaf spot this year supports the opinion previously expressed that a continuous period of wet weather in the late summer or autumn months is necessary for an epidemic outbreak of the disease.

Stripping experiments were continued, but with little success. On the other hand, spraying with Bordeaux Mixture with Agral as a spreader in mid January resulted in retaining a satisfactory leaf canopy until late July, whereas untreated plants of the same age presented rather a sorry picture as a result of speckle and leaf-spot invasion. It is yet to be shown whether spraying could be put on an economic and practical basis on any but a few selected plantations.

In co-operation with Mr. F. J. Calvert, of Mount Mellum, an experiment is being conducted to determine the effectiveness of cloaking the fruit in overcoming loss from leaf disease. Comparable bunches which have been bagged or left uncovered are weighed and the number of fingers counted, and the records tabulated. It is too early to indicate the result of this line of investigation.

During the past year increased attention has been given to the squinter disease of bananas. Examination of affected fruit returned from Melbourne indicated that a fungus was responsible for the disease. This organism has since been identified, and its presence has been established in the packing shed and plantation. The results of this work will appear in the August, 1933, number of the "Journal." It remains now only to find a suitable means of treating the fruit prior to packing, and a satisfactory control of this disease will be possible.

CITRUS.

Mr. Mandelson has continued his experiments on the control of brown spot of the Emperor

mandarin at Howard, and black spot at Mapleton. It has been shown that control of both these diseases may be obtained by following out certain spraying schedules with a 3-2-40 Bordeaux Mixture. However, this procedure is complicated by the increased scale development which follows the application of copper sprays, and before this investigation can be considered finalised an attempt will have to be made to obtain a suitable fungicide which has not this disadvantage.

The experiments have indicated that it is most necessary to protect the fruit during the early stages of its growth, and hence as a result of future work it may be found possible to reduce the number of applications.

PINEAPPLE.

Mr. Lewcock has continued to specialise in this crop, and has devoted most of his attention to the wilt disease. While studying the influence of environmental factors on the development of this disease, he was able to show that certain soil conditions are associated with its presence. An extensive series of field plots has been laid down with the object of obtaining further information on this aspect, and applying the results to finding practical means of control. So far, the result obtained from these field trials has been in conformity with the data on which they were based. An article stressing the need for exercising care in the selection of planting material appeared in the "Journal" of November. In order to further this means of preventing the spread of disease, legislation has been introduced restricting the sale of factory tops.

During the winter months fruitlet core rot was responsible for considerable loss during the process of canning.

PAPAW.

The cold conditions of last winter were responsible for the development of a serious papaw disease, to which the name of black fruit spot and stem canker has been given. A fungus was isolated from the affected plants and its pathogenicity proved by inoculating young papaws in the glasshouse. It appears that in some localities in Southern Queensland winter conditions are sufficiently cold to cause the death of the lower leaves of susceptible varieties of papaw and a scalding of the exposed surface of the fruit. The fungus is able to infect through the injured tissue, causing a large, black, sunken spot on the fruit and a decay of the leaf stalk. When in the latter situation the organism may advance back into the main stem of the plant, when it is capable of causing a serious canker. Preliminary control measures have been advised as a result of this investigation.

DECIDUOUS FRUITS.

Mr. Morwood has investigated a number of minor troubles of the grape and deciduous fruits mainly emanating from the Stanthorpe district. The zinc sulphate-lime spray directed towards the control of bacterial blight of plums gives some promises of success.

Owing to the difficulty experienced in controlling powdery mildew of the apple in the Stanthorpe district, a programme has been arranged for the trial of several sprays not usually

employed in connection with this disease. Mr. Jarvis is co-operating in the field side of this work. A demonstration of the efficacy of the standard control measures for anthracnose of the grape vine has also been arranged.

SMALL CROPS.

Vegetable diseases have been the cause of much routine advisory work. Most of the inquiries have concerned common troubles which it is not necessary to enumerate here. However, Mr. Mandelson has identified two diseases which are worthy of mention, since they constitute new records for Queensland. These are black root of beetroot (*Nematosporangium aphanidermatum*) and downy mildew of lettuce (*Bremia lactucae*). A recent epidemic in the tomato crops of Bowen was investigated by Mr. Morwood, who considers that this disease may be similar to one causing serious losses in the United States but not previously known in Queensland.

In order to overcome the losses experienced nearly every year from watermelon wilt in the Brisbane district, three varieties reported to be resistant to this disease were obtained from America and tested with some success against common Queensland varieties. Seed from selfed

fruit was obtained in Brisbane and also by officers of the Roma State Farm, and this will be distributed during the coming season to growers desirous of trying the new varieties.

TIMBER.

Forestry problems are occupying an increasing amount of Mr. Morwood's time. The difficulty of obtaining a rapid distribution of mycorrhiza in young pine seed beds called for some attention. An attempt to distribute the organism in culture did not meet with success, and it is now planned to vary the reaction of the seed-beds in order to provide optimum conditions for the rapid growth of the mycorrhiza when introduced on infected seedlings.

A seedling blight and stem rot of the hoop pine has caused the loss of young plants. A species of *Fusicoccum* and another of *Diplodia* are commonly associated with this damage. Experiments to test the pathogenicity of these two organisms are now in progress. A somewhat similar trouble has appeared to a less extent in *Pinus patula*.

COLLECTIONS.

The work on the herbarium and spirit collections and the card indexing of literature has been attended to as time permitted.

REPORT OF THE GOVERNMENT BOTANIST.

Enquiries from pastoralists, farmers, and others interested in economic botany extended over a wide range of subjects and covered many phases of plant life. Most of them dealt with plants sent in for identification and report as to their properties, useful or otherwise.

Due to a definite move in the Department of Public Instruction to make nature study a feature in primary school education, a large number of specimens have been received from school teachers for identification and report. Information forwarded has been, in most cases, such that the teacher could utilise it in interesting talks on the plants concerned.

FIELD WORK.

A general collecting trip was made to Mount Ernest in October. Approximately a hundred different species were collected, and these have been incorporated in the Queensland Herbarium and duplicates distributed in the way of exchanges. Several interesting plants from this excursion proved new records for the State, and at least one represents an undescribed species.

A visit was made in March to Torrens Creek, Townsville, and Mount Spec for general collecting purposes. A very large collection of plants was obtained for identification and classification. It is likely that this collection, when critically examined, will yield additional records to the flora of the State.

The opportunity was taken, when in New South Wales as Departmental representative at the meeting of the Australian and New Zealand Association for the Advancement of Science, of visiting the Blue Mountains and the National Park. Large collections were made, and a set has been incorporated in the Queensland Herbarium. Specimens from other States are always of considerable value for the purposes of comparison.

POISONOUS PLANTS.

Farms at Bundaberg, Samford, Coomera, and Leitch's Crossing were visited by the Assistant Government Botanist (Mr. W. D. Francis). At Bundaberg it was found that dairy cows had been eating freely of *Cestrum parqui*, a South American shrub, now a naturalised weed in Queensland. In the course of the year this plant was received from another source as causing losses among dairy cattle. As farmers are apparently unacquainted with its very poisonous nature, an illustrated article is being prepared for publication in the "Queensland Agricultural Journal."

At Samford it was found that the cattle had been eating *Cassia levigata*, a tropical American shrub, now a naturalised weed in Queensland. The symptoms described in this case were violent purging, and as leaves of different species of

Cassia are known to have purgative effects the eradication of this plant was recommended.

At Upper Coomera the trouble was ascribed to the common Bracken Fern (*Pteridium aquilinum*), as this plant showed evident signs of being largely eaten, and the symptoms described by the farmer were similar to those that had been published in an article in the "Journal of the Board of Agriculture," England.

At Leitch's Crossing the paddock was found to be badly infested with *Wickstrœmia indica*, a species of Tie Bush. Feeding tests carried out some time back at the Animal Health Station showed this plant to cause severe bloody scours in stock. In addition the berries are decidedly poisonous.

HERBARIUM.

In the course of the year accumulations of duplicate material on hand were gone through, with the consequence that we were enabled to continue exchanges with the Royal Botanic Gardens, Kew, England; the Botanic Gardens, Singapore; the Botanic Gardens, Buitenzorg, Java; the United States National Herbarium, Washington; the University of California, Berkeley; the Arnold Arboretum (Harvard University), Boston, U.S.A.; and the Botanic Gardens and Museum, Berlin.

Practically all the material of New Hebrides plants—collected by Mr. S. F. Kajewski, who spent nearly twelve months in the New Hebrides collecting for the Arnold Arboretum—has been placed, a set of Mr. Kajewski's plants having been donated by the Arboretum. This set makes a very valuable addition to our Herbarium, and is particularly useful in naming, by comparison, plants that are received for identification from the Territories of Papua and New Guinea and from North Queensland.

The whole of our Characeæ material was sent to the late Mr. James Groves (England) for critical examination. Unfortunately, Mr. Groves died before he could finish his monograph on the Australian members of this family.

A large quantity of grass material has been forwarded to the Royal Botanic Gardens, Kew, England, for examination by Mr. C. E. Hubbard. Mr. Hubbard spent twelve months in Queensland on an exchange basis with Mr. W. D. Francis of this office, and intends to publish at an early date a revised account of the Australian grass flora.

In the early part of the year Mr. L. J. Brass spent about four months collecting in North Queensland on behalf of the Arnold Arboretum, Boston, United States of America. The determination of this material has been entrusted to me, and approximately half of the collection has been gone through, and a set mounted and placed away in our collections. It is expected that the collection will yield several novelties.

BOTANIC MUSEUM.

Additions to the Botanic Museum have not been very numerous, but some specimens of dried fruits, barks, and woods have been added from time to time.

LECTURES AND EDUCATIONAL WORK.

In the course of the year lectures were delivered from Radio Station 4QG, by myself, dealing with Ornamental Shrubs for the Home Garden (two lectures), and Plants Poisonous to Live Stock (two lectures). A lecture was given by the Assistant Government Botanist (Mr. W. D. Francis) on The Uses of Rain-forest Trees.

In August two papers were delivered in the form of lecturettes at the meeting of the Australian and New Zealand Association for the Advancement of Science, one before the Botanical Section on Recent Botanical Work in North Queensland, and the other before the Veterinary Section on Recent Records of Plants Poisonous to Livestock in Queensland.

Two lectures have been delivered before the Royal Society of Queensland, one on The Botany of the Glass House Mountains, and the other on The Flora of Melanesia.

PUBLICATIONS.

The following botanical papers were published during the year:—

“The Eucalypts or Gum Trees of the Brisbane District,” Nos. 17 and 18 in “The Queensland Naturalist” for November, 1932.

“Ligneous plants collected for the Arnold Arboretum in North Queensland by Mr. S. F. Kajewski in 1929,” published as No. 4 of “Contributions from the Arnold Arboretum of Harvard University.” The latter paper occupies 113 pages of text and nine half-tone plates. It deals with collections made by Mr. S. F. Kajewski in North-Eastern Queensland, mostly on the wetter parts of the Atherton Tableland and at Mount Alexander. Several genera not previously known as Australian are recorded. Three new genera are described, and a number of species.

C. T. WHITE,
Government Botanist.

REPORT OF THE AGRICULTURAL CHEMIST.

The samples received in the Chemical Division of the Department for analysis during year ending 30th June, 1933, are tabulated below.

| | 1930-31. | 1931-2. | 1932-33. |
|---|----------|---------|----------|
| Bloods, salivas, paunch contents and urines | .. | 97 | 51 |
| Butters | 1,959 | 1,629 | 708 |
| Cheeses | 74 | 65 | 118 |
| Dipping fluids | 358 | 389 | 356 |
| Fertilizers | 215 | 112 | 75 |
| Fruits, fresh | 60 | 46 | 104 |
| Fruits canned, jams, and preserves | 17 | 28 | 15 |
| Leathers | 8 | 9 | .. |
| Limestones, lime, &c. .. | 11 | 15 | 18 |
| Milks, and other milk products | 47 | 22 | 50 |
| Miscellaneous | 157 | 69 | 59 |
| Nuts, Australian and Tung | .. | .. | 10 |
| Pest destroyers | 176 | 165 | 139 |
| Salts and stock licks | 35 | 52 | 71 |
| Seeds, grasses, plants, &c. . . | 195 | 309 | 426 |
| Soils and subsoils | 182 | 234 | 176 |
| Soil moisture determinations | 2,208 | 2,400 | 2,496 |
| Soil nitrate and PH Tests .. | 76 | 138 | 659 |
| Soils, for Main Roads Board | .. | .. | 27 |
| Stock foods | 185 | 174 | 41 |
| Tobacco | .. | 16 | 62 |
| Viscera and toxicological specimens | 77 | 216 | 177 |
| Waters | 116 | 152 | 167 |
| Wheats | .. | 211 | 41 |
| Total | 6,156 | 6,548 | 6,046 |
| Glassware, &c., tested .. | 5,421 | 4,302 | 5,635 |

The number of samples examined is less than in last year, but with some of the different materials received extensive detailed analysis was required.

There was a large increase in the number of dairy glassware articles tested:—

| | Received. | Approved. | Condemned. | Broken. | Per Cent. Condemned. |
|-----------------------|-----------|-----------|------------|---------|----------------------|
| Cream bottles | 2,625 | 2,618 | .. | 7 | .. |
| Milk bottles | 1,546 | 1,534 | 10 | 2 | 0.6 |
| Pipettes | 1,013 | 990 | 16 | 7 | 1.6 |
| Thermometers | 451 | 349 | 99 | 3 | 21.9 |
| Totals | 5,635 | 5,491 | 125 | 19 | 2.2 |

The Commonwealth Department of Markets (Dairy Produce Inspection Branch) submitted 668 samples of butter, 113 samples of cheese, and 13 samples of other milk products.

DIPPING FLUIDS.

Three hundred and fifty-six samples of dipping fluids were analysed, and 128 (or 36 per cent. of the total number) were found to contain from 7.5 to 8.5 lb. of arsenic per 400 gallons; the recognised standard strength for dipping fluids is 8 lb. of arsenic per 400 gallons. Forty-six (or 12.9 per cent.) were found to be more or less oxidised. One hundred and ninety-one pints of standard iodine solution for field testing of dipping fluids were prepared.

VISCERA.

Again this year a large number of samples of viscera and stomach contents were forwarded for analyses—namely, 119 samples—and of these 26 were found to contain arsenic, and 1 strychnine.

SOILS.

The analyses of some of the soil samples submitted are given in Table I. The soils in this

table marked "T" are soils upon which light leaf tobacco has been grown, and in the last column of the table is mentioned the amount and formula of fertiliser that was applied to the crop. In some cases these tobacco soils were analysed at the request of officers of the Pathological Branch of the Department to ascertain if certain abnormalities of the tobacco plant could be correlated with any deficiency of plant food in the soil.

In regard to any attempt that is made to determine to what extent soil plant food is responsible for poor quality of tobacco leaf, it is considered that the only conclusive manner in which this may be done is to have an experimental plot of two acres set aside upon which fertiliser experiments may be conducted for at least three or four years, so that seasonal effects may also be noted. This would require one curing kiln 12 x 12 and bulk shed, or the use of such, at any period of the harvest.

In connection with analyses of other tobacco soils appearing in this table, and their mechanical analyses appearing in Table II., these analyses, together with those appearing in last year's report, are being reviewed in an article appearing in the "Agricultural Journal" of the Department.

Of interest are the analyses of two soils given in this table forwarded from the Forestry Department in connection with the chlorosis of pine seedlings. Seedlings grown upon Soil No. 3573 were affected, whilst seedlings grown upon Soil No. 3574 were normal. Both soils have good nitrogen content and practically the same amounts of iron and manganese, the citric acid soluble potash though lower in Soil 3573 is present in an amount considered as sufficient for normal growth of most crops, and the only

distinct difference in the soils would appear to be the very much higher lime content of soil growing chlorosis affected plants. It has been reported that chlorosis of plants has resulted at times in a soil with high lime content, preventing iron assimilation by plants.

The analyses of the normal and chlorosis seedlings did not in this case indicate any deficiency of iron, in fact the ash of the affected seedlings contained not only more iron and potash, but more of all other ash ingredients than the ash of normal plants. Experiments in connection with this matter were suggested to the Forestry Department, and are now in progress.

The pH of 606 soils was determined, of which 420 samples were forwarded from the Entomological Branch of the Department.

The original nitrate content and the increase or decrease of nitrate nitrogen, after 14 and 28 days incubation was determined in 53 soils from the Callide Cotton Research Station.

Twenty-seven soil samples were forwarded from the Main Roads Board for mechanical analysis, and complete chemical analysis of 13 of these samples was also made; these analyses

are given in Table III. These analyses, it is understood, were required by the Board for purpose of reference in connection with the burning of soil for road-making.

MISCELLANEOUS.

Some of the miscellaneous samples forwarded for analysis are briefly mentioned below.

From the Forestry Department five samples of commercial casein were received in connection with their value for gluing purposes in wood ply work. The samples were all genuine, but three were more in agreement with requirements, as suggested by American authorities, of casein for this class of work.

In connection with a tobacco spray formula, the ingredients of which consisted of soft soap and copper sulphate, used by an officer of the Entomological Branch of this Department, he found that in some cases a more or less permanent homogeneous mixture was obtained, whilst in other cases precipitation occurred, resulting in choking of spray pumps. Seven samples of soft soap upon the market were examined, and a considerable amount of work was done in determining the cause of the above-mentioned differences in the prepared mixtures, and it was finally found that the ratio genuine potash soap-bluestone should not be less than 6 to 1, and that with the solution below pH8 precipitation commenced.

Samples of Tung Oil (*Aleurites Fordii*) fruit grown from Australian and American seed at the Imbil Nursery of the Forestry Department were analysed, and the results reported in the "Agricultural Journal." The oil content of these samples compare very favourably with that contained in Tung Oil fruit grown in other countries, and the constants of the oil are in agreement with specification set down by the Australian Commonwealth Engineering Standards Association.

In connection with the Queensland Nut (*Macadamia ternifolia*), now to be called Australian Nut, according to decision of the Australian Nut Association, samples have been analysed and more samples are to be examined for purpose of obtaining information regarding composition of kernel and proportion of shell in samples grown under different conditions.

CEREALS.

Forty samples of hybrid wheats were forwarded by Mr. Soutter, Wheat Experimentalist, for examination, and the protein content was determined, and also "quality value" according to the Pelshenke method.

Analyses of six samples of imported barley seed were made. Barley grown from these different varieties in various districts will be analysed to note if any change in composition has occurred.

SORGHUMS AND SUDAN GRASS.

Ten plots of sorghum and ten plots of Sudan grass were grown at Lawnton, and samples were cut from these plots at varying stages of growth for the determination of hydrocyanic acid content. This entailed a considerable amount of work, as 167 determinations were made. The results have been tabulated in the report of Mr. F. F. Coleman.

In the first cuts of these plants it is shown that the hydrocyanic acid content of the Sudan grass is slightly less than half that contained in the sorghums, whilst in later cuts, there is

shown a greater difference in the hydrocyanic acid content of these plants in favour of Sudan grass.

The decrease in the hydrocyanic acid in the older stages of growth of these plants is again illustrated, and feeding in the seed stage can be considered as safe.

GRASS EXPERIMENTAL PLOTS.

Table No. IV. contains analyses of 178 samples of grasses, forage plants, and pastures grown on the Lawnton Trial Plots. Where not indicated, these plots did not receive application of fertiliser during the past season.

Extensive information is being accumulated from the analyses of these different grasses and strains of grasses, which when systematically arranged will show the composition of the grasses at definitely known age of growth, and also at any particular stage of growth, whether grass is leafy, or of a stemmy, harsh nature.

In Table No. V. the analyses of mixed pastures upon some of the Pasture Improvement Plots again show the good protein content of these pastures obtained by the prevention of coarse grass growth by grazing.

Some samples of stack ensilage, composed of somewhat old paspalum, which was not grown upon a fertilised pasture plot, are also included in this table.

GRASSES, HERBAGE, AND SHRUBS.

Analyses of samples of various plants, grasses, &c., forwarded to the Department by private people are detailed in Table VI.

The Sensitive Plant (*Mimosa pudica*) is of particular interest, as stockmen state stock eat this plant greedily. The analysis of this plant last year showed the following percentages:— Protein 25.5, lime 1.822, and phosphoric acid 0.752; the sample this year has protein 21.7, lime 2.376, and phosphoric acid 0.897; this very good protein and high mineral content explains the reason why this plant is liked by stock.

The reason of the stated preference by stock for one sample of the four samples of Wilga forwarded, viz., Sample Analysis No. 1086, cannot be explained by judgment from chemical composition only.

The analysis of Blue Panic (*Panicum antidotale*) appearing in this table was made upon a green leafy sample, and a high protein content is shown, whereas analyses of samples of this grass of older growth and more stemmy nature, appearing in Table IV., contained very much lower percentages of protein, viz., 14.9 and 11.5. The difference occurring in composition of the same grass at different stage of growth and grown under different conditions is well known, and this fact should always be remembered when comparisons are made between the composition of different fodders.

SAWFLY TROUBLE.

As stated in last year's report, samples of the whole season's grass growth in the area that in the past had been affected with this trouble had not been obtained, but since then samples of grass in the roughage stage have been analysed.

It is the intention to have the conclusions drawn from the analyses of the forty-one grasses and other materials collected in connection with this matter reported in another place.

E. H. GURNEY,
Agricultural Chemist.

Table I.—ANALYSES OF QUEENSLAND SOILS.

Table with columns for Laboratory No., Locality, Description of Soils, and various chemical elements. The table is divided into sections for 'TOTAL ELEMENTS IN THE SOIL, CALCULATED ON SOIL DRIED AT 100° C.', 'Soluble in Hydrochloric Acid', 'Available Plant Food, Soluble in 1 per cent. Citric Acid', 'Total Elements, Lb. per Acre, 12" Deep.', and 'SOIL ACIDITY' (including Phosphate, Lime, Potash, and Organic Acidity).

Table II.—SOME QUEENSLAND TOBACCO SOILS (PHYSICAL PROPERTIES AND MECHANICAL ANALYSES).

| Laboratory No. | Locality. | Description of Soils. | Ph. Water suspension 1:2 | PROPERTIES OF THE SOIL. | | | | | | | MECHANICAL ANALYSES. | | | | | | CHEMICAL ANALYSES. | | | | |
|----------------|-------------------------------|-----------------------|--------------------------|----------------------------|------------------------------------|---------------------|-------------------------------------|--------------------------|----------------|-----------------|----------------------|-----------------------|------------------------|-----------------------|--------------------|--------------------------|---------------------------|---------------------------|----------|--|-------------|
| | | | | Apparent Specific Gravity. | Weight of Soil per Acre, 12" deep. | Capacity for Water. | Absorbed Weight of Water, 12" deep. | CAPILLARITY (IN INCHES). | | | | Fine Gravel, 1-2 m.m. | Coarse Sand, .2-1 m.m. | Fine Sand, .04-2 m.m. | Silt, .01-.04 m.m. | Fine Silt, .002-.01 m.m. | Clay, Less than .002 m.m. | Organic Matter and Water. | Humus, % | Other Organic Matter and Combined Water, % | Nitrogen, % |
| | | | | | | | | After 3 Hours. | After 6 Hours. | After 24 Hours. | After 48 Hours. | | | | | | | | | | |
| Cook— | | | | | | | | | | | | | | | | | | | | | |
| 3507 | Mareeba | gt. s. s. | 6.94 | 1,712 | 34.0 | 583 | 7 | 9½ | 17 | 19 | 2.7 | 30.0 | 47.3 | 6.3 | 9.9 | 2.9 | 2.8 | .76 | 1.30 | .057 | |
| 3508 | Ditto | gr. s. s. | 6.97 | 1,833 | 31.5 | 577 | 7 | 9 | 13 | 16 | 3.7 | 44.5 | 38.6 | 3.6 | 5.7 | 3.0 | 3.1 | .50 | 1.73 | .073 | |
| 3510 | Ditto | gr. f.s.s. | 6.51 | 1,530 | 46.5 | 711 | 6½ | 8½ | 13½ | 16 | .1 | 19.6 | 57.0 | 9.0 | 10.1 | 2.6 | 5.88 | 1.56 | 3.08 | .119 | |
| 3512 | Ditto | r. br. f.s.s. | 6.69 | 1,967 | 26.0 | 475 | 11½ | 13½ | 16½ | 17½ | 14.4 | 55.2 | 20.8 | 2.9 | 3.8 | 2.0 | 1.3 | .58 | 1.01 | .056 | |
| 3514 | Ditto | gr. wh. c.s.s. | 6.40 | 2,100 | 23.0 | 483 | 8½ | 11 | 15 | 16½ | 10.6 | 54.3 | 26.7 | 3.2 | 2.2 | 1.5 | 1.9 | .44 | .72 | .033 | |
| 3552 | Dimbulah—Horse Creek | lt. gr. f.s.s. | 6.51 | 2,197 | 12.0 | 264 | 9 | 11½ | 19 | 22½ | 14.5 | 28.9 | 47.1 | 3.1 | 2.1 | 3.8 | 1.0 | .30 | .53 | .014 | |
| .. | (Subsoil of No. 3552) | br. wh. f.s.s. | 5.44 | 2,100 | 12.0 | 252 | 6½ | 7½ | 9½ | 11 | 14.0 | 25.4 | 47.8 | 5.2 | 3.7 | 2.8 | 1.2 | Nil | 1.00 | .014 | |
| 3554 | Dimbulah—Eureka Creek | gr. br. c.s.s. | 6.26 | 1,967 | 18.0 | 354 | 7½ | 8½ | 12 | 14 | 45.4 | 37.2 | 10.9 | .8 | 3.3 | .6 | 1.5 | .35 | .95 | .025 | |
| .. | (Subsoil of No. 3554) | gr. br. c.s.s. | 7.24 | 1,906 | 12.0 | 229 | 10 | 11½ | 14 | 15 | 30.5 | 43.4 | 16.6 | 2.2 | 4.2 | 1.5 | 1.2 | .44 | .61 | .006 | |
| 3556 | Dimbulah—Innot Hot Springs | gr. c.s.s. | 5.81 | 2,064 | 16.0 | 330 | 7½ | 9 | 14½ | 15½ | 3.8 | 66.3 | 21.4 | 2.3 | 3.0 | .8 | 1.1 | 1.04 | .52 | .017 | |
| .. | (Subsoil of No. 3556) | lt. br. f.s.s. | 6.07 | 2,125 | 14.0 | 297 | 7½ | 9 | 14½ | 15½ | 4.7 | 58.5 | 30.1 | 4.1 | 2.3 | 1.0 | .8 | .67 | .32 | .011 | |
| 3561 | Dimbulah—Walsh River Frontage | lt. br. f.s.s. | 6.74 | 1,930 | 14.0 | 270 | 8½ | 14 | 18½ | 22½ | 4.5 | 40.2 | 31.5 | 7.6 | 10.1 | 2.1 | 2.3 | .49 | 1.34 | .011 | |
| .. | (Subsoil of No. 3561) | lt. br. f.s.s. | 6.88 | 1,964 | 16.0 | 314 | 10½ | 15½ | 21½ | 26 | 3.1 | 38.8 | 35.9 | 7.5 | 9.9 | 2.4 | 1.7 | .30 | 1.11 | .045 | |
| 3562 | Dimbulah—Eureka Creek | br. f.s.s. | 7.00 | 1,942 | 18.0 | 348 | 9½ | 11½ | 15 | 17½ | 10.8 | 34.4 | 39.3 | 8.0 | 4.9 | 2.5 | 2.0 | .58 | 1.21 | .089 | |
| .. | (Subsoil of No. 3562) | r. f.s.s. | 7.02 | 1,854 | 12.0 | 234 | 7½ | 10 | 13 | 14½ | 9.9 | 29.4 | 43.2 | 4.5 | 6.7 | 3.5 | 1.6 | .28 | 1.20 | .017 | |
| 3564 | .. | yl. br. f.s.s. | 8.05 | 1,991 | 22.0 | 438 | 10 | 12½ | 17 | 20½ | 8.4 | 28.1 | 56.6 | .7 | 4.6 | .5 | 2.6 | .51 | .67 | .028 | |
| .. | (Subsoil of No. 3564) | yl. br. f.s.s. | 7.68 | 2,028 | 18.0 | 410 | 10½ | 12½ | 16½ | 17½ | 7.0 | 20.0 | 63.8 | 3.0 | 3.3 | 1.9 | 1.9 | .35 | .65 | .028 | |
| NORTH KENNEDY— | | | | | | | | | | | | | | | | | | | | | |
| 3530 | Hervey's Range | gr. c.s.s. | 5.88 | 1,578 | 37.5 | 591 | 6 | 7½ | 10½ | 11½ | 30.6 | 35.2 | 16.5 | 5.5 | 8.0 | 3.3 | 3.2 | 1.21 | 2.01 | .076 | |
| .. | (Subsoil of No. 3530) | gr. wh. c.s.s. | 5.56 | 1,918 | 22.0 | 422 | 5 | 7½ | 11½ | 14½ | 27.4 | 38.0 | 17.1 | 5.8 | 7.3 | 2.8 | 1.6 | .35 | 1.32 | .089 | |
| 3582 | Charters Towers | lt. br. c.s.s. | 8.39 | 1,894 | 21.0 | 398 | 9 | 10½ | 12½ | 16 | 21.2 | 47.8 | 15.1 | 5.5 | 6.1 | 2.1 | 3.5 | .81 | 1.28 | .074 | |
| .. | (Subsoil of No. 3582) | gr. wh. c.s.s. | 7.47 | 1,845 | 19.5 | 360 | 9 | 11 | 13½ | 17½ | 16.4 | 49.0 | 20.1 | 5.1 | 6.4 | 1.2 | 3.1 | .81 | 1.03 | .046 | |
| 3524 | Bowen—The Delta | dk. gr. f.s.s. | 7.90 | 1,615 | 34.0 | 549 | 6½ | 9 | 15½ | 19½ | 6.3 | 9.6 | 54.0 | 11.1 | 11.0 | 2.6 | 9.9 | 1.71 | 3.84 | .138 | |
| 3526 | Ditto | br. f.s.s. | 6.41 | 1,700 | 40.0 | 680 | 12½ | 15 | 20½ | 22½ | .5 | 3.3 | 83.2 | 3.2 | 3.5 | 2.7 | 4.7 | -.68 | 1.92 | .036 | |
| 3531 | Bowen | wh. s. s. | 6.85 | 1,918 | 24.0 | 460 | 9 | 13½ | 19½ | 22 | 5.0 | 44.7 | 38.3 | 6.0 | 2.4 | 2.2 | 2.9 | .91 | 1.85 | .042 | |
| .. | (Subsoil of No. 3531) | gt. br. s. s. | 6.78 | 1,894 | 15.0 | 284 | 11½ | 15 | 18½ | 22 | 3.5 | 38.6 | 43.3 | 4.0 | 4.8 | 2.5 | 2.4 | .61 | 1.43 | .022 | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|------|--|----|----------------|----|------|------|-------|------|-----|-----|-----|-----|-----|------|------|------|------|------|------|-------|-------|------|-------|
| 3569 | SOUTH KENNEDY— Sarina Experiment Plot | .. | r. br. c.s.s. | .. | 4.98 | 1.70 | 2,064 | 14.0 | 289 | 5½ | 9 | 14 | 16 | 18.9 | 49.1 | 21.8 | 3.1 | 2.6 | 2.2 | 2.1 | .96 | .84 | -.067 |
| .. | (Subsoil of No. 3569) | .. | r. br. c.s.s. | .. | 5.09 | 1.70 | 2,064 | 10.0 | 206 | 10 | 11½ | 14 | 16½ | 33.0 | 36.7 | 19.3 | 3.6 | 3.1 | 2.5 | 1.9 | .34 | 1.24 | -.045 |
| 3520 | Ditto | .. | gr. s. s. | .. | 4.81 | 1.65 | 2,003 | 22.0 | 441 | 8½ | 9½ | 13 | 14½ | 9.4 | 4.4 | 39.0 | .2 | 1.4 | 1.8 | 2.3 | 1.64 | .43 | -.050 |
| 3522 | Ditto (Balberra) | .. | lt. gr. s. s. | .. | 6.18 | 1.75 | 2,125 | 24.0 | 510 | 7½ | 9½ | 14½ | 17½ | 22.0 | 33.1 | 30.9 | 5.0 | 5.4 | 1.2 | 3.0 | 1.01 | 1.31 | -.062 |
| 3566 | PORT CURTIS— Yepoon—Byfield | .. | gr. wh. f.s.s. | .. | 4.46 | 1.41 | 1,712 | 30.0 | 514 | 9½ | 10½ | 13½ | 14½ | 3.0 | 12.7 | 72.2 | 3.4 | 2.8 | 3.7 | 1.5 | 1.20 | .95 | -.078 |
| .. | (Subsoil of No. 3566) | .. | gr. wh. f.s.s. | .. | 4.44 | 1.47 | 1,785 | 27.0 | 482 | 9½ | 11 | 13½ | 15½ | 4.4 | 15.3 | 64.6 | 5.7 | 1.4 | 6.6 | 2.4 | .70 | 1.23 | -.067 |
| 3528 | Miriam Vale | .. | gr. c.s.s. | .. | 4.93 | 1.56 | 1,894 | 30.0 | 568 | 6½ | 7½ | 10 | 11 | 9.5 | 41.4 | 39.3 | 1.9 | 3.7 | 1.4 | 2.4 | .75 | 1.36 | -.045 |
| 3543 | Ditto | .. | lt. gr. c.s.s. | .. | 6.25 | 1.61 | 1,955 | 18.0 | 351 | 8½ | 9½ | 12½ | 13½ | 16.9 | 43.0 | 28.5 | 5.6 | 3.0 | 1.3 | 1.9 | .50 | 1.10 | -.031 |
| .. | (Subsoil of No. 3543) | .. | lt. gr. c.s.s. | .. | 5.28 | 1.70 | 2,064 | 16.0 | 330 | 7 | 7½ | 9½ | 10 | 33.8 | 38.9 | 19.8 | .8 | 2.6 | 2.6 | 1.7 | .30 | 1.12 | -.020 |
| 3544 | Miriam Vale | .. | lt. gr. s. s. | .. | 5.42 | 1.63 | 1,979 | 19.0 | 375 | 7 | 8½ | 11½ | 14½ | 6.5 | 35.8 | 45.5 | 5.0 | 3.6 | 1.6 | 2.4 | .90 | 1.22 | -.053 |
| .. | (Subsoil of No. 3544) | .. | lt. gr. s. s. | .. | 5.98 | 1.55 | 1,882 | 25.0 | 471 | 8½ | 11 | 14½ | 15½ | 9.0 | 33.7 | 32.8 | 8.0 | 7.0 | 8.1 | 3.3 | .37 | 1.53 | -.040 |
| 3542 | WIDE BAY— Bundaberg | .. | br. c.s.s. | .. | 6.59 | 1.67 | 2,028 | 16.0 | 324 | 7½ | 8 | 11 | 12½ | 10.9 | 51.4 | 24.3 | 3.0 | 5.0 | 2.1 | .9 | .81 | 1.39 | -.045 |
| .. | (Subsoil of No. 3542) | .. | lt. br. c.s.s. | .. | 6.60 | 1.78 | 2,161 | 11.0 | 238 | 9½ | 10½ | 13½ | 15½ | 8.3 | 45.1 | 33.4 | 4.2 | 6.4 | 1.5 | 1.9 | .32 | .22 | -.011 |
| 3610 | MORETON— Beerburum | .. | gr. c.s.s. | .. | 5.21 | 1.51 | 1,884 | 13 | 243 | 11½ | 13 | 16½ | 18½ | .6 | 62.4 | 24.6 | 5.7 | 3.2 | 1.4 | 4.0 | 1.12 | 1.38 | -.095 |
| 3608 | Ditto | .. | gr. s. s. | .. | 5.28 | 1.41 | 1,712 | 34 | 582 | 9½ | 11½ | 14½ | 16½ | NH | 50.7 | 28.7 | 5.2 | 4.8 | 3.1 | 7.0 | 1.81 | 4.13 | -.080 |
| 3536 | Parkridge | .. | gr. br. c.s.s. | .. | 5.78 | 1.35 | 1,639 | 29 | 475 | 5½ | 7½ | 9½ | 12½ | 3.5 | 46.0 | 29.1 | 6.7 | 5.8 | 2.9 | 7.5 | .95 | 2.81 | -.086 |
| 3537 | Ditto | .. | lt. gr. c.s.s. | .. | 5.81 | 1.29 | 1,567 | 36 | 564 | 6 | 7 | 8½ | 10½ | 2.3 | 45.0 | 34.2 | 4.1 | 5.8 | 1.7 | 7.4 | 1.15 | 3.05 | -.063 |
| 3538 | Ditto | .. | blk. cl. l. | .. | 4.48 | .69 | 838 | 72 | 603 | 5½ | 6½ | 8½ | 12½ | .1 | 3.0 | 19.7 | 25.9 | 17.0 | 13.2 | 20.6* | 11.26 | 9.22 | -.553 |

* Calculated on soil dried at 100° C. (Moisture = 20 per cent.).

Table III.—ANALYSIS OF SOILS FROM MAIN ROADS COMMISSION—CHEMICAL.

| Laboratory Number | 2437. | 2438. | 2439. | 2440. | 2441. | 2442. | 2443. | 2444. | 5130. | 5131. | 5132. | 5133. | 5134. |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Locality | .. | .. | .. | .. | .. | .. | .. | .. | Rosewood. | Rosewood. | Rosewood. | Rosewood. | Rosewood. |
| Silica (SiO ₂) | 62.84 | 67.74 | 57.08 | 61.35 | 47.74 | 57.56 | 53.96 | 61.16 | 65.73 | 75.07 | 67.56 | 65.92 | 61.60 |
| Aluminium (Al ₂ O ₃) | 18.08 | 14.31 | 19.45 | 17.08 | 23.97 | 14.21 | 18.78 | 14.90 | 20.08 | 9.38 | 2.22 | 22.69 | 12.86 |
| Iron (Fe ₂ O ₃) | 6.68 | 7.61 | 8.35 | 9.69 | 12.65 | 8.18 | 9.88 | 9.31 | 4.20 | 7.03 | 13.74 | 8.39 | 15.96 |
| Manganese (Mn ₂ O ₄) | .13 | .09 | .12 | .14 | .19 | .19 | .18 | .16 | Nil | .04 | .12 | Trace | .05 |
| Magnesium (MgO) | 1.04 | .75 | .97 | .95 | 1.42 | 1.31 | 1.07 | .92 | .65 | .74 | 1.47 | .37 | .88 |
| Calcium (CaO) | 1.71 | 1.27 | 1.74 | 1.63 | 2.54 | 1.97 | 1.68 | 1.43 | .65 | 1.08 | 2.90 | .79 | .76 |
| Sodium (Na ₂ O) | 1.33 | 1.45 | 2.25 | 2.28 | 2.23 | 1.92 | 2.00 | 1.99 | 1.65 | 1.18 | 1.64 | .83 | .79 |
| Potassium (K ₂ O) | .83 | .91 | .76 | .51 | .42 | .88 | .94 | 1.35 | .98 | .77 | .10 | Trace | .11 |
| Moisture on air-dried soil | 3.69 | 3.03 | 5.13 | 4.48 | 6.15 | 4.13 | 6.56 | 5.15 | 4.72 | 2.09 | 9.01 | .82 | 7.84 |
| Loss on ignition | 7.18 | 4.89 | 8.47 | 7.51 | 9.11 | 11.85 | 10.51 | 9.08 | 6.32 | 4.78 | 10.90 | 1.51 | 7.29 |
| Carbonates (CO ₂) | .002 | .001 | .007 | .005 | .005 | .002 | .003 | .002 | Traces only | Traces only | Traces only | Traces only | Traces only |
| Phosphoric Acid (P ₂ O ₅) | .27 | .20 | .24 | .23 | .35 | .36 | .33 | .35 | .07 | .07 | .06 | .01 | .07 |
| Chlorine (Cl ₂) | .009 | .013 | .009 | .007 | .008 | .007 | .005 | .006 | .037 | .014 | .018 | .009 | .078 |
| Sulphuric Acid (So ₄) | Traces only | Traces only | Traces only | Traces only | Traces only | Traces only | Traces only | Traces only | Traces only | Traces only | Traces only | Traces only | Traces only |
| MECHANICAL. | | | | | | | | | | | | | |
| Sand (3 mm.—0.05 mm.) | 42.79 | 42.64 | 23.85 | 35.25 | 21.82 | 12.17 | 10.08 | 16.80 | 28.14 | 58.99 | 6.00 | 57.56 | 11.56 |
| Silt (0.05 mm.—0.01 mm.) | 18.80 | 16.00 | 23.60 | 30.80 | 18.03 | 17.04 | 27.48 | 20.94 | 5.43 | 8.90 | 18.24 | 14.72 | 11.20 |
| Clay (less than 0.01 mm.) | 27.54 | 33.44 | 38.95 | 22.26 | 44.89 | 54.81 | 45.37 | 48.03 | 55.69 | 25.34 | 56.83 | 25.40 | 62.68 |

Table IV.—LAWNTON EXPERIMENT GRASS PLOTS.

| Plot No. | Kind of Plant. | Sample No. | Laboratory No. | AGE OF PLANT WHEN CUT—DAYS. | | WATER-FREE MATERIAL. | | | | | | | | | | Remarks. | |
|----------|--|------------|----------------|-----------------------------|------------------------|----------------------|------------|-----------------|--------------|------------|------------------|-------------|---------|-----------------|------------|----------|---|
| | | | | From Date of Sowing. | From Date of Last Cut. | Crude Protein. | Crude Fat. | Carbo-hydrates. | Crude Fibre. | Crude Ash. | ANALYSIS OF ASH. | | | Total Chlorine. | Treatment. | | |
| | | | | | | | | | | | Lime. | Phos. Acid. | Potash. | | | | |
| | | | | % | % | % | % | % | % | % | % | % | % | % | % | % | |
| 111 | <i>Paspalum dilatatum</i> | S 690 | 2657 | .. | 183 | 8.2 | 1.6 | 50.2 | 32.6 | 7.4 | .806 | .420 | .. | .. | .. | .. | Cut in November, six months after previous cut. |
| 227 | <i>Paspalum dilatatum</i> | S 697 | 2664 | .. | 186 | 7.7 | 1.6 | 52.0 | 30.7 | 8.0 | .790 | .346 | .. | .. | .. | .. | Cut in November, six months after previous cut. |
| 107 | Rhodes Grass (<i>Chloris gayana</i>) | S 691 | 2658 | .. | 183 | 5.8 | 1.2 | 51.7 | 33.3 | 8.0 | .589 | .604 | .. | .. | .. | .. | Cut in November, six months after previous cut. |
| 339 | Rhodes Grass (<i>Chloris gayana</i>) | S 692 | 2659 | .. | 126 | 14.5 | 1.6 | 45.4 | 28.7 | 9.8 | .545 | .260 | .. | .. | .. | .. | Cut in November, leafy growth, four months after first grazing. |
| | Rhodes Grass (<i>Chloris gayana</i>) | S 892 | 5381 | .. | 92 | 8.2 | 1.5 | 46.4 | 30.1 | 13.8 | .687 | .410 | .. | .. | .. | .. | Height, 9 in.; young, leafy, harsh. |
| | Rhodes Grass (<i>Chloris gayana</i>) | S 893 | 5382 | .. | 92 | 8.7 | 1.1 | 46.5 | 33.7 | 10.0 | .447 | .221 | .. | .. | .. | .. | Height, 3 ft.; dry, stemmy, leafy, in seed head, with immature seeds. |
| 351 | <i>Chloris virgata</i> | S 693 | 2660 | .. | 126 | 12.6 | 1.2 | 49.2 | 29.8 | 7.2 | .444 | .319 | 2.212 | 1.760 | .. | .. | In seed head; stem and leaf neglected by stock. |
| .. | Molasses Grass | S 583 | 1278 | .. | .. | 3.3 | 0.8 | 48.5 | 40.8 | 6.6 | .416 | .172 | .. | .. | .. | .. | Coarse aftermath after seeding, with young shoots on stem. |
| 210 | Molasses Grass | S 620 | 2149 | .. | 47 | 7.5 | 1.9 | 49.7 | 29.1 | 11.8 | .467 | .558 | .. | .. | .. | .. | Long harsh stems with seed head. |
| 225 | Molasses Grass | S 621 | 2150 | .. | 110 | 6.2 | 2.2 | 45.8 | 25.3 | 20.5 | .583 | .630 | .. | .. | .. | .. | Long harsh stems with mature seed heads. |
| 492 | <i>Pennisetum typhoideum</i> | S 702 | 2666 | 64 | .. | 15.0 | 1.0 | 43.6 | 33.1 | 7.3 | 1.028 | .485 | 1.170 | .850 | .. | .. | Height, 5 ft.; seed heads forming, hard stems, dark-green leaves. |
| 520 | <i>Astrebla triticooides</i> | S 869 | 388 | 149 | .. | 6.7 | .7 | 48.3 | 36.3 | 8.0 | .411 | .113 | 1.132 | .544 | .. | .. | Height, 2 ft.; old grass, harsh, wiry, containing many dead seed heads. |
| 521 | <i>Astrebla elymoides</i> | S 870 | 389 | 149 | .. | 8.0 | 1.3 | 49.1 | 35.8 | 5.8 | .337 | .113 | 1.281 | .533 | .. | .. | Height, 2 ft.; harsh, wiry, with old seed heads. |
| 165 | <i>Panicum antidotale</i> | S 601 | 1780 | .. | 143 | 14.9 | 1.3 | 45.5 | 30.4 | 7.9 | .592 | .735 | .. | .. | .. | .. | In full seed head, stemmy, leafy. |
| 165 | <i>Panicum antidotale</i> | S 696 | 2663 | .. | 43 | 14.9 | 1.9 | 47.6 | 27.0 | 8.6 | .717 | 1.120 | .. | .. | .. | .. | In seed head, stemmy, leafy. |
| 511 | <i>Panicum antidotale</i> | S 894 | 5383 | .. | 209 | 11.5 | 1.0 | 48.9 | 30.0 | 8.6 | .523 | .194 | .. | .. | .. | .. | Stemmy, leafy, harsh. |
| 166 | <i>Panicum maximum</i> (fine stemmed Guinea Grass) | S 602 | 1781 | .. | 143 | 12.1 | 1.3 | 43.1 | 27.5 | 14.0 | .995 | 1.015 | .. | .. | .. | .. | Height, 2 ft. 6 in.; leafy, stemmy. |
| 360 | <i>Panicum maximum</i> (fine stemmed Guinea Grass) | S 871 | 390 | .. | 211 | 5.0 | .8 | 45.4 | 39.1 | 9.7 | .459 | .148 | .. | .. | .. | .. | Height, 3 ft.; in seed head. |
| 167 | <i>Panicum maximum</i> (purple Guinea Grass) | S 603 | 1782 | .. | 143 | 12.4 | 1.2 | 45.7 | 25.1 | 15.6 | 1.395 | .860 | .. | .. | .. | .. | Height, 1 ft.; leafy. |
| 361 | <i>Panicum maximum</i> (purple Guinea Grass) | S 872 | 391 | .. | 211 | 4.5 | .6 | 45.9 | 39.7 | 9.3 | .410 | .148 | .. | .. | .. | .. | Height, 4 ft.; in seed head. |
| 168 | <i>Panicum maximum</i> (purple Guinea Grass) | S 604 | 1783 | .. | 143 | 13.1 | 0.9 | 44.0 | 25.8 | 16.2 | 1.278 | .757 | .. | .. | .. | .. | Height, 1 ft.; leafy. |

Table IV.—LAWNTON EXPERIMENT GRASS PLOTS—continued.

| Plot No. | Kind of Plant. | Sample No. | Laboratory No. | AGE OF PLANT WHEN CUT—DAYS. | | WATER-FREE MATERIAL. | | | | | | | | Remarks. | | | | |
|----------|--|------------|----------------|-----------------------------|------------------------|----------------------|------------|-----------------|--------------|------------|------------------|-------|-------|----------|-----------------|----|----|---|
| | | | | From Date of Sowing. | From Date of Last Cut. | Crude Protein | Crude Fat. | Carbo hydrates. | Crude Fibre. | Crude Ash. | ANALYSIS OF ASH. | | | | Total Chlorine. | | | |
| | | | | | | % | % | % | % | % | % | % | % | % | % | % | % | % |
| 362 | <i>Panicum maximum</i> (purple Guinea Grass) | S 873 | 392 | .. | 211 | 5.3 | .7 | 44.5 | 39.7 | 9.8 | .412 | .113 | .. | .. | .. | .. | .. | Height, 4 ft.; in seed head. |
| 499 | <i>Ixophorus unisetus</i> .. | S 863 | 4590 | .. | 104 | 13.8 | 1.3 | 48.2 | 23.6 | 13.1 | .580 | .196 | 4.695 | .. | .. | .. | .. | Height, 1 ft.; succulent, some yellow leaves. |
| | <i>Ixophorus unisetus</i> .. | S 864 | 4591 | .. | 45 | 17.7 | 1.1 | 44.7 | 23.3 | 13.2 | .502 | .334 | 4.854 | 1.266 | .. | .. | .. | Height, 1 ft. 2 in.; succulent. |
| | <i>Ixophorus unisetus</i> .. | S 900 | 5389 | .. | 58 | 17.7 | .9 | 43.2 | 22.6 | 15.6 | .618 | .378 | .. | .. | .. | .. | .. | Leaves, 1 ft. 3 in. high; seed heads, 2 ft.; young, succulent, soft leaves with few seed heads. |
| 493 | <i>Brachiaria decumbens</i> .. | S 858 | 4585 | .. | 65 | 9.6 | .8 | 46.1 | 35.1 | 8.4 | .323 | .179 | 1.743 | .749 | .. | .. | .. | Height, 2 ft. 6 in.; rank, dark-green, in seed head. |
| | <i>Brachiaria decumbens</i> .. | S 859 | 4586 | .. | 45 | 13.6 | .9 | 46.2 | 29.1 | 10.2 | .350 | .309 | 2.622 | .910 | .. | .. | .. | Height, 2 ft.; dark-green, in seed head. |
| | <i>Brachiaria decumbens</i> .. | S 901 | 5390 | .. | 58 | 14.4 | .6 | 45.1 | 27.3 | 12.6 | .781 | .332 | .. | .. | .. | .. | .. | Height, 1 ft. 6 in.; young, green, succulent, leafy stage. |
| 500 | <i>Eragrostis superba</i> .. | S 865 | 4592 | .. | 65 | 7.5 | .9 | 46.9 | 38.6 | 6.1 | .322 | .198 | 1.685 | .645 | .. | .. | .. | Height, 2 ft. 6 in.; in seed head; seed stalks very hard and wiry. |
| | <i>Eragrostis superba</i> .. | S 866 | 4593 | .. | 45 | 9.3 | 1.0 | 48.8 | 35.1 | 5.8 | .272 | .245 | 1.872 | .628 | .. | .. | .. | In seed head. |
| | <i>Eragrostis superba</i> .. | S 903 | 5392 | .. | 58 | 11.4 | 1.2 | 49.4 | 31.0 | 7.0 | .273 | .319 | .. | .. | .. | .. | .. | Green, stemmy, leafy; few seed heads on long stems; leaves, 1 ft. high; seed heads, 2 ft. 6 in. high. |
| 497 | <i>Eragrostis tenuifolia</i> .. | S 860 | 4587 | .. | 45 | 8.8 | 1.3 | 46.9 | 35.2 | 7.8 | .345 | .211 | 1.842 | .905 | .. | .. | .. | Height, 1 ft. 3 in.; in seed head; harsh. |
| | <i>Eragrostis tenuifolia</i> .. | S 861 | 4588 | .. | 45 | 12.0 | 1.6 | 47.8 | 32.0 | 6.6 | .345 | .382 | 1.849 | .740 | .. | .. | .. | Height, 1 ft. 3 in.; in seed head. |
| | <i>Eragrostis tenuifolia</i> .. | S 902 | 5391 | .. | 58 | 8.3 | 1.2 | 54.2 | 30.4 | 5.9 | .272 | .253 | .. | .. | .. | .. | .. | Height, 2 ft.; hay stage, stemmy; in full seed head; seed ripe and falling. |
| 487 | <i>Pennisetum ciliare</i> .. | S 698 | 2665 | 59 | 16.0 | 1.8 | 45.8 | 28.3 | 8.1 | .892 | .464 | 2.138 | .830 | .. | .. | .. | .. | Leafy. |
| 487 | <i>Pennisetum ciliare</i> .. | S 857 | 4584 | .. | .. | 10.7 | 1.2 | 42.3 | 35.1 | 10.7 | .842 | .654 | 1.258 | .688 | .. | .. | .. | Height, 1 ft.; mature grass; in seed head. |
| 526 | <i>Pennisetum cenchroides</i> .. | S 904 | 5393 | .. | .. | 8.3 | .8 | 43.7 | 38.5 | 8.7 | .272 | .157 | .. | .. | .. | .. | .. | Height, 1 ft. 6 in.; stemmy, leafy, in full seed head with ripe seed. |
| 498 | <i>Chloris pycnothrix</i> .. | S 694 | 2661 | 56 | 20.9 | 1.5 | 40.7 | 26.2 | 10.7 | .620 | .592 | 3.858 | 1.400 | .. | .. | .. | .. | Just coming into seed head. |
| 498 | <i>Chloris pycnothrix</i> .. | S 862 | 4589 | .. | 28 | 6.2 | .8 | 48.7 | 36.7 | 7.6 | .507 | .166 | 1.671 | 1.090 | .. | .. | .. | Height, 1 ft. 6 in.; seed stalks—many dead, few leaves. |
| 82 | Rye Grass—New Zealand Certified Perennial | S 599 | 1730 | .. | 80 | 19.5 | 3.1 | 33.9 | 29.7 | 13.8 | .765 | 1.139 | .. | .. | .. | .. | .. | Leafy. |
| 83 | Rye Grass—New Zealand Certified Perennial | S 600 | 1779 | .. | 80 | 19.8 | 3.1 | 36.4 | 25.7 | 15.0 | .575 | 1.003 | .. | .. | .. | .. | .. | Leafy. |
| 389 | Rye Grass—New Zealand Certified Perennial | S 898 | 5387 | .. | 149 | 15.8 | 1.6 | 46.1 | 24.4 | 12.1 | .495 | .319 | .. | .. | .. | .. | .. | Height, 7 in.; old, green, dry leafy stage (rust infected). |

Table IV.—LAWNTON EXPERIMENT GRASS PLOTS—continued.

| Plot Number. | Kind of Plant. | Sample No. | Laboratory No. | AGE OF PLANT WHEN CUT—DAYS. | | WATER FREE MATERIAL. | | | | | | | | | | Treatment. | Remarks. |
|--------------|--|------------|----------------|-----------------------------|------------------------|----------------------|------------|-----------------|--------------|------------|------------------|-------------|---------|-----------------|-----|---|----------|
| | | | | From Date of Sowing. | From Date of Last Cut. | Crude Protein. | Crude Fat. | Carbo-hydrates. | Crude Fibre. | Crude Ash. | ANALYSIS OF ASH. | | | Total Chlorine. | | | |
| | | | | % | % | | | | | | Time. | Phos. Acid. | Potash. | | % | | |
| 425 | Cocksfoot—New Zealand Certified Permanent Pasture | S 897 | 5386 | .. | 148 | 13.5 | 2.3 | 42.2 | 29.8 | 12.2 | .478 | .284 | .. | .. | NP | Leafy. | |
| 325 | Cocksfoot—Akaroa .. | S 533 | 432 | 69 | .. | 20.6 | 3.1 | 46.4 | 18.3 | 11.6 | .592 | .291 | .. | .. | NP | Leafy. | |
| | Cocksfoot—Akaroa .. | S 534 | 433 | 69 | .. | 24.1 | 3.2 | 44.8 | 17.2 | 10.7 | .766 | .311 | .. | .. | NPK | Leafy. | |
| | Cocksfoot—Akaroa .. | S 664 | 2454 | .. | 113 | 18.8 | 4.6 | 42.6 | 23.2 | 10.8 | .643 | .328 | .. | .. | NP | Leafy. | |
| | Cocksfoot—Akaroa .. | S 665 | 2455 | .. | 113 | 19.4 | 4.2 | 41.4 | 23.4 | 11.6 | .546 | .284 | .. | .. | NPK | Leafy. | |
| 326 | Cocksfoot—Akaroa .. | S 666 | 2456 | .. | 113 | 20.2 | 4.3 | 41.6 | 23.5 | 10.4 | .659 | .340 | .. | .. | NP | Leafy. | |
| | Cocksfoot—Akaroa .. | S 667 | 2457 | .. | 113 | 18.9 | 4.9 | 43.1 | 21.6 | 11.5 | .630 | .276 | .. | .. | NPK | Leafy. | |
| | Cocksfoot—Akaroa .. | S 598 | 1729 | .. | 268 | 20.0 | 2.8 | 36.4 | 29.6 | 11.2 | .891 | .955 | .. | .. | NP | Leafy. | |
| 327 | Cocksfoot (Indigenous Leafy Strain) | S 668 | 2458 | .. | 113 | 21.8 | 4.3 | 38.4 | 24.8 | 10.7 | .600 | .397 | .. | .. | NP | Leafy. | |
| | Cocksfoot (Indigenous Leafy Strain) | S 669 | 2459 | .. | 113 | 22.9 | 4.8 | 40.0 | 21.2 | 11.1 | .625 | .271 | .. | .. | NPK | Leafy. | |
| 324 | Cocksfoot—Victorian .. | S 531 | 430 | 69 | .. | 22.9 | 3.7 | 44.4 | 19.7 | 9.3 | .628 | .385 | .. | .. | NP | Leafy. | |
| | Cocksfoot—Victorian .. | S 532 | 431 | 69 | .. | 24.9 | 3.4 | 43.8 | 17.5 | 10.4 | .643 | .365 | .. | .. | NPK | Leafy. | |
| | Cocksfoot—Victorian .. | S 662 | 2452 | .. | 114 | 18.6 | 4.2 | 42.7 | 24.9 | 9.6 | .756 | .419 | .. | .. | NP | Leafy. | |
| | Cocksfoot—Victorian .. | S 663 | 2453 | .. | 114 | 20.1 | 4.4 | 38.6 | 26.4 | 10.5 | .526 | .366 | .. | .. | NPK | Leafy. | |
| 113 | Cocksfoot .. | S 596 | 1727 | .. | 281 | 22.8 | 2.9 | 32.4 | 30.0 | 11.9 | .672 | .978 | .. | .. | NP | Leafy. | |
| 115 | Cocksfoot .. | S 597 | 1728 | .. | 281 | 22.6 | 2.7 | 34.6 | 28.4 | 11.7 | .725 | 1.018 | .. | .. | NP | Leafy. | |
| 323 | Cocksfoot—Danish .. | S 660 | 2450 | .. | 113 | 21.1 | 3.8 | 40.0 | 25.8 | 9.3 | .755 | .409 | .. | .. | NP | Leafy. | |
| | Cocksfoot—Danish .. | S 661 | 2451 | .. | 113 | 19.1 | 4.4 | 42.7 | 23.3 | 10.5 | .630 | .293 | .. | .. | NPK | Leafy. | |
| 95 | Chewings Fescue (<i>Festuca rubra</i> var.) | S 578 | 1273 | .. | 257 | 16.5 | 3.6 | 46.1 | 24.8 | 9.0 | 1.280 | .384 | .. | .. | NP | Harsh leafy growth. | |
| | Creeping Red Fescue (<i>Festuca rubra stolonifera</i>) | S 579 | 1274 | .. | 257 | 14.2 | 4.0 | 48.0 | 25.5 | 8.3 | 1.351 | .351 | .. | .. | .. | | |
| 99 | Tall Fescue (<i>Festuca elatior</i>) | S 580 | 1275 | .. | 257 | 12.8 | 3.3 | 47.9 | 26.6 | 9.4 | 1.120 | .340 | .. | .. | NP | Thick stems with leaves; in flower. | |
| | Meadow Fescue (Indigenous Leafy Strain) | S 658 | 2448 | .. | 113 | 22.3 | 3.7 | 44.7 | 19.5 | 9.8 | .848 | .396 | .. | .. | .. | | |
| 322 | Meadow Fescue (Indigenous Leafy Strain) | S 659 | 2449 | .. | 113 | 21.6 | 3.5 | 45.2 | 18.7 | 11.0 | .677 | .360 | .. | .. | NPK | Height, 5 in. to 11 in.; yellow-green colour, succulent, leafy, not yet in flower. | |
| | Lucerne (<i>Medicago sativa</i>) .. | S 577 | 1272 | .. | 110 | 18.4 | 1.2 | 38.2 | 32.6 | 9.6 | 3.545 | .679 | .. | .. | .. | | |
| 64 | Lotus <i>corniculatus</i> .. | S 906 | 5395 | .. | 92 | 14.8 | 1.6 | 59.6 | 15.2 | 8.8 | 1.355 | .386 | .. | .. | .. | Runners, 2 ft. long; dense mat growth, 2 in. thick; light-green colour, stemmy, leafy, in bloom. Hay stage. | |
| 356 | <i>Stylosanthes mucronata</i> .. | S 905 | 5394 | 219 | .. | 14.2 | 1.0 | 49.7 | 25.9 | 9.2 | 2.50 | .503 | .. | .. | .. | | |
| 510 | <i>Stylosanthes mucronata</i> .. | S 884 | 4594 | .. | .. | 13.5 | 1.5 | 44.9 | 32.1 | 8.0 | 1.534 | .243 | .. | .. | .. | | |
| 486 | Salt Bush .. | S 554 | 933 | .. | .. | 21.6 | 0.9 | 40.4 | 12.3 | 24.8 | 2.754 | .699 | .. | .. | .. | | |
| 100 | Sheep's Burnet .. | S 695 | 2662 | .. | 186 | 13.7 | 2.5 | 59.0 | 16.1 | 8.7 | 2.128 | .636 | .. | .. | .. | | |

| | | | | | | | | | | | | | | |
|-----|-------|---|------|----|-----|------|-----|------|------|------|-------|------|----|-----|
| 302 | S 501 | Italian Rye Grass and trace of Red and White Clovers | 367 | 69 | .. | 25.0 | 2.6 | 46.4 | 14.6 | 11.4 | 1.303 | .580 | .. | NP |
| | S 502 | Italian Rye Grass and trace of Red and White Clovers | 368 | 69 | .. | 22.2 | 2.5 | 48.2 | 14.9 | 12.2 | .850 | .253 | .. | NPK |
| | S 622 | Italian Rye Grass and trace of Red and White Clovers | 2151 | .. | 114 | 18.1 | 1.7 | 46.3 | 24.0 | 9.9 | .922 | .428 | .. | NP |
| | S 623 | Italian Rye Grass and trace of Red and White Clovers | 2152 | .. | 114 | 16.9 | 3.4 | 46.8 | 23.1 | 9.8 | .796 | .338 | .. | NPK |
| 304 | S 503 | Italian Rye Grass and trace of Red and White Clovers | 369 | 69 | .. | 22.5 | 2.7 | 47.6 | 16.5 | 10.7 | .982 | .340 | .. | NP |
| | S 504 | Italian Rye Grass and trace of Red and White Clovers | 370 | 69 | .. | 20.3 | 2.3 | 52.2 | 13.2 | 12.0 | .894 | .213 | .. | NPK |
| | S 624 | Italian Rye Grass and trace of Red and White Clovers | 2153 | .. | 114 | 15.3 | 2.8 | 49.2 | 23.1 | 9.6 | .772 | .465 | .. | NP |
| | S 625 | Italian Rye Grass and trace of Red and White Clovers | 2154 | .. | 114 | 15.6 | 3.1 | 49.4 | 21.8 | 10.1 | .775 | .317 | .. | NPK |
| 306 | S 505 | Italian Rye Grass and trace of Red and White Clovers | 371 | 69 | .. | 18.7 | 2.4 | 52.6 | 16.0 | 10.3 | .951 | .274 | .. | NP |
| | S 506 | Italian Rye Grass and trace of White Clover | 372 | 69 | .. | 20.7 | 2.7 | 53.1 | 13.8 | 9.7 | .812 | .226 | .. | NPK |
| | S 626 | Italian Rye Grass and trace of Red and White Clovers | 2155 | .. | 114 | 14.9 | 2.6 | 46.4 | 26.2 | 9.9 | .750 | .370 | .. | NP |
| | S 627 | Italian Rye Grass and trace of White Clover | 2156 | .. | 114 | 16.8 | 3.2 | 43.9 | 25.1 | 11.0 | .628 | .281 | .. | NPK |
| 307 | S 507 | New Zealand Certified Perennial Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot, and trace of White Clover | 373 | 69 | .. | 19.5 | 2.9 | 42.4 | 24.4 | 10.8 | .753 | .435 | .. | NP |
| | S 508 | New Zealand Certified Perennial Rye Grass, <i>Phalaris tuberosa</i> , a little Cocksfoot, and trace of White Clover | 374 | 69 | .. | 21.1 | 2.8 | 48.0 | 16.4 | 11.7 | .735 | .277 | .. | NPK |
| | S 628 | New Zealand Certified Perennial Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot, and trace of White Clover | 2157 | .. | 115 | 18.4 | 4.1 | 43.0 | 25.1 | 9.4 | .621 | .331 | .. | NP |
| | S 629 | New Zealand Certified Perennial Rye Grass, <i>Phalaris tuberosa</i> , a little Cocksfoot, and trace of White Clover | 2158 | .. | 115 | 16.7 | 3.5 | 46.8 | 23.2 | 9.8 | .522 | .268 | .. | NPK |
| 308 | S 509 | Wild Perennial Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot, and trace of White Clover | 375 | 69 | .. | 18.8 | 2.7 | 43.7 | 22.8 | 12.0 | .694 | .519 | .. | NP |
| | S 510 | Wild Perennial Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot, and trace of White Clover | 376 | 69 | .. | 23.8 | 3.1 | 44.3 | 15.7 | 13.1 | .783 | .317 | .. | NPK |
| | S 630 | Wild Perennial Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot, and trace of White Clover | 2207 | .. | 115 | 21.5 | 4.2 | 42.7 | 22.3 | 9.3 | .656 | .323 | .. | NP |
| | S 631 | Wild Perennial Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot, and trace of White Clover | 2208 | .. | 115 | 21.5 | 4.0 | 42.8 | 21.2 | 10.5 | .591 | .362 | .. | NPK |

Table IV.—LAWNTON EXPERIMENT GRASS PLOTS—continued.

| Plot Number. | Kind of Plant. | Sample No. | Laboratory No. | AGE OF PLANT WHEN CUT—DAYS. | | WATER FREE MATERIAL. | | | | | | | | | | Remarks. | |
|--------------|--|------------|----------------|-----------------------------|----------------------------|----------------------|------------|-----------------|--------------|------------|------------------|------------|-----------------|-----------------|------------|----------|--------------|
| | | | | From Date of Sowing. | From Date of Last Grazing. | Crude Protein. | Crude Fat. | Carbo-hydrates. | Crude Fibre. | Crude Ash. | ANALYSIS OF ASH. | | | Total Chlorine. | Treatment. | | |
| | | | | | | | | | | | Crude Protein. | Crude Fat. | Carbo-hydrates. | | | | Crude Fibre. | Crude Ash. | Lime. | Phos. Acid. | Potash. |
| | | | | % | % | % | % | % | % | % | % | % | % | % | % | % | % |
| | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot | S 511 | 377 | 69 | .. | 16.5 | 2.9 | 51.8 | 19.6 | 9.2 | .840 | .291 | .. | .. | NP | | |
| | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot | S 512 | 378 | 69 | .. | 20.4 | 2.8 | 52.4 | 14.6 | 9.8 | .760 | .228 | .. | .. | NPK | | |
| 309 | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot | S 632 | 2209 | .. | 115 | 16.0 | 3.2 | 50.4 | 21.8 | 8.6 | .654 | .239 | .. | .. | NP | | |
| | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot | S 633 | 2210 | .. | 115 | 15.1 | 3.3 | 49.3 | 23.0 | 9.3 | .632 | .295 | .. | .. | NPK | | |
| | Italian Rye Grass, Wild Perennial Rye Grass, <i>Phalaris tuberosa</i> , and trace of Cocksfoot | S 513 | 379 | 69 | .. | 18.6 | 2.7 | 49.9 | 18.7 | 10.1 | .644 | .289 | .. | .. | NP | | |
| | Italian Rye Grass, Wild Perennial Rye Grass, <i>Phalaris tuberosa</i> , and traces of Cocksfoot and White Clover | S 514 | 380 | 69 | .. | 18.3 | 2.4 | 53.2 | 17.4 | 8.7 | .765 | .204 | .. | .. | NPK | | |
| 310 | Italian Rye Grass, Wild Perennial Rye Grass, <i>Phalaris tuberosa</i> , and trace of Cocksfoot | S 634 | 2211 | .. | 115 | 14.9 | 3.8 | 51.4 | 20.5 | 9.4 | .645 | .278 | .. | .. | NP | | |
| | Italian Rye Grass, Wild Perennial Rye Grass, <i>Phalaris tuberosa</i> , and traces of Cocksfoot and White Clover | S 635 | 2212 | .. | 115 | 17.8 | 2.8 | 51.4 | 19.0 | 9.0 | .737 | .250 | .. | .. | NPK | | |
| | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, Cocksfoot, <i>Phalaris tuberosa</i> , and traces of Red and White Clover | S 515 | 381 | 69 | .. | 16.9 | 2.8 | 52.7 | 18.6 | 9.0 | .967 | .253 | .. | .. | NP | | |
| | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, Cocksfoot, <i>Phalaris tuberosa</i> , and traces of Red and White Clover | S 516 | 382 | 69 | .. | 19.4 | 2.8 | 49.6 | 18.8 | 9.4 | .771 | .263 | .. | .. | NPK | | |
| 311 | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, Cocksfoot, <i>Phalaris tuberosa</i> , and traces of Red and White Clover | S 636 | 2213 | .. | 115 | 14.3 | 2.9 | 50.7 | 22.5 | 9.6 | .518 | .366 | .. | .. | NP | | |
| | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, Cocksfoot, <i>Phalaris tuberosa</i> , and traces of Red and White Clover | S 637 | 2214 | .. | 115 | 16.3 | 3.4 | 50.2 | 20.7 | 9.4 | .561 | .283 | .. | .. | NPK | | |

| | | | | | | | | | | | | | |
|-----|-------|------|----|-----|------|-----|------|------|------|------|------|----|-----|
| 312 | S 517 | 383 | 69 | .. | 19.6 | 2.9 | 47.8 | 19.8 | 9.9 | .844 | .287 | .. | NP |
| | S 518 | 384 | 69 | .. | 18.7 | 2.6 | 50.4 | 19.1 | 9.2 | .723 | .261 | .. | NPK |
| | S 638 | 2215 | .. | 115 | 15.8 | 3.0 | 50.3 | 21.5 | 9.4 | .538 | .364 | .. | NP |
| | S 639 | 2216 | .. | 115 | 16.9 | 3.0 | 48.3 | 21.6 | 10.2 | .727 | .274 | .. | NPK |
| | S 519 | 385 | 69 | .. | 19.2 | 3.0 | 49.5 | 18.7 | 9.6 | .823 | .264 | .. | NP |
| | S 520 | 386 | 69 | .. | 18.9 | 2.9 | 45.7 | 22.7 | 9.8 | .701 | .366 | .. | NPK |
| 313 | S 640 | 2224 | .. | 115 | 13.6 | 3.9 | 49.8 | 22.7 | 10.0 | .666 | .348 | .. | NP |
| | S 641 | 2225 | .. | 115 | 15.3 | 3.7 | 48.0 | 23.3 | 9.7 | .664 | .336 | .. | NPK |
| | S 521 | 387 | 69 | .. | 18.6 | 2.9 | 53.1 | 16.7 | 8.7 | .747 | .285 | .. | NP |
| | S 522 | 388 | 69 | .. | 16.2 | 2.9 | 51.1 | 20.7 | 9.1 | .800 | .397 | .. | NPK |
| 314 | S 642 | 2226 | .. | 115 | 15.4 | 3.7 | 47.7 | 22.0 | 11.2 | .694 | .380 | .. | NP |
| | S 643 | 2227 | .. | 115 | 15.8 | 3.8 | 49.2 | 21.4 | 9.8 | .785 | .367 | .. | NPK |
| | S 523 | 389 | 69 | .. | 17.5 | 3.2 | 46.5 | 22.0 | 10.8 | .672 | .322 | .. | NP |
| | S 524 | 390 | 69 | .. | 18.3 | 3.1 | 47.1 | 21.9 | 9.6 | .774 | .297 | .. | NPK |
| 315 | S 644 | 2228 | .. | 115 | 17.0 | 3.9 | 45.7 | 23.8 | 9.6 | .619 | .420 | .. | NP |
| | S 645 | 2229 | .. | 115 | 15.9 | 4.4 | 44.8 | 24.7 | 10.2 | .618 | .445 | .. | NPK |
| | S 907 | 5396 | .. | 121 | 22.1 | 2.3 | 38.4 | 25.7 | 11.5 | .578 | .657 | .. | NP |
| | S 908 | 5397 | .. | 121 | 13.6 | 2.4 | 45.3 | 26.2 | 12.5 | .619 | .734 | .. | NP |
| | S 909 | 5398 | .. | 121 | 15.3 | 2.6 | 45.0 | 25.2 | 11.9 | .651 | .499 | .. | NPK |

Table IV.—LAWNTON EXPERIMENT GRASS PLOTS—continued.

| Plot Number. | Kind of Plant. | Sample No. | Laboratory No. | AGE OF PLANT WHEN CUT—DAYS. | | WATER FREE MATERIAL. | | | | | | | | Treatment. | Remarks. | | | |
|--------------|---|------------|----------------|-----------------------------|----------------------------|----------------------|------------|-----------------|--------------|------------|------------------|------|----|------------|----------|-----------------|---|---|
| | | | | From Date of Sowing. | From Date of Last Grazing. | Crude Protein. | Crude Fat. | Carbo-hydrates. | Crude Fibre. | Crude Ash. | ANALYSIS OF ASH. | | | | | Total Chlorine. | | |
| | | | | | | % | % | % | % | % | % | % | % | % | % | % | % | % |
| 316 | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, Cocksfoot, and traces of Lucerne and White Clover | S 525 | 424 | 69 | .. | 20.1 | 3.1 | 47.9 | 19.7 | 9.2 | .799 | .341 | .. | .. | NP | | | |
| | | S 526 | 425 | 69 | .. | 20.8 | 3.1 | 47.2 | 20.2 | 8.7 | .781 | .261 | .. | .. | NPK | | | |
| | | S 646 | 2230 | .. | 114 | 16.1 | 2.9 | 47.6 | 23.0 | 10.4 | .722 | .382 | .. | .. | NP | | | |
| 317 | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, Cocksfoot, and traces of Red and White Clover | S 647 | 2231 | .. | 114 | 17.8 | 3.7 | 47.9 | 20.9 | 9.7 | .697 | .278 | .. | .. | NPK | | | |
| | | S 527 | 426 | 69 | .. | 21.5 | 3.1 | 46.4 | 19.0 | 10.0 | .703 | .242 | .. | .. | NP | | | |
| | | S 528 | 427 | 69 | .. | 20.6 | 3.3 | 49.9 | 17.3 | 8.9 | .762 | .257 | .. | .. | NPK | | | |
| 318 | Wild Perennial Rye Grass, Italian Rye Grass, <i>Phalaris tuberosa</i> , Cocksfoot, Timothy, and trace of White Clover | S 648 | 2232 | .. | 114 | 16.8 | 3.2 | 47.6 | 21.3 | 11.1 | .673 | .369 | .. | .. | NP | | | |
| | | S 649 | 2233 | .. | 114 | 18.3 | 3.2 | 46.7 | 21.0 | 10.8 | .694 | .289 | .. | .. | NPK | | | |
| | | S 529 | 428 | 69 | .. | 22.4 | 3.3 | 44.3 | 18.5 | 11.5 | .582 | .259 | .. | .. | NP | | | |
| 318 | New Zealand Certified Perennial Rye Grass, Italian Rye Grass, <i>Phalaris tuberosa</i> , and traces of Red and White Clover | S 530 | 429 | 69 | .. | 24.9 | 3.5 | 39.3 | 20.6 | 11.7 | .832 | .344 | .. | .. | NPK | | | |
| | | S 650 | 2234 | .. | 114 | 17.1 | 3.1 | 45.5 | 23.5 | 10.8 | .568 | .393 | .. | .. | NP | | | |
| | | S 651 | 2235 | .. | 114 | 20.8 | 3.2 | 41.3 | 22.9 | 11.8 | .637 | .444 | .. | .. | NPK | | | |

Table V.—PASTURE IMPROVEMENT PLOTS.

| Kind of Plant. | Sample No. | Analysis No. | COMPOSITION OF WATER-FREE MATERIAL. | | | | | | | Remarks. | |
|--|------------|--------------|-------------------------------------|------------|----------------|--------------|------------|-----------|---|---|--|
| | | | Crude Protein. | Crude Fat. | Carbohydrates. | Crude Fibre. | Crude Ash. | Lime CaO. | Phosphoric Acid P ₂ O ₅ . | | |
| | | | % | % | % | % | % | % | % | | |
| | | | | | MURGON. | | | | | | |
| New Zealand Certified Perennial Rye Grass, Italian Rye Grass, with a trace of <i>Phalaris tuberosa</i> and Cocksfoot | S 613 | 1928 | 22.9 | 4.2 | 37.4 | 24.9 | 10.6 | .928 | .519 | First grazing, end of August; sample cut, 19 October, 1932, before second grazing. | |
| New Zealand Certified Perennial Rye Grass, Italian Rye Grass, with a trace of <i>Phalaris tuberosa</i> and Cocksfoot | S 614 | 1929 | 23.2 | 4.3 | 36.0 | 25.9 | 10.6 | .908 | .480 | First grazing, end of August; sample cut 19 October, 1932, before second grazing. | |
| New Zealand Certified Perennial Rye Grass, Italian Rye Grass, with a trace of <i>Phalaris tuberosa</i> and Cocksfoot | S 615 | 1930 | 24.1 | 4.2 | 36.0 | 24.9 | 10.8 | .869 | .516 | First grazing, end of August; sample cut 19 October, 1932, before second grazing. | |
| New Zealand Certified Perennial Rye Grass, Italian Rye Grass, with a trace of <i>Phalaris tuberosa</i> and Cocksfoot | S 616 | 1931 | 24.3 | 4.4 | 34.6 | 26.0 | 10.7 | .882 | .481 | First grazing, end of August; sample cut 19 October, 1932, before second grazing. | |
| New Zealand Certified Perennial Rye Grass, Italian Rye Grass, with a trace of <i>Phalaris tuberosa</i> and Cocksfoot | S 617 | 1932 | 23.8 | 3.9 | 36.5 | 24.9 | 10.9 | .885 | .547 | First grazing, end of August; sample cut 19 October, 1932, before second grazing. | |
| New Zealand Certified Perennial Rye Grass, Italian Rye Grass, with a trace of <i>Phalaris tuberosa</i> and Cocksfoot | S 618 | 1933 | 23.2 | 3.9 | 35.2 | 27.2 | 10.5 | .935 | .521 | First grazing, end of August; sample cut 19 October, 1932, before second grazing. | |
| New Zealand Certified Perennial Rye Grass, Italian Rye Grass, with a trace of <i>Phalaris tuberosa</i> and Cocksfoot | S 619 | 1934 | 21.9 | 3.8 | 39.4 | 24.1 | 10.8 | .918 | .329 | First grazing, end of August; sample cut 19 October, 1932, before second grazing. | |
| | | | | | NERANG. | | | | | | |
| Red Clover in seed head with a trace of Rye Grass | S 712 | 2960 | 12.6 | 1.5 | 48.5 | 28.8 | 8.6 | 1.862 | .602 | Cut 14 December, 1932, for hay | |
| White Clover | S 304 | 4263 | 18.1 | 1.5 | 45.8 | 22.1 | 12.5 | 2.078 | .528 | | |
| | | | | | MALENY. | | | | | | |
| <i>Paspalum dilatatum</i> | S 292 | 4260 | 9.9 | 1.4 | 48.4 | 33.4 | 6.9 | .339 | .446 | Long-to be used for ensilage | |
| <i>Paspalum dilatatum</i> Silage | S 574 | 931 | 7.4 | 1.1 | 42.7 | 41.7 | 7.1 | .430 | .344 | Stack made January, 1932; Sample taken 25 August, 1932, from best section of stack | |
| <i>Paspalum dilatatum</i> Silage | S 575 | 932 | 6.9 | 1.1 | 42.8 | 41.5 | 7.7 | .334 | .357 | Stack made, January, 1932; sample taken 25 August, 1932, from worst section of stack. | |
| | | | | | CABOOLTURE. | | | | | | |
| New Zealand Certified Perennial Rye Grass, Italian Rye Grass, <i>Phalaris tuberosa</i> , and a trace of Red Clover | S 569 | 899 | 21.8 | 3.0 | 45.6 | 18.8 | 10.8 | .633 | .414 | Sample cut in August, 1932, six weeks after first grazing. | |

Table VI.—ANALYSES OF PASTURE GRASSES, ROUGHAGE, HERBAGE, AND SHRUBS.

| Number of Analyses. | Month Cut. | Name of Grass, Herbage, or Shrub. | Local Name. | District. | ANALYSIS OF WATER-FREE MATERIAL. | | | | | | | Remarks. (Chiefly made by senders.) |
|---------------------|------------|-----------------------------------|-------------------------------------|--------------|----------------------------------|-------------------|----------------|--------------|------------|------------|--|---|
| | | | | | Crude Protein. | Crude Fat. | Carbohydrates. | Crude Fibre. | Crude Ash. | Lime, CaO. | Phosphoric Acid, P ₂ O ₅ . | |
| | | | | | % | % | % | % | % | % | % | |
| 237 | July | Field Pea | .. | Cairns (F-K) | 22.6 | 1.4 | 36.3 | 27.1 | 12.6 | 1.718 | .613 | Green, with immature seed pods; 2 ft. 6 in. high. |
| 238 | July | Vetch | .. | Cairns (F-K) | 26.8 | .7 | 29.1 | 29.3 | 14.1 | 2.027 | .814 | Dry and without seed; 2 ft. 3 in. high; same age as previous sample. |
| 2112 | November | Purple Vetch | .. | Cairns (F-K) | 15.8 | 2.2 | 35.2 | 38.0 | 8.8 | .906 | .242 | Two tons lime and 1 cwt. superphosphate per acre; green and fairly leafy, with some immature seed pods; mildewed in transit through being forwarded in green state. |
| 2113 | November | Purple Vetch | .. | Cairns (F-K) | 16.6 | 1.1 | 38.0 | 35.6 | 8.7 | 1.162 | .283 | Lime, 2 tons per acre; mildewed in transit; green and leafy, with some immature seed pods. |
| 468 | July | <i>Mimosa pudica</i> | Sensitive Plant | Mackay | 21.7 | 1.3 | 49.1 | 19.4 | 8.5 | 2.376 | .897 | Fairly young growth. |
| 469 | July | <i>Paspalum compressum</i> | .. | Mackay | 9.7 | 1.0 | 47.7 | 27.8 | 13.8 | .241 | .385 | |
| 2121 | November | <i>Paspalum dilatatum</i> | .. | Innisfail | 5.1 | Sample too small. | | | 7.3 | .414 | .252 | Sample too small for complete analysis; locally known as Paspalum, and does not do well; about 15 in. high with a few seed heads, from which seed had fallen. Sample fairly green with numerous dead leaves. |
| 2122 | November | <i>Paspalum urvillei</i> | Giant Paspalum or Blue Top Paspalum | Innisfail | 4.1 | 1.0 | 51.5 | 35.1 | 8.3 | .285 | .164 | Locally known as Blue Top or Giant Paspalum, and does fairly well. Sample about 18 in. high; only one seed head with young green seed. Most of leaves dead. Though sample as a whole very leafy there were few of leaves green. |
| 4672 | April | Paspalum (Sample No. 1) | .. | Maleny (C) | 8.8 | 1.3 | 48.2 | 33.4 | 8.3 | .356 | .336 | K ₂ O = 1.323. Grass past seeding stage. |
| 4673 | April | Paspalum (Sample No. 2) | .. | Maleny (C) | 10.5 | 1.1 | 47.2 | 35.0 | 6.2 | .369 | .414 | K ₂ O = 1.793. Grass past seeding stage. |
| 4674 | April | Pasapalum (Sample No. 3) | .. | Maleny (C) | 20.5 | 1.8 | 41.0 | 27.4 | 9.3 | .252 | .682 | K ₂ O = 3.697. Young Paspalum in good condition from soil heavily manured with horse dung. |
| 4675 | April | Paspalum (Sample No. 4) | .. | Maleny (C) | 12.3 | 1.4 | 46.1 | 27.9 | 12.3 | .788 | .481 | K ₂ O = 2.467. Paspalum and Clover; young and in good condition. |

| 4676 | April | .. | Paspalum (Sample No. 1A) .. | .. | .. | Maleny (C) .. | 11.2 | 1.4 | 48.5 | 29.1 | 9.8 | .555 | .443 |
|------|-----------|----|---------------------------------|----|--|------------------------|------|-----|------|------|------|-------|------|
| 490 | July | .. | <i>Raphanus raphanistrum</i> .. | .. | Turnip Weed or Wild Mustard; Wild Radish or White Charlock | Cordalba .. | 17.5 | 2.1 | 37.2 | 29.2 | 14.0 | 3.056 | .329 |
| 640 | July | .. | <i>Melinis minutiflora</i> .. | .. | Molasses Grass .. | Mackay .. | 6.4 | 1.3 | 45.4 | 36.8 | 10.2 | .289 | .538 |
| 1244 | September | .. | <i>Melinis minutiflora</i> .. | .. | Molasses Grass .. | Pawngilly (B) .. | 11.4 | 1.2 | 40.6 | 37.6 | 9.2 | .492 | .536 |
| 2164 | November | .. | <i>Melinis minutiflora</i> .. | .. | Molasses Grass .. | Cardwell .. | 5.0 | 1.6 | 53.4 | 34.6 | 5.4 | .255 | .249 |
| 671 | August | .. | <i>Fumaria officinalis</i> .. | .. | Wild or Purple Top Carrot Fumitory | Wellington Point .. | 17.0 | 2.5 | 48.6 | 19.7 | 12.2 | 3.622 | .512 |
| 1086 | August | .. | <i>Geigeria parviflora</i> .. | .. | Wilga .. | Goondiwindi .. | 12.2 | 4.3 | 65.1 | 12.8 | 9.2 | 3.326 | .366 |
| 1087 | August | .. | <i>Geigeria parviflora</i> .. | .. | Wilga .. | Goondiwindi .. | 14.3 | 3.6 | 60.9 | 13.7 | 7.5 | 1.983 | .337 |
| 1088 | August | .. | <i>Geigeria parviflora</i> .. | .. | Wilga .. | Goondiwindi .. | 12.4 | 4.7 | 57.9 | 14.6 | 10.4 | 2.729 | .442 |
| 1089 | August | .. | <i>Geigeria parviflora</i> .. | .. | Wilga .. | Goondiwindi .. | 13.1 | .. | .. | .. | 9.9 | 3.440 | .271 |
| 1425 | October | .. | Native Trefoil .. | .. | .. | Cardwell .. | 17.2 | 1.2 | 44.4 | 30.6 | 6.6 | 1.275 | .383 |
| 1551 | October | .. | <i>Aristida sp.</i> (No. 1) .. | .. | Three-pronged Spear Grass | Charters Towers (R.D.) | 2.7 | 1.3 | 49.1 | 34.7 | 12.2 | .194 | .103 |

K₂O = 1.674.

Found by sender to be very good for stock, giving splendid results in both milk and cream. About 2 ft. high, with numerous green seed pods and some yellow flowers as received rather coarse with more stalk than leaf. Government Botanist advises that it should be treated cautiously as a stock food as other members of family produce taints in milk.
 Young and green while native grasses are quite dry. Cattle relish this grass. Young and green and very leafy; about 2 ft. high and without seed.
 Sample has been fed down; stock off six weeks before cutting; planted eight months ago on old clearing. Very leafy, soft, and green; about 12 to 18 in. high.
 About 2 ft. high; green without seed heads; very coarse stalks; a fair quantity of green leaves.
 Total moisture = 84.1 per cent.; about 2 ft. long with flowers and green seeds; readily eaten by stock, and apparently only taints butter when eaten in excess.
 From brigalow country; both cattle and sheep show preference for this variety.
 From sandy soil; eaten by cattle and sheep.
 From a sandalwood sandy soil; eaten by cattle and sheep.
 Sample too small for complete analysis. From brigalow country; not relished by stock. Government Botanist cannot detect any botanical difference between the four samples.
 Grows rather prolifically on both forest and scrub land. Stock partial to it; soft and leafy, without flowers or seeds.
 Dry grass 2 ft. 6 in. high with seed heads from which most seeds had fallen; more stalk than leaf. Horses do well on this country, but there are losses of cattle from Osteophagia.

Table VI.—ANALYSES OF PASTURE GRASSES, HERBAGE, AND SHRUBS.—continued.

| Number of Analyses. | Month Cut. | Name of Grass, Herbage, or Shrub. | Local Name. | District | ANALYSIS OF WATER-FREE MATERIAL. | | | | | | Remarks. (Chiefly made by senders.) | |
|---------------------|------------|-----------------------------------|----------------------------|------------------------|----------------------------------|------------|----------------|--------------|------------|------------|-------------------------------------|--|
| | | | | | Crude Protein. | Crude Fat. | Carbohydrates. | Crude Fibre. | Crude Ash. | Lime, CaO. | | Phosphoric Acid, P ₂ O ₅ . |
| | | | | | % | % | % | % | % | % | % | |
| 1552 | October | <i>Themeda Australis</i> | Kangaroo Grass | Charters Towers (R.D.) | 1.7 | 1.1 | 50.0 | 34.6 | 12.6 | .205 | .045 | Dry grass, 3 ft. high, in full seed with fair amount of dry leafage. Losses of cattle from Osteophagia. |
| 1959 | November | Poona Pea | .. | Mackay (S.E.S.) | 17.7 | 2.5 | 30.3 | 38.1 | 11.4 | 2.067 | .761 | |
| 2111 | November | Panicum Chaff | .. | Cairns (F-K) | 4.1 | .8 | 46.8 | 41.1 | 7.2 | .495 | .384 | Brown, fairly leafy, with a very musty smell; mouldy in parts. |
| 3703 | February | <i>Panicum antidotale</i> | Blue Panic | Gayndah (M) | 24.0 | 2.1 | 32.6 | 25.8 | 15.5 | .417 | .659 | Sample in two parts, the first consisting of green leafy grass without seed heads—this was analysed. The second portion contained seed heads for identification. Sample with seed heads, 4 ft. 6 in. high; without seed heads, 3 ft. 4 in. high. |
| 3704 | February | <i>Panicum sp.</i> | Green Panic | Gayndah (M) | 10.6 | 1.1 | 39.2 | 37.6 | 11.5 | .294 | .766 | Green with full seed heads; more straw than leaf; height, 5 ft. |
| 2429 | December | Indeterminable | Swamp Grass | Mackay (M) | 2.6 | .9 | 48.7 | 39.9 | 7.9 | .422 | .201 | Grass grows in swamps; sample consists mostly of coarse straw with very little leaf; no seed heads; straw is about 4 ft. long. |
| 3100 | January | <i>Ceratonia siliqua</i> | Carob Bean Pods | Morayfield | 6.8 | .6 | 78.5 | 10.3 | 3.8 | .479 | .404 | Total sugars = 37.7 per cent. The tree is extensively grown for feeding horses. Whole pods analysed. |
| 3393 | February | <i>Canna edulis</i> | Arrowroot Plants | Norwell | 12.5 | 2.1 | 40.9 | 26.9 | 17.6 | 1.157 | .460 | Total moisture = 89.9 per cent.; green plant. |
| 3510 | February | <i>Stylosanthes mucronata</i> | Wild or Townsville Lucerne | Brisbane | 14.2 | 1.5 | 43.1 | 28.9 | 12.3 | 2.822 | 1.033 | Total moisture = 81.1 per cent.; grown at the Department of Agriculture. |
| 3666 | February | <i>Arundinella hispidula</i> | .. | Calliope (L) | 5.6 | 1.5 | .. | .. | 6.3 | .348 | .339 | Sample too small for complete analysis. |
| 3667 | February | <i>Amphilophis decipiens</i> | .. | Calliope (L) | 5.9 | 1.0 | .. | .. | 6.7 | .228 | .360 | Sample too small for complete analysis. |
| 4102 | March | Guado Bean | Marrow Cucumber | Sandgate | 14.5 | .6 | 47.9 | 27.7 | 9.3 | .417 | 1.026 | Total moisture = 94.9 per cent.; mature. |
| 4201 | April | Guado Bean | Marrow Cucumber | Sandgate | 12.8 | .8 | 51.9 | 27.2 | 7.3 | .507 | .737 | Total moisture = 94.0 per cent.; young; some juice lost in grinding. |
| 3705 | February | <i>Melochia pyramidata</i> | .. | Gayndah (M) | 18.9 | 3.0 | 50.1 | 19.0 | 9.0 | 1.740 | .821 | Two feet high; in seed; coarse stalks discarded, finer ones only used for analysis with leaves. |

| | | | | | | | | | | | | | |
|------|-----------|-------------------------------|----|--------------|----|------|-----|------|------|------|-------|------|--|
| 3706 | February | <i>Corchorus trilocularis</i> | .. | Gayndah (M) | .. | 13.7 | 2.8 | 46.1 | 27.4 | 10.0 | 2.090 | .740 | Very vigorous growing; spreading herbage (from one root). One plant covering a surface of over 8 ft. diameter, and is a prolific seeder, moderately common in various parts of Queensland, but no local name known to Botanist. Nutritious and relished by stock. Leaves and small twigs taken for analysis. It is generally regarded as an excellent fodder plant, nutritious and palatable to stock. |
| 4222 | .. | Bush Hay | .. | Bowen | .. | 14.0 | 1.5 | 45.6 | 24.3 | 14.6 | 1.255 | .440 | |
| 4856 | April-May | <i>Wrightia saligna</i> | .. | Port Douglas | .. | 17.1 | 5.9 | 45.0 | 22.2 | 9.8 | 1.750 | .315 | |
| | | | .. | Milk Bush | .. | | | | | | | | |

REPORT ON BIRDS, STORE FOODS, VERMIN, AND THE PROGRESS OF THE INVESTIGATION IN THE DISTRICTS OF THE NORTH-WESTERN DISTRICT OF QUEENSLAND, 1913-14. BY H. H. HARRIS, B.A., B.Sc., F.R.S., F.R.Z.S., F.R.S.E., F.R.S.M., F.R.S.N., F.R.S.O., F.R.S.I., F.R.S.A., F.R.S.C., F.R.S.P., F.R.S.E., F.R.S.M., F.R.S.N., F.R.S.O., F.R.S.I., F.R.S.A., F.R.S.C., F.R.S.P.

REPORT OF SEEDS, STOCK FOODS, FERTILIZERS, AND PEST DESTROYERS INVESTIGATION BRANCH.

PASTURE IMPROVEMENT.

The comparative rainfalls set out in Table I. definitely show that the cooler months of the year, from the beginning of May until the end of October, are the months of lesser rainfall. Putting it in another way, from the beginning of November until the end of April shows two-thirds of the year's total rainfall.

As an example of the erratic rainfall during the period under review, it will be found on reference to the table that at Ingham with the average rainfall from November until April of just over 66 inches, and for the month of January an average of 16 inches, less than 2½ inches fell during that month in 1933. Again, the months of March and April of the present year were over 15 inches short of the average for the last forty-one years.

These abnormal conditions give a severe test to all grasses and forage plants. Taking Ingham as typical of the Northern tropical areas, we should consider what happens at Mackay, with an average rainfall for sixty-two years of over 12 inches from May until October; during that period in 1932 only 8 inches fell.

When we come to districts south of Bundaberg, Murgon is an example of the deficiency of winter rainfall during the cooler months, the average being over 9 inches, and the actual rainfall in this period during 1932 being just over 6. Even at Nambour, a district usually favoured with a good rainfall, the average for thirty-seven years, from May until October, being 18 inches; less than 12 inches fell during this period in 1932.

When the rainfall from May until October is less than 12 inches, both Red and White Clovers cannot give the success that would be achieved by a higher rainfall. At Lawnton the average rainfall for forty-four years from May until October is just under 14 inches, and from November until the end of April just over 34 inches. During the period under review just over 9 inches fell, from May until October, and just over 25 inches from November until April. The adverse rainfalls during the last three years in the Lawnton-Petrie district have shown the possibilities with plants that will put up with such dry conditions. On reference to last year's Annual Report, a portion of which was reprinted and issued as a Pasture Improvement pamphlet, it will be noted that in April, 1932, eighteen

¼-acre plots were laid out at Lawnton with different mixtures of grasses, clovers, and other forage plants. Although many kinds of legumes were included in the mixtures, only lucerne and *Lotus corniculatus* have stood up to the adverse conditions experienced from April, 1932, until the end of June, 1933.

The general deficiency of clovers and allied plants in Queensland can be attributed to the general low rainfalls during the cooler months of the year. On reference, however, to the following tables it will be noted that, given the right conditions of management, it is possible to take advantage of the high protein content of certain young grasses that are at their best at periods of the year other than the hot summer months.

The Pasture Improvement Committee, which was formed in April, 1931, arranged for a series of trials to extend into 1934, over 50 per cent. of the funds being contributed by A.C.F. & Shirleys Fertilizers Ltd., of Brisbane, in conjunction with Nitrogen Ltd., of Melbourne, Mr. Bruce Shearer being the fertilizers representative on the Committee. The Australian Dairy Council have contributed over £500, and are represented on the Committee by Mr. W. T. Harris of Toowoomba. The Council of Agriculture have contributed £200, and are represented on the Committee by Mr. H. T. Anderson of Biddeston, the other members being Mr. E. Graham, Under Secretary, Department of Agriculture, and the Officer in Charge, Seeds and Fertilizers Branch, of the Department, who also acts as secretary of the Committee.

The Committee have experienced an abnormally dry time, therefore the results achieved are of particular value. They definitely prove that on the poor soils such as exist in the Lawnton-Caboolture districts it is possible to establish with a low winter rainfall New Zealand Certified Perennial Rye Grass and *Phalaris tuberosa* (Perennial Canary Grass).

In passing it must not be overlooked that the grasses and clovers sown during 1933 during the month of April in many cases did not germinate until the end of June, May being a particularly dry month in most of the districts where experiments are in progress. It therefore follows that the present state of various crops cannot be considered, as this Report deals definitely with the period ending on the 30th June, 1933.

At the request of the Royal National Association the Pasture Improvement Committee, in conjunction with the Department of Agriculture, put in some small plots on the Exhibition Grounds during the first week in May. Although these were only sown some two months since, owing to the favoured conditions existing the plots at the time of writing are in excellent grazing condition. In fact, the growth has been so rapid that many of the annuals as well as the Perennial Rye Grass had to be cut, which is equivalent to the first grazing, and, at the time of writing, have reproduced strong young growth. From the small plots at the Exhibition, which no doubt will be viewed by thousands, it will be apparent that, given the right management, it should be possible to get young green grass from seed within sixty days from the date of sowing. In the 1932 Report it was pointed out that young green grass is not only a protein concentrate but has the advantage not shared by other farm concentrates, inasmuch as it has an excellent vitamin content and is further capable of supplying the minerals necessary to farm stock such as lime and phosphoric acid. The analyses by the Agricultural Chemist appearing in the Annual Report not only set out the protein, fat, and fibre of the various grasses and other forage plants, but show the amount of lime and phosphoric acid that is contained in the ash of the plant. To better explain the whole matter the accompanying tables give the highest protein, as well as the average protein, also the lowest protein in clover and allied plants, grasses, etc. In each instance it will be noted that short young grass is of the highest protein content.

Statements frequently appear in the press that a grass contains 24 per cent. of protein, the inference being that a particular grass always contains 24 per cent., when, as a matter of fact, the analysis means that a particular sample of young grass contains 24 per cent. of crude protein. This is well explained in the

table setting out the analysis of *Panicum muticum*. With one young sample this grass on dry-basis analysis contained over 24 per cent. of crude protein and just over 23 per cent. of crude fibre. Another sample from the same plot of *Panicum muticum* cut in the older stages only contained just over 5 per cent. of crude protein and 38 per cent. of crude fibre. During its young stages of growth *Panicum muticum* as well as *Panicum antidotale* will, of course, be very palatable, but none of the grasses of a cane-like character or those in the old stages which show stemmy growth are of the palatability of lucerne; further, dried legumes in the hay stage are always more palatable than old stemmy grass. The table referred to should, therefore, be some measure of guidance to those who may be frequently misled as to the relative values of grasses and other forage plants which can only be compared on dry-basis analysis with, in each instance, some reference to the maturity of the plant.

For the better understanding of the analyses of grasses and clovers appearing in the Annual Report of the Agricultural Chemist, Mr. Gurney, it should be noted that the analyses are calculated on "dry-basis"; that is, on water-free material. It was rightly pointed out in the booklet by the late Mr. Brünnich on "Stock Foods," published by the Department during 1931, that the present method of stating the dry-basis figures permits of a quicker comparison of the various materials. As an explanation, young grass reported to contain 20 per cent. of protein in the dry matter would contain only 5 per cent. of crude protein in the green stage, assuming 75 per cent. of moisture was present, and 18 per cent. of protein in the hay stage, assuming the hay stage contained 10 per cent. of moisture. Wherever reference is made to protein, fat, fibre, and ash, the references mean crude protein, crude fat, crude fibre, and crude ash, and it should be borne in mind that the crude protein and crude fat should be high, and the crude fibre low.

COMPARATIVE ANALYSES OF GRASSES, CLOVERS, AND OTHER FORAGE PLANTS.

| Kind of Plant. | Duration of Plant in Queensland. | Analyses:— Highest, Average and Lowest Protein. | WATER-FREE MATERIAL. | | | | | Number of Samples Analysed. | Remarks. |
|--|----------------------------------|--|----------------------|------------------|--------------------|----------------------|---------------------|--------------------------------|--|
| | | | Crude Protein. | Crude Fat. | Crude Fibre. | ANALYSIS OF ASH. | | | |
| | | | | | | Lime. | Phos. Acid. | | |
| | | | % | % | % | % | % | | |
| CLOVERS AND ALLIED PLANTS. | | | | | | | | | |
| Lucerne | Perennial .. | Highest .. Average .. Lowest .. | 29.4 23.4 18.4 | 1.2 .. 1.2 | 17.0 .. 32.6 | 1.979 .. 3.545 | 1.010 .. .679 | 6 | Young leafy growth, pre-flowering stage. Old mature growth with seedpods showing. In flower. |
| Red Clover | May last a few years | Highest .. Average .. Lowest .. | 23.0 20.9 19.0 | 1.7 .. 1.6 | 15.4 .. 17.8 | 3.245 .. 3.540 | .756 .. .790 | 3 | Full hay stage. |
| White Clover | Perennial .. | Highest .. Average .. Lowest .. | 29.9 25.4 18.1 | 1.5 .. 1.5 | 16.9 .. 22.1 | 1.569 .. 2.078 | 1.185 .. .528 | 5 | Young leafy growth. Old ill-natured growth. |
| <i>Lotus corniculatus</i> | Perennial .. | Highest .. Average .. Lowest .. | 14.8 13.9 13.1 | 1.6 .. 1.4 | 15.2 .. 23.1 | 1.355 .. 2.745 | .386 .. .980 | 3 | Leafy growth. In seed head. |
| <i>Stylosanthes mucronata</i> (the so-called Wild Lucerne of North Queensland) | Annual .. | Highest .. Average .. Lowest .. | 14.2 13.8 13.5 | 1.0 .. 1.5 | 25.9 .. 32.1 | 2.500 .. 1.534 | .503 .. .243 | 3 | Young growth in the succulent and leafy stage. Older growth. |
| † Hop Trefoil (<i>Medicago lupulina</i>) .. .. . | .. .. . | .. .. . | 15.5 | 1.8 | 18.7 | 2.398 | .856 | 1 | In the hay stage. |
| † Berseem Clover (<i>Trifolium alexandrinum</i>) | Annual .. | .. .. . | 13.1 | 1.4 | 20.0 | 3.956 | .709 | 1 | Hay stage of growth. |
| Sainfoin (<i>Onobrychis sativa</i>) .. .. . | .. .. . | .. .. . | 15.0 | 2.2 | 18.0 | 2.071 | .585 | 1 | Hay stage. |
| CEREALS (ANNUALS). | | | | | | | | | |
| Wheat .. .. . | .. .. . | Highest .. Lowest .. | 33.0 20.8 | 3.4 2.7 | 19.7 27.2 | .836 .789 | 1.611 1.049 | 8 | Eight weeks from date of sowing. |
| Wheat .. .. . | .. .. . | Highest .. Lowest .. | 15.5 10.2 | 3.3 2.7 | 28.3 27.9 | .511 .484 | .919 .721 | 4 | Second growth six weeks from first grazing. |
| Oats .. .. . | .. .. . | Highest .. Lowest .. | 33.3 24.3 | 3.1 4.0 | 20.8 23.6 | .. 1.300 | 1.362 .. | 6 | Eight weeks from date of sowing. |
| Oats .. .. . | .. .. . | Highest .. Lowest .. | 17.8 13.3 | 3.3 3.6 | 21.7 26.1 | 1.223 .715 | 1.143 .975 | 4 | Second growth six weeks from first grazing. |
| Barley (Cape) .. .. . | .. .. . | Highest .. Lowest .. | 28.9 28.6 | 3.0 2.8 | 21.9 20.6 | 1.026 1.011 | 1.178 1.083 | 2 | Eight weeks from date of sowing. |
| Barley (Skinless) .. .. . | .. .. . | Highest .. Lowest .. | 11.2 10.5 | 2.5 2.3 | 27.4 29.6 | .464 .508 | .690 .698 | 2 | Second growth six weeks from first grazing. |
| Barley (Skinless) .. .. . | .. .. . | Highest .. Lowest .. | 25.8 22.3 | 3.1 2.5 | 26.3 25.5 | .828 .968 | 1.151 1.037 | 4 | Eight weeks from date of sowing. |
| Rye (<i>Secale cereale</i>) .. .. . | .. .. . | Highest .. Lowest .. | 29.8 25.2 | 3.7 3.5 | 23.6 22.8 | 1.148 1.221 | 1.437 1.147 | 2 | Eight weeks from date of sowing. |
| Rye (<i>Secale cereale</i>) .. .. . | .. .. . | Highest .. Lowest .. | 12.0 10.1 | 2.6 2.1 | 31.5 30.5 | .623 .529 | .609 .631 | 2 | Second growth six weeks from first grazing. |
| GRASSES. | | | | | | | | | |
| Rye Grass (New Zealand Certified Perennial) | Perennial .. | Highest .. Average .. Lowest .. | 21.6 17.5 12.7 | 2.9 .. 1.1 | 19.3 .. 22.3 | 1.025 .. .718 | .954 .. .938 | 16 | Short young grass. Growth after several grazings. |
| Rye Grass (Pseudo Perennial) | Dies out during second year | Highest .. Average .. Lowest .. | 26.8 18.4 13.2 | 2.6 .. 2.6 | 21.2 .. 23.6 | 1.042 | 1.118 | 11 | Short young grass. Growth after several grazings. |
| Rye Grass (Italian) | Annual .. | Highest .. Average .. Lowest .. | 22.7 16.1 10.6 | 1.9 .. 1.8 | 19.9 .. 20.9 | 1.000 | .986 | 19 | Short young grass. Growth after several grazings. |
| Rye Grass (Wimmera) | Annual .. | Highest .. Average .. Lowest .. | 24.7 14.4 6.8 | 2.3 .. 1.7 | 19.7 .. 22.5 | 1.014 | 1.189 | 21 | Short young grass. Growth after several grazings. |
| <i>Phalaris tuberosa</i> | Perennial .. | Highest .. Average .. Lowest .. | 25.9 19.7 10.8 | 2.9 .. 3.8 | 19.6 .. 27.7 | .503 .. .818 | .338 .. 1.132 | 11 | Short young grass. Growth after several grazings. |
| Cocksfoot | Perennial .. | Highest .. Average .. Lowest .. | 24.9 19.4 10.6 | 3.4 .. 3.3 | 17.5 .. 31.0 | .643 .. .828 | .365 .. .946 | 24 | Short young grass. Growth after several grazings. |
| Prairie Grass | Annual .. | Highest .. Average .. Lowest .. | 29.2 15.5 5.0 | 3.6 .. 1.7 | 19.3 .. 31.9 | 1.142 | .827 | 19 | First cut eight weeks from date of sowing. Second cut twenty weeks from date of sowing. |
| Tall Fescue | Perennial .. | Highest .. Average .. Lowest .. | 15.3 13.0 10.9 | 2.2 .. 3.8 | 20.8 .. 25.3 | .672 .. .731 | .684 .. .786 | 3 | Eighteen weeks from date of sowing. Eighteen weeks after first cut. |
| † Meadow Fescue | Perennial .. | Highest .. Lowest .. | 22.3 21.6 | 3.7 3.5 | 19.5 18.7 | .848 .677 | .396 .360 | 2 | Sixteen weeks after first cut. Sixteen weeks after first cut. |
| † Chewings Fescue | Perennial .. | Highest .. Average .. Lowest .. | 18.5 16.2 13.6 | 3.8 .. 4.6 | 24.9 .. 26.2 | .828 .. .860 | .813 .. .827 | 3 | Twenty-four weeks from date of sowing. Fourteen weeks after first cut. |
| † Creeping Red Fescue | Perennial .. | Highest .. Average .. Lowest .. | 17.5 14.1 10.6 | 2.9 .. 4.1 | 24.6 .. 27.5 | .760 .. .774 | .704 .. .622 | 3 | Twenty-four weeks from date of sowing. Fourteen weeks after first cut. |
| † Kentucky Blue Grass (<i>Poa pratensis</i>) | Perennial .. | Highest .. Average .. Lowest .. | 16.4 14.9 13.5 | 2.9 .. 3.9 | 21.6 .. 26.4 | 1.042 .. .631 | .610 .. .586 | 3 | Young growth. In seed head. |
| † Rough Stalked Meadow Grass (<i>Poa trivialis</i>) | Perennial .. | .. .. . | 12.4 | 2.2 | 18.4 | 1.519 | .613 | 1 | In seed head. |
| † Brown Top Grass (<i>Agrostis tenuis</i>) | Perennial .. | Highest .. Average .. Lowest .. | 15.7 12.7 10.1 | 3.0 .. 3.6 | 25.2 .. 26.9 | .948 .. .864 | .694 .. .596 | 6 | Young growth. In the seeding stage. |
| † Timothy Grass (<i>Phleum pratense</i>) | Dies out in a few years | Highest .. Average .. Lowest .. | 14.0 11.1 8.2 | 3.3 .. 2.6 | 23.8 .. 24.7 | .985 .. .764 | .647 .. .494 | 2 | Young growth. In seed head. |

COMPARATIVE ANALYSES OF GRASSES, CLOVERS, AND OTHER FORAGE PLANTS—continued.

| Kind of Plant. | Duration of Plant in Queensland. | Analyses:— Highest, Average and Lowest Protein. | WATER-FREE MATERIAL. | | | | | Number of Samples Analysed. | Remarks. |
|--|----------------------------------|--|----------------------|-------------------|----------------------|-----------------------|----------------------|-----------------------------|--|
| | | | Crude Protein. | Crude Fat. | Crude Fibre. | ANALYSIS OF ASH. | | | |
| | | | | | | Lime. | Phos. Acid. | | |
| % | % | % | % | % | | | | | |
| GRASSES—continued. | | | | | | | | | |
| <i>Paspalum dilatatum</i> | Perennial .. | Highest .. Average .. Lowest .. | 20.6 12.0 5.7 | 1.6 .. 1.2 | 23.7 .. 35.2 | .412 | .618 | 22 | Short young grass; average length six inches. Old stemmy leafy growth. |
| Rhodes Grass (<i>Chloris gayana</i>) | Perennial .. | Highest .. Average .. Lowest .. | 16.4 10.3 5.8 | 1.7 .. 1.2 | 27.1 .. 33.3 | 1.199 .. .589 | .724 .. .604 | .. 12 .. | Young leafy growth. Old stemmy growth. |
| <i>Chloris virgata</i> | Annual .. | .. | 12.6 | 1.2 | 29.8 | .444 | .319 | 1 | In seed head; stem and leaf neglected by stock. |
| <i>Chloris pycnothrix</i> | .. | Highest .. Lowest .. | 20.9 6.2 | 1.5 0.8 | 26.2 36.7 | .620 .507 | .592 .166 | .. 2 | Young growth coming into seed head. In full seed head. |
| <i>Ixophorus unisetus</i> | .. | Highest .. Average .. Lowest .. | 17.7 16.4 13.8 | 1.1 .. 1.3 | 23.3 .. 23.6 | .502 .. .580 | .334 .. .196 | .. 3 .. | Young succulent growth with few seed heads. Older succulent growth. |
| <i>Brachiaria decumbens</i> | .. | Highest .. Average .. Lowest .. | 14.4 12.5 9.6 | 0.6 .. 0.8 | 27.3 .. 35.1 | .781 .. .323 | .332 .. .179 | .. 3 .. | Young leaf and stem growth. Stem and leaf. |
| <i>Eragrostis superba</i> | .. | Highest .. Average .. Lowest .. | 11.4 9.4 7.5 | 1.2 .. 0.9 | 31.0 .. 38.6 | .273 .. .322 | .319 .. .198 | .. 3 .. | Young leaf and stem growth. Old stem and leaf growth. |
| <i>Eragrostis tenuifolia</i> | .. | Highest .. Average .. Lowest .. | 12.0 9.7 8.3 | 1.6 .. 1.2 | 32.0 .. 30.4 | .345 .. .272 | .382 .. .253 | .. 4 .. | Leafy growth. Older growth. |
| * <i>Panicum antidotale</i> | Perennial .. | Highest .. Average .. Lowest .. | 14.9 13.8 11.5 | 1.9 .. 1.0 | 27.0 .. 30.0 | .717 .. .523 | 1.120 .. .194 | .. 3 .. | In seed head, stemmy, leafy. Old growth, stemmy, leafy, harsh. |
| * <i>Panicum maximum</i> (Guinea Grass) | Perennial .. | .. | 13.1 | 0.9 | 25.8 | 1.278 | .757 | .. | Young leafy growth. |
| * <i>Panicum muticum</i> | Perennial .. | Highest .. Average .. Lowest .. | 24.8 12.6 5.8 | 0.6 .. 1.0 | 23.2 .. 38.0 | .666 .. .368 | .675 .. .208 | .. 4 .. | Young leafy growth. Old growth of little value. |
| * <i>Kikuyu</i> (<i>Pennisetum clandestinum</i>) | Perennial .. | Highest .. Average .. Lowest .. | 16.7 12.7 8.8 | 1.4 .. 1.4 | 31.2 .. 27.1 | .436 .. .416 | .884 .. .697 | .. 3 .. | Young growth; note high fibre and low lime content. Short grass from old plants; low protein content. |
| Buffel Grass (<i>Pennisetum</i> , sp.) | .. | Highest .. Average .. Lowest .. | 18.0 10.1 6.1 | 1.6 .. 1.3 | 27.0 .. 37.0 | .953 | .670 | .. 10 .. | Young, leafy. In seed head, stemmy. |
| Molasses Grass (<i>Melinis minutiflora</i>) | .. | Highest .. Lowest .. | 8.8 3.3 | 1.6 0.8 | 26.4 40.8 | .538 .416 | .618 .172 | .. 2 | Young growth after heavy rain. Coarse growth after seeding. |
| <i>Astrelba triticoides</i> | .. | .. | 6.7 | 0.7 | 36.3 | .411 | .113 | 1 | Harsh, wiry, with old seed heads. |
| <i>Astrelba elymoides</i> | .. | .. | 8.0 | 1.3 | 35.8 | .337 | .113 | 1 | Harsh, wiry, with old seed heads. |
| Australian Blue Grass (<i>Andropogon</i> sp.) | .. | .. | 7.9 | 0.5 | 35.3 | .615 | .433 | 1 | In seed head. |
| <i>Danthonia pilosa</i> | .. | .. | 8.9 | 1.0 | 35.8 | .548 | .515 | 1 | In seed head. |
| Wallaby Grass (<i>Danthonia semiannularis</i>) | .. | Highest .. Average .. Lowest .. | 12.1 9.1 6.2 | 3.2 .. 0.6 | 30.6 .. 38.9 | .790 .. .351 | .471 .. .319 | .. 2 .. | Young growth. In seed head. |
| Couch Grass (<i>Cynodon dactylon</i>) | Perennial .. | .. | 18.2 | 1.3 | 23.5 | .868 | .607 | 1 | Leafy growth with seed heads showing. |
| *Blue Couch Grass (<i>Digitaria didactyla</i>) | Perennial .. | .. | 18.3 | 2.0 | 24.4 | .522 | .776 | 1 | Leafy growth. |
| Teff Grass | Annual .. | Highest .. Average .. Lowest .. | 9.7 7.7 5.0 | 1.5 .. 1.2 | 27.5 .. 32.0 | .677 | .701 | .. 5 .. | Young leafy growth; seven weeks old. In seed head eighteen weeks from date of sowing. |
| <i>Eleusine indica</i> (Wire Grass—a weed) | .. | .. | 24.9 | 2.6 | 13.1 | 1.963 | 1.256 | 1 | This is an example of an unpalatable weed with a high protein content. |
| *Cow Cane (Chinese x Java) | Lasts several years | .. | 12.8 2.2 3.4 | 1.1 0.6 1.0 | 31.0 27.6 30.0 | 1.089 .284 .344 | .731 .181 .217 | .. .. .. | Young new growth. First ratoon. Second ratoon cane. |

MILLETS (ANNUALS).

| | | | | | | | | | |
|--|----|---------------------------------------|----------------------|------------------|--------------------|----------------------|--------------------|---------------|--|
| <i>Setaria italica</i> (Tall Late) | .. | Highest .. Average .. Lowest .. | 15.7 15.1 14.7 | 1.7 .. 1.7 | 25.3 .. 25.1 | 1.480 .. 1.637 | .800 .. .772 | .. 3 .. | Seven weeks from date of sowing; leafy; seed heads not yet appearing. Seven weeks from date of sowing; leafy; seed heads not yet appearing. |
| <i>Setaria italica</i> (Short Early) | .. | .. | 10.7 | 1.3 | 32.4 | .647 | .696 | 1 | Seven weeks from date of sowing; in seed head. |
| Japanese Millet (<i>Echinochloa crus-galli</i> var. <i>edulis</i>) | .. | .. | 15.9 | 1.5 | 26.2 | 1.768 | .937 | 1 | Seven weeks from date of sowing; seed heads forming. |
| White Panicum (<i>Echinochloa crus-galli</i> sp. syn. <i>E. frumentacea</i>) | .. | .. | 23.0 | 1.6 | 19.6 | 2.590 | 1.368 | 1 | Seven weeks from date of sowing; young leafy growth. |
| White French Millet (<i>Panicum miliaceum</i>) | .. | .. | 13.2 | 1.3 | 27.7 | .814 | .767 | 1 | Seven weeks from date of sowing; seed heads forming. |
| Pearl Millet (<i>Pennisetum typhoideum</i>) | .. | .. | 15.0 | 1.0 | 33.1 | 1.028 | .485 | 1 | Nine weeks from date of sowing; height five feet; seed heads forming; hard stems; dark-green leaves. |

COMPARATIVE ANALYSES OF GRASSES, CLOVERS, AND OTHER FORAGE PLANTS—continued.

| Kind of Plant. | Duration of Plant in Queensland. | Analyses:— Highest, Average and Lowest Protein. | WATER-FREE MATERIAL. | | | | | Number of Samples Analysed. | Remarks. |
|---|----------------------------------|--|----------------------|------------|--------------|------------------|-------------|-----------------------------|---|
| | | | Crude Protein | Crude Fat. | Crude Fibre. | ANALYSIS OF ASH. | | | |
| | | | | | | Lime. | Phos. Acid. | | |
| | | | % | % | % | % | % | | |
| OTHER FORAGE PLANTS. | | | | | | | | | |
| Lambs Tongue (<i>Plantago lanceolata</i>) | .. | .. | 17.0 | 1.3 | 11.9 | 4.092 | .677 | 1 | Sometimes called Rib Grass; readily eaten by stock. |
| Sheep's Burnet | .. | Highest | 22.7 | 2.7 | 11.3 | 2.363 | .726 | .. | Young growth. |
| | | Average | 17.6 | .. | .. | .. | .. | .. | .. |
| | | Lowest | 13.7 | 2.5 | 16.1 | 2.128 | .636 | .. | Old growth. |

* Propagated from roots and/or cuttings.

† Not recommended for general Queensland conditions.

Dairymen, farmers, and others should be sufficiently interested in grasses and clovers to occasionally pay a visit to the experiments at Lawnton, where, on the second and fourth Tuesdays of each month, an officer of the Seeds and Fertilizers Branch is in attendance at the field laboratory for the purpose of explaining the various plots of grasses and clovers that can be seen in different stages of growth all the year round. To the most casual observer it will be noticed that the grasses can be divided into:—

- (1) Much more leaf than stem;
- (2) Leaf and stem;
- (3) Stem and leaf;
- (4) Much more stem than leaf;

Also into summer and winter growers.

To show the difference between leafy grass such as Perennial Rye Grass and *Phalaris tuberosa* in contradistinction to plants showing stem and leaf, a few roots of *Panicum antidotale* were put in at the Exhibition during the second week of May. Before reading the tables setting out the analyses of different grasses, clovers, and forage plants, it is well to recognize that the nutritive value of pasture plants depends largely on their being fed off in their early stages of growth, therefore, the feeding properties of pasture are primarily a function of management. Repeated analyses during the last three years have definitely shown that when the grass is kept young and leafy by close grazing at regular intervals it contains a very high percentage of protein practically throughout the plant's growing season. Further, the growth can be viewed to some extent apart from the presence or absence of clovers in the sample. From the analyses that appear in the Agricultural Chemist's Report it will be again seen that the amount of fibre in young leafy grass, is much less than in the same grass when allowed to reach maturity.

We must therefore recognise that young, leafy pasture partakes of the character of a protein concentrate of a high digestibility and nutritive value. When in its pre-flower stages of growth, it is undoubtedly a feed designed for production rather than for maintenance purposes. Under a system of rotational or close grazing a dairyman in Queensland is able to grow the concentrates that he requires. Unfortunately, many pastures are sadly neglected, inasmuch as the grasses are permitted to flower

and seed; these not only become fibrous and of low food value, but produce roughage neglected by stock unless forced to eat the herbage through lack of better feed.

The question is often asked: What can I do to improve my pastures? The first essential is a good clear-up. The carrying capacity would be greatly increased if every dairyman made full use of a horse-mower where such is possible on his farm, and followed up by a drastic harrowing. With *Paspalum dilatatum* in coastal areas the application of fertilizers is useless without first giving the grass a thorough renovation by an efficient implement such as the Sunpalm Renovator. These sod-bound pastures require a drastic renovation before they are able to respond to rain or any fertilizers that may be applied.

In drier areas, which may be considered more as Rhodes grass country, a thorough clear-up following by harrowing would ensure young nutritive grass after the first reasonable rain. Both *Paspalum dilatatum* and Rhodes Grass are essentially summer growers. Their period of usefulness can, however, be extended, given proper management and the application of a sufficient quantity of suitable fertilizer to the best acres on the farm. When it comes to grasses and clovers that produce good feed during the cooler months of the year, which period synchronises with Queensland's period of least rainfall, one important matter must first be considered—that is, cultivation. Given land of reasonable fertility with an average rainfall similar to Nerang or Maleny, the success of both White and Red Clovers is assured. Even with a lesser rainfall, such as Caboolture or Beaudesert, rye grasses will give a full measure of success if they are sown on land that has been thoroughly prepared by ploughing and freed from the first crop of weeds that may be expected in all freshly ploughed areas.

Where the rain from May till October is not less than 12 inches, clovers, if sown on suitably prepared land, will be a success. We must, however, consider that during 1932 the rainfall at Murgon, Caboolture, Lawnton, Beaudesert, Toowoomba, and Milmerran was much less than the average for these districts. In spite of the less-than-average rainfall for the dry period of the year, New Zealand Certified Perennial Rye Grass, *Phalaris tuberosa*, lucerne, and *Lotus corniculatus* have stood the test of three years' abnormally dry weather.

RYE GRASS.

During the last three years many strains or varieties of Rye Grass seed have been sown at Lawnton and elsewhere. New Zealand Certified Perennial Rye Grass (Mother Seed) is the strain that should be sown by anyone who desires to eventually produce seed for sale purposes. Out of the many strains of Rye Grass, the New Zealand Certified Perennial has definitely proved to suffer less from die-out during the dry weather, and has renewed itself with the first rain, producing a good yield of highly nutritive feed that is much appreciated by animals. After three years' trial under adverse conditions, the New Zealand strain of Perennial has proved itself worthy of a far more general cultivation. Care must, however, be taken in buying the seed. During the year of sowing, the Pseudo or False Perennial will probably give a greater yield of green feed, but dies out during the second year. It is not a question of the farmer saving money by cheap seed, but at least the buyer should ascertain if the grass is truly perennial and will stand up to the quartz lamp test. The matter can be best explained by a visit to Lawnton with an officer of the Seeds Branch of the Department of Agriculture, or a call at the Seed Laboratory in William street, Brisbane.

Both Italian and Wimmera Rye Grasses are annuals, producing a great quantity of green feed during the cooler months of the year. The Wimmera is a free seeder and soon rushes into seed-head, with the result that the protein rapidly drops after the first grazing.

COCKSFOOT.

New Zealand Certified Akaroa Cocksfoot is undoubtedly the best variety of this grass; the other strains, in particular the so-called Danish, under Queensland conditions become coarse and unpalatable, dying out after the second year. Although the Akaroa has persisted, it is not relished by stock to the same extent as Rye Grass or Phalaris.

PHALARIS TUBEROSA.

This Perennial Canary Grass can be strongly recommended, as it puts up with long spells of dry weather, is highly nutritious, and persists in areas too dry for Perennial Rye Grass. Apart from the high protein content of *Phalaris tuberosa*, the question of animal preference should be considered. Wherever this valuable winter grass has been sown in sufficient quantity the animals have taken particular interest in the plant and grazed it repeatedly down to a lawn-like closeness, and on being put back in the same paddock after a few days they invariably picked out the areas containing *Phalaris tuberosa*. The plant is leafy, is of high palatability, has a high crude protein content, and is well worth special attention by everyone who is really interested in the production of better pastures. The seed of *Phalaris tuberosa* is dear, the plants being shy seeders, which remark applies to many other valuable plants. Should the buyer purchase *Phalaris tuberosa* seed at a low price, it is reasonable to assume that he is being "had," and his resulting crop will turn out to be one of the many annual varieties of Phalaris, some of which are growing in the Exhibition plots to demonstrate the vigour of annuals during the

first year of growth. If annuals only are required, the cereals, such as oats and wheat, will produce a good weight of nutritious feed, providing they are grazed in their early stages of growth. A plant before flowering is in the hay stage. Before the seed head has formed within the stem it is in the highest nutritive stage. After the grain has been formed the plant is in the straw stage, and is of very little nutritive value.

BROMUS MARGINATUS.

This may be described as a kind of Perennial Prairie Grass. Provided seed can be obtained, it is worthy of trial in districts where Prairie Grass can be grown to advantage. *Bromus unioloides*, or Prairie Grass, is an annual. When grazed before the seed-head puts in an appearance it is of high nutritive value. The protein, however, drops with the age of growth. Unfortunately, many samples of Queensland-grown Prairie Grass seed are smut-infested. Care should, therefore, be taken in the purchase of Prairie seed, and, contrary to the usual custom, this grass should be grazed when at its best—that is, before the seed-heads are formed, which is only another instance of the value of short, young grass.

FESCUE.

Tall Fescue, a strong-growing but rather coarse grass which stands drought well, and will grow in nearly all classes of soil, and is quite palatable if kept closely grazed.

LUCERNE (*Medicago sativa*).

This undoubtedly is the king of all legumes, and is well worthy of more extended cultivation. During the trials of the last three years the ordinary strains of lucerne have persisted in places where other legumes, with the exception of *Lotus corniculatus*, have died out.

LOTUS CORNICULATUS,

or Birdsfoot Trefoil, is a perennial legume, attaining maturity in the second year after sowing. It grows well in soils that will not carry clover in the ordinary way, and is remarkable for its endurance to drought and its ability to make a stand in places where even lucerne is not a success. It should be clearly understood that Birdsfoot Trefoil is a much smaller plant than lucerne, and must not be confused with the other varieties of lotus that are so frequently recommended by seedsmen. Like many other legumes, animals do not take readily to it when first turned in on the pastures, but it is well eaten down after the first few days. *Lotus corniculatus* is capable of growing in dry areas not suitable for Red or White Clover.

RED AND WHITE CLOVER.

In districts with a 12-inch winter rainfall both Red and White Clover are valuable plants. The ordinary strain of White Dutch must not be confused with New Zealand Certified White Clover, which has larger leaves, more density of growth, and is much superior to the type of Clover known as Kentish Wild White. Another thing in the favour of the New Zealand Certified White is that it is a strict perennial. Many

strains of White Dutch, but for their ability to quickly produce seeds, would die out within a few years.

There are many strains of Red Clover. The best undoubtedly is the one known in New Zealand and England as Montgomery Red, the seeds of which probably will be offered in commercial quantities within the next year or so. At present the best commercial strain is the one known as Red Broad-leaved Clover—the so-called Perennial Red of seedsmen's catalogues. Again, this seed should come from New Zealand. The European and American strains of Red Clover are not equal to the best New Zealand varieties. It will be noted that the Red Broad-leaved Clover is on the side of the annuals, the fact being that, although it persists for some years, it is not a true perennial, and is at its best when grown with Italian Rye Grass and turned into hay. Those who anticipate any measure of success with Rye Grasses might well give Red Broad-leaved Clover a trial.

SUBTERRANEAN CLOVER.

There are many strains of Subterranean Clover growing in the Southern States of Australia. Owing to its habit of growth and the usual dry spells in Queensland during the cooler months of the year, the plant here is a strict annual. Given conditions that exist in the Southern States, Subterranean Clover can reseed itself; hence its popularity under such conditions. Although many efforts have been made during the last twenty years—in particular, on the Kingaroy Line—up to the present it cannot be said that any real success has been achieved with this clover.

SHEEP'S BURNET AND LAMB'S TONGUE.

These plants are neither clovers nor grasses, Sheep's Burnet is one of the best drought-resisting plants that we have. It is not very

palatable, but, once established, can put up with the adverse conditions. Although cattle will eat it, it is frequently stated that it is particularly suitable for sheep. A small quantity per acre might well be sown in the dry western areas.

Lamb's Tongue.—This plant is frequently known under the name of Rib Grass, although it belongs to the Plantago family. It is usually readily eaten by stock, and it frequently appears as the result of impurities in Red Clover seed. Given suitable dressings of fertilizers, Perennial Rye Grass would prevent an undue quantity of this plant appearing.

RATE OF SEEDING.

Whatever the rate of seeding may be on good, clean land of assured rainfall, when it comes to low rainfalls and land of poor fertility the quantity sown should be much less.

Because crops have not been grown before, it does not follow that the land can do without fertilizers; in fact, the best response with fertilizers will come from good land. Under adverse conditions every plant has to fight for moisture and plant food; unless enough space is available, it is obvious that the best growth cannot be obtained.

Poor land, light rainfall, means light seeding.

RENOVATION.

Before top-dressing old pastures, they should be renovated, as the application of fertilizers without renovation causes many failures. A clean-up of all paddocks before renovation is also required; all long grass or herbage not eaten by stock should be cut down by a horse-mower. This means work, but it leads to a better return from the area.

Better seeds mean better crops; better farming means better seeds; short, young grass means more milk, cream, butter; therefore subdivide, renovate, top dress to produce better grass.

Table I —COMPARATIVE RAINFALL TABLE.

SHOWING THE AVERAGE ANNUAL RAINFALL FROM MAY TO OCTOBER, AS COMPARED WITH NOVEMBER TO APRIL.

| | | May. | June. | July. | August. | Sept. | October. | Total for 6 Months. | Percentage of Annual Rainfall in Round Figures from May to October. | Nov. | Dec. | January. | February. | March. | April. | Total for 6 Months. | Percentage of Annual Rainfall in Round Figures from Nov. to April. |
|----------------|------------------|-------|-------|-------|---------|-------|----------|---------------------|---|------|-------|----------|-----------|--------|--------|---------------------|--|
| Atherton .. | Average 32 years | 2.10 | 1.59 | 1.00 | .83 | .64 | .89 | 7.05 | 14 | 2.19 | 7.60 | 12.12 | 10.07 | 8.48 | 4.07 | 44.53 | 86 |
| Ingham .. | 1932-33 | 6.65 | .83 | 1.33 | 2.08 | .10 | .46 | 11.45 | .. | .27 | 9.62 | 8.41 | 19.22 | 2.53 | 11.35 | 51.40 | .. |
| Mackay .. | Average 41 years | 3.56 | 2.30 | 1.48 | 1.42 | 1.46 | 1.92 | 12.14 | 15 | 3.65 | 6.93 | 16.02 | 15.97 | 15.76 | 7.94 | 66.27 | 85 |
| Rockhampton .. | 1932-33 | 10.97 | .80 | 1.00 | 1.41 | .39 | .52 | 15.09 | .. | 5.16 | 11.43 | 2.45 | 18.17 | 4.96 | 3.01 | 45.18 | .. |
| Bundaberg .. | Average 62 years | 3.75 | 2.62 | 1.59 | 1.03 | 1.57 | 1.67 | 12.23 | 18 | 2.99 | 7.29 | 14.56 | 11.25 | 11.99 | 6.39 | 54.47 | 82 |
| Murgon .. | 1932-33 | 5.33 | 1.09 | .52 | .84 | .71 | .21 | 8.34 | .. | 1.39 | 11.37 | 9.05 | 19.86 | .88 | 4.61 | 47.16 | .. |
| Gympie .. | Average 62 years | 1.66 | 2.61 | 1.48 | .84 | 1.35 | 1.74 | 9.68 | 24 | 2.35 | 4.87 | 7.76 | 7.78 | 4.48 | 2.62 | 29.86 | 76 |
| Nambour .. | 1932-33 | 3.15 | .75 | .25 | .11 | .63 | 1.22 | 6.11 | .. | 4.31 | 9.54 | 12.44 | 1.67 | .11 | 1.57 | 29.64 | .. |
| Maleny .. | Average 50 years | 2.65 | 2.87 | 1.75 | 1.28 | 1.61 | 2.06 | 12.22 | 28 | 2.44 | 4.98 | 8.90 | 6.43 | 5.12 | 3.07 | 30.94 | 72 |
| Caboolture .. | 1932-33 | 2.09 | .28 | .49 | .23 | .98 | 6.23 | 10.30 | .. | .56 | 2.68 | 12.50 | 4.90 | .84 | 5.83 | 27.31 | .. |
| Lawnton .. | Average 23 years | 1.32 | 2.42 | 1.21 | .80 | 1.58 | 2.17 | 9.50 | 31 | 2.74 | 4.71 | 5.30 | 3.64 | 2.64 | 1.77 | 20.80 | 69 |
| Nerang .. | 1932-33 | .61 | .20 | .63 | .41 | 1.41 | 3.31 | 6.57 | .. | 3.25 | 2.20 | 9.93 | 2.56 | .03 | 2.33 | 20.30 | .. |
| Beaudesert .. | Average 63 years | 2.86 | 2.74 | 2.08 | 1.73 | 2.12 | 3.09 | 14.20 | 31 | 3.13 | 5.99 | 6.72 | 6.71 | 6.20 | 3.43 | 32.18 | 69 |
| Rosewood .. | 1932-33 | 1.36 | 1.08 | .43 | 1.24 | 4.00 | 3.09 | 11.20 | .. | 1.74 | 2.67 | 6.67 | 3.35 | .33 | 3.47 | 18.23 | .. |
| Toowoomba .. | Average 37 years | 4.73 | 3.92 | 2.58 | 1.84 | 2.53 | 2.92 | 18.52 | 29 | 3.76 | 6.78 | 10.00 | 9.74 | 9.27 | 6.15 | 45.70 | 71 |
| Clifton .. | 1932-33 | 2.34 | 1.93 | .40 | .90 | 3.00 | 3.34 | 11.91 | .. | 4.94 | 8.56 | 12.56 | 11.17 | 2.75 | 11.98 | 30.91 | .. |
| Yangan .. | Average 17 years | 5.13 | 5.25 | 2.53 | 2.02 | 3.28 | 3.16 | 21.37 | 27 | 2.67 | 3.14 | 5.72 | 4.65 | 2.75 | 10.15 | 56.81 | 73 |
| Milmeran .. | 1932-33 | 2.94 | 2.03 | .57 | .46 | 7.32 | 4.66 | 17.98 | .. | 4.10 | 1.86 | 4.74 | 5.03 | 3.45 | 10.85 | 30.03 | .. |
| Oakey .. | Average 46 years | 2.87 | 2.80 | 2.09 | 1.53 | 1.87 | 2.48 | 13.64 | 27 | 3.39 | 5.14 | 7.78 | 7.83 | 7.67 | 4.32 | 36.13 | 73 |
| Roma .. | 1932-33 | 1.23 | 1.00 | .35 | .27 | 3.10 | 3.01 | 8.96 | .. | 3.44 | 5.14 | 4.91 | 3.62 | 1.85 | 8.85 | 22.98 | .. |
| | Average 44 years | 2.74 | 3.04 | 1.95 | 1.55 | 2.04 | 2.49 | 13.81 | 29 | 3.60 | 5.06 | 7.10 | 7.75 | 6.60 | 4.14 | 34.25 | .. |
| | 1932-33 | 1.54 | .37 | .41 | .46 | 3.77 | 2.72 | 9.27 | .. | 2.19 | 2.69 | 6.46 | 2.85 | 1.34 | 9.99 | 25.52 | .. |
| | Average 46 years | 4.88 | 3.58 | 3.17 | 2.45 | 2.74 | 2.66 | 19.48 | 34 | 3.56 | 4.91 | 7.40 | 7.45 | 8.11 | 5.77 | 37.20 | 66 |
| | 1932-33 | 3.57 | .59 | 1.34 | .32 | 5.89 | 2.61 | 14.32 | .. | 4.09 | 2.77 | 12.67 | 4.50 | 2.27 | 12.82 | 39.12 | .. |
| | Average 40 years | 2.00 | 2.35 | 1.62 | 1.28 | 1.87 | 2.34 | 11.46 | 33 | 3.02 | 4.22 | 5.08 | 4.77 | 3.90 | 2.43 | 23.42 | 67 |
| | 1932-33 | .69 | .55 | .78 | .48 | 4.07 | 1.19 | 7.76 | .. | 3.57 | 1.58 | 9.72 | 3.63 | .36 | 6.40 | 25.26 | .. |
| | Average 39 years | 1.73 | 1.99 | 1.29 | 1.20 | 1.73 | 2.22 | 10.16 | 32 | 3.05 | 4.13 | 4.96 | 3.65 | 3.90 | 2.08 | 21.77 | 68 |
| | 1932-33 | .80 | .80 | .55 | .48 | 3.50 | 4.48 | 10.61 | .. | 2.66 | 1.10 | 11.68 | 3.17 | .15 | 3.73 | 22.49 | .. |
| | Average 61 years | 2.19 | 2.47 | 2.02 | 1.65 | 2.14 | 2.54 | 13.01 | 36 | 3.29 | 4.42 | 5.00 | 4.53 | 3.78 | 2.59 | 23.61 | 64 |
| | 1932-33 | 1.12 | 1.05 | 1.14 | .78 | 3.01 | 2.62 | 9.72 | .. | 5.09 | 3.69 | 9.40 | 2.58 | .27 | 3.68 | 24.71 | .. |
| | Average 36 years | 1.26 | 1.61 | 1.52 | 1.04 | 1.60 | 2.09 | 9.12 | 38 | 2.40 | 3.18 | 3.12 | 2.49 | 2.52 | 1.36 | 15.07 | 62 |
| | 1932-33 | 1.25 | .93 | 1.80 | .21 | 2.28 | 3.61 | 10.08 | .. | 3.09 | 2.76 | 10.07 | 2.09 | .14 | 3.10 | 21.25 | .. |
| | Average 21 years | 1.20 | 1.75 | 1.66 | .90 | 1.61 | 1.89 | 9.01 | 37 | 2.49 | 3.59 | 3.41 | 2.43 | 1.74 | 1.36 | 15.02 | 63 |
| | 1932-33 | .82 | .43 | 1.44 | .15 | 3.08 | 2.84 | 8.76 | .. | 4.14 | 3.79 | 6.81 | 1.55 | .00 | 2.30 | 18.59 | .. |
| | Average 33 years | 1.54 | 1.93 | 1.54 | 1.13 | 1.34 | 1.86 | 9.34 | 38 | 2.48 | 2.81 | 3.13 | 2.81 | 2.68 | 1.48 | 15.39 | 62 |
| | 1932-33 | .65 | .50 | .79 | .07 | 1.66 | 3.13 | 6.80 | .. | 4.98 | 2.85 | 6.04 | 3.58 | .00 | .77 | 18.22 | .. |
| | Average 34 years | 1.22 | 1.69 | 1.43 | 1.05 | 1.45 | 2.11 | 8.95 | 37 | 2.39 | 3.29 | 3.03 | 2.69 | 2.34 | 1.39 | 15.13 | 63 |
| | 1932-33 | .59 | 1.04 | 1.26 | .38 | 1.76 | 3.70 | 8.73 | .. | 4.11 | 4.39 | 9.93 | 1.90 | .11 | 3.83 | 24.27 | .. |
| | Average 59 years | 1.43 | 1.61 | 1.41 | .92 | 1.41 | 1.72 | 8.50 | 37 | 2.11 | 2.53 | 3.15 | 2.97 | 2.61 | 1.37 | 14.74 | 63 |
| | 1932-33 | 2.16 | .78 | .53 | .05 | .65 | 1.11 | 5.28 | .. | 4.34 | 2.61 | 2.22 | .98 | .01 | .89 | 11.05 | .. |

SEEDS, 1932-33.

In the course of the year ended 30th June, 1933, 1,830 seed samples were examined, as against 1,603 during the previous year. Out of this number just over 1,000 represent samples of seed taken from bulk lots by officers of this branch. The remaining 800 samples were derived from different sources principally from seed and produce merchants, with a lesser number from farmers who are growing such seeds as Rhodes grass, Sudan, and various millets. During the year forty samples were sent in by farmers for free examination. In many instances they represented seed that had been purchased from another farmer. In some cases the complaints related to seeds that had been held by the buyer for many months and probably deteriorated owing to bad storage.

Samples representing seeds that have been purchased by farmers for their own sowing are examined free of cost at the seed laboratory, provided such samples are plainly marked, setting out the sender's full name and address, date of delivery, the seller's name and address, and such other particulars as will lead to an immediate finding of the bulk to which the sample relates.

Each year a hundred or more letters are received relating to complaints regarding seeds purchased; the writers, however, carefully hide the seller's name and address, and usually fail to send a properly marked sample.

It is obvious that samples sent in many months after purchase will in many cases not truly represent the goods delivered. In the buyer's own interest, the sample should be drawn from the bulk on delivery or as soon as possible after the goods have reached the buyer's possession.

To facilitate any inquiry, it is essential that the full name and address of supplier, sender, and other matters pertaining to the complaint should be plainly written on the sample.

Although this matter has been repeatedly explained, the number of unmarked samples that reach the Department every year appears to be steadily on the increase.

SEED CERTIFICATION.

The term "Seed Certification" is not synonymous with a seed certificate, which sets out the analytical purity and percentage of germination of a sample of seed submitted to the Department for examination. Seed certification means the examination of the growing crop during all stages of growth and the subsequent marking and sealing of the seeds harvested on the farmer's premises before they have been offered as seeds for sowing. A start on seed certification might well be made with Foxtail millet (*Setaria*

italica). The grower, however, is faced with several troubles. The first is where can he obtain a true strain of Tall Late *Setaria*? Further, who would buy such seed at a price to cover the cost of growing? Unless some enterprising seed merchant takes the matter in hand and resolves to in future buy only seed from certified crops nothing can be done. Although each year brings many complaints from farmers and dealers as to the selling of the Dwarf Early seeding variety under the mystic name of Giant Panicum, until both buyers and sellers can appreciate the difference between Dwarf Early *Setaria* and Tall Late *Setaria* and drop the words "Giant" and "Panicum" the position is hopeless.

All forms of Foxtail millet are quick growers, and it must not be overlooked that the highest feeding value is obtained from the leaf in its young stages and not from stalks or stems. With the Short Early, irrespective of the weather conditions, the plants always have the tendency to rush into seed head. If the farmer desires to grow *Setaria* seed for sale for feeding to birds, his preference should be for the Tall Late, which produces a far heavier yield of seed. Repeated trials have demonstrated that the yields of the Short Early and Tall Late varieties are in the ratio of 11 to 17.

Apart from the heavier seed yield of the Tall Late, it should be recognised that the Tall Late variety is of far better feeding value than the Short Early—another instance of the nutritive value of leaves, not stems.

Although it is possible in the laboratory to grow seedlings and ascertain from some minute differences if the seed represents Tall Late or Dwarf Early strain, such work should be done in the field, and seed certification means the ascertaining of the facts from repeated inspections of the growing crop.

On reference to Table II., it will be noted that during the year under review 199 samples of *Sorghum sudanense* were examined at the seed laboratory. Out of this number no less than 98 samples contained poisonous weed seeds, principally the poisonous seeds of *Datura* sp., which is totally prohibited by the Regulations under the Seeds Acts.

Several samples were below the low standard of germination prescribed, which is 70 per cent. Many samples contained a greater proportion or amount of inert matter and weed seeds than is allowed. During the latter part of May several complaints were made regarding samples of Sudan grass that were submitted by farmers to merchants. One merchant alleged that such a sample probably contained Johnson grass. This complaint necessitated an examination of the farmer's paddocks, also the taking of an official sample from seed held by him. The paddocks

in question were infested with *Sorghum halepense* (Johnson grass), and one of the samples contained a trace of the poisonous seeds of *Datura* sp. as well as the dreaded seeds of *Sorghum halepense* (Johnson grass).

It is frequently overlooked that all forms of sorghum contain more than a trace of HCN during the young stages of growth, in particular *Sorghum vulgare*, or the common sorghums of commerce. Johnson grass (*Sorghum halepense*) is a stoloniferous rooted form of fine stemmed sorghum. The leaves of Johnson grass are particularly high in HCN. Unfortunately, Johnson cannot be readily distinguished from the fibrous-rooted sorghum, *S. Sudanense*. Owing to the stoloniferous roots which develop with Johnson grass it is possible for this plant to produce young leaves at practically any part of the year if sufficient moisture is present. Such leaves have a high-HCN content, and probably on many occasions have caused loss to stock.

Sorghum sudanense is a fibrous-rooted annual and, of course, dangerous during the young stages of growth. It is not so much a question as to the age from the first sowing, but the age of the leaves that are eaten by stock.

Unfortunately, samples from both Oakey and Clifton districts frequently contain the poisonous seeds of *Datura*, which is an evil-smelling, large, coarse-growing plant that could easily be eradicated if the paddocks were carefully gone over with a hoe and all *Datura* plants chopped out before flowering. The seeds may not always germinate the first year. It is therefore possible that the year before last's weeds may produce *Datura* plants next year. Although the leaves of *Datura* are poisonous, the seeds are highly poisonous, and when such material is chaffed up the animals do not have an opportunity to reject this plant as they would do when grazing in the open.

It has been necessary to recently issue a warning in the press against the presence of *Sorghum halepense* in Sudan grass samples, and repeated attention has been directed to the poisonous properties of *Datura*.

Many large bulks of *Sorghum sudanense* seed have been rejected by the other States on account of their weed seed content. Although some merchants both at Warwick and Toowoomba are equipped with efficient seed-cleaning machinery, such machinery cannot entirely remove *Datura* from millets, Canary, or *Sorghum sudanense*. Further, it would be impossible to entirely remove the seeds of Johnson grass.

It has frequently been said that better seeds mean better crops. Although this is true, the farmers should realise that better cultivation will lead to better seeds and ensure crops of such a

character that they will produce seeds which, after machine cleaning, would comply with the low standards prescribed by the Regulations under the Seeds Acts.

POISONOUS PROPERTIES OF SUDAN GRASS AND SWEET SORGHUMS.

It is known that loss of stock occurs each year through the grazing of young sorghum. In last year's Report the following reference was made to the matter:—"In 1928 some careful experiments were made with *Sorghum sudanense* (Sudan grass) and other forms of sorghum, when it was found that traces of HCN were present in all cuts representing material less than one month old. After two months the plants were quite safe."

A series of experiments were carried out during the current year both with *Sorghum sudanense* (Sudan grass) and the ordinary forms of sweet sorghum (*Sorghum vulgare*).

In the case of *Sorghum sudanense*, under one month from date of sowing the HCN content was slightly less than half of that found in *Sorghum vulgare*. A further test was made with the second growth, when it was again found that in the case of *Sorghum sudanense* the estimated amounts of HCN present ranged from 2 to 3.5, as against from 4 to 7 in the case of *Sorghum vulgare*. With the third growth, approximately one month from last cutting, in the case of *Sorghum sudanense* there was a trace of HCN in some of the samples only, as against an estimated amount of from 3.5 to 7 in the case of *Sorghum vulgare*.

With Sudan grass two months from date of sowing, 20 per cent. of the samples were estimated to contain from 0.25 to 0.5 HCN, the remainder being free from any trace. The plants had an average height of about 7 feet and were in full seed-head, the samples tested representing large bulks of seed that had been grown in Queensland and purchased by leading seed merchants; also some samples representing alleged different strains obtained from other States, which did not, during the trials, vary from the Queensland strains. In the case of *Sorghum sudanense* in the mature seed stage, the larger proportion of the strains did not contain any trace of HCN. Three strains, however, contained a trace only.

The ordinary strains of Sweet Sorghum, representing large bulks of seed offered for sale by the leading seed merchants and grown within the State of Queensland, when two months from date of sowing showed distinct variations in stages of maturity. Irrespective of the trade names that are attached to such sorghums, they could be divided into early, mid-season, and late-maturing varieties. Under the name of sacca-line some of the samples were early, others distinctly mid-season; this is important, as the HCN content definitely lessens as the plants

approach the full seed-head stage. Those varieties just coming into seed-head were estimated to contain approximately double the quantity found in the earlier maturing varieties in full seed-head (of the same age). The late maturing strains of *Sorghum vulgare* were three months from date of sowing before they reached full seed-head, at which period they did not contain any trace of HCN.

One strain, however, offered for sale under the name of saccaline contained more HCN at three months than at only eight weeks.

Both the *Sorghum vulgare* and the *Sorghum sudanense* were sown on the 10th January, 1933, each plot being cut from time to time to facilitate full examination and to be tested for HCN, with results as set out in the following tables:—

SORGHUM VULGARE (Sweet Sorghum).

| Sown 10 Jan., 1933. | Dates cut | 31 Jan. 22 days | 22 Feb. | 24 Mar. | 15 Feb. 37 days | 13 Mar. 63 days | 7 April 88 days | 9 May 120 days |
|---------------------------|-----------------------------------|--|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|
| | Age from date of sowing .. .. . | .. .. . | .. .. . | .. .. . | .. .. . | .. .. . | .. .. . | .. .. . |
| | Age from date of last cut .. .. . | .. .. . | 22 days | 30 days | .. .. . | .. .. . | .. .. . | .. .. . |
| Plot No. | Name under which seed was sold. | Number of days taken to reach seed-head stage. | HCN | HCN | HCN | HCN | HCN | HCN |
| 546 | Sorghum | 88 | 8 | 7 | 4 | 3.5 | 3 | Nil |
| 547 | Saccaline | 63 | 8 | 7 | 3.5 | 7 | 1 | 0.1 |
| 548 | Imphee | 72 | 8 | 7 | 6.5 | 7 | 2 | Nil |
| 549 | Saccaline | 63 | 8 | 7 | 3.5 | 5 | Nil | Nil |
| 550 | Imphee | 72 | 8 | 7 | 4 | 7 | 2 | Nil |
| 551 | Imphee | 72 | 8 | 4 | 3.5 | 5 | 1 | Nil |
| 552 | Saccaline | 72 | 8 | 7 | 5 | 7 | 1 | 1.5 |
| 553 | Saccaline | 72 | 8 | 7 | 5 | 3.5 | 1 | 0.5 |
| 554 | Saccaline | 72 | 8 | 4 | 3.5 | 5 | 2.5 | 0.5 |
| 555 | Imphee | 72 | 8 | 4 | 1.5 | 7 | Nil | Nil |

SORGHUM SUDANENSE (Sudan Grass).

| Sown 10 Jan., 1933. | Dates cut | 31 Jan. 22 days | 22 Feb. | 24 Mar. | 15 Feb. 37 days | 13 Mar. 63 days | 7 April 88 days |
|---------------------------|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | Age from date of sowing .. .. . | .. .. . | .. .. . | .. .. . | .. .. . | .. .. . | .. .. . |
| | Age from date of last cut .. .. . | .. .. . | 22 days | 30 days | .. .. . | .. .. . | .. .. . |
| Plot No. | Appearance of Seeds Sown. | HCN | HCN | HCN | HCN | HCN | HCN |
| 556 | Pale yellow, many tinged with brown, some black | 3.5 | 2.0 | Nil | 1.5 | Nil | Nil |
| 557 | Dark yellow, some black | 3.5 | 2.0 | Nil | 1.5 | Nil | Nil |
| 558 | Canary seed like, some black | 2.0 | 2.0 | Nil | 1.5 | Nil | Nil |
| 559 | Dark-yellow, some tinged with brown, others all black | 3.5 | 3.5 | Nil | 1.5 | 0.25 | Nil |
| 560 | Canary seed like, a few black | 3.5 | 3.5 | 0.25 | 2.0 | Nil | 0.1 |
| 561 | Canary seed like, a few tinged with red and very few black | 3.5 | 3.5 | 0.25 | 1.5 | Nil | Nil |
| 562 | Dark-yellow, some tinged with brown, others red tinged, while some are all black | 3.0 | 2.5 | Nil | 2.0 | Nil | Nil |
| 563 | Yellow, brown tinged, a few canary seed like, and some black | 3.5 | 2.5 | 0.25 | 1.5 | Nil | 0.1 |
| 564 | Dark-yellow, some red tinged, a few brown tinged, some black | 3.0 | 2.5 | Nil | 1.5 | Nil | Nil |
| 565 | Canary seed like, mostly tinged with brown, a few black | 3.5 | 2.5 | Nil | 1.5 | 0.5 | 0.25 |

Seed head stage was reached in sixty-three days.

The *Sorghum vulgare* plants that were all cut down during the last week in May were able—thanks to the rain that fell towards the end of June—to come again into vigorous growth. Such growth was approximately forty-nine days from date of last cut, and measured from 6 to 8 inches in height; the amounts of HCN found in this cut were higher than any previous findings, which is confirmative of the generally held opinion that ratoon growth of Sorghum is particularly dangerous. Under the same conditions *Sorghum sudanense* (Sudan grass) contained only a nominal quantity of HCN, emphasising the danger that exists with other forms of sorghum when grazed in the young stages.

Tests were also made on samples representing growth from plants 136 days old and recent growth from the same plants. The former (old growth) gave no indication of HCN; the new growth, however, contained HCN to the extent of 2.5, thus demonstrating that young sorghum shoots, irrespective of the age of the plant from which they are obtained, can contain HCN in quantities dangerous to stock.

The figures used in denoting quantities of HCN found are index figures only, and are merely comparative, ranging from 0 to 8.

HCN is the chemical formula which represents hydrogen cyanide, hydrocyanic acid, or prussic acid.

Where apparent contradictions occur, these may be explained by the tendency of these plants to throw out fresh growth from their nodes, the young new growth in which HCN occurs being mixed with the old HCN-free material.

The following short table sets out the rainfall during the period the plants under consideration were growing:—

| — | 1st. Week. | 2nd. Week. | 3rd. Week | 4th. Week. | Total. |
|----------|------------|------------|-----------|------------|-----------------|
| January | .56 | .10 | 3.91 | 1.89 | Inches. 6.46 |
| February | .. | .. | 2.43 | .42 | 2.85 |
| March .. | .96 | .. | .. | .38 | 1.34 |
| April .. | 9.50 | .. | .37 | .12 | 9.99 |
| May .. | .. | .. | .20 | .. | .20 |
| June .. | .73 | .. | .40 | .45 | 1.58 |
| July .. | .. | 1.91 | .. | .. | 1.91 |
| | | | | | 24.33 |

On reference to Table II. it will be noted that the principal agricultural and vegetable seeds examined during the year are set out in a manner to indicate the standard of germination required, the highest percentage of germination, and the average, as well as the lowest germination, of the respective samples.

Table III. gives a good idea of the seeds imported from overseas, together with the country of origin.

Table IV., although dealing with seeds, many of which might well be grown within the State of Queensland, actually represents seeds imported to this State for the making up of mixed bird seeds; the country of origin is given. Although only twenty-eight samples appear in this table, it should be remembered that this number of samples represents hundreds of sacks of canary, millets, and rape.

Table II.

GERMINATING CAPACITY OF THE PRINCIPAL SEEDS EXAMINED DURING 1932-33 FOR PURPOSES OF THE PURE SEEDS ACTS.

| Kind of Seed, | GERMINATION. | | | | | NUMBER OF SAMPLES. | | | |
|--|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|-----------------------------------|--------------------|-----------------|--|-----------------------------------|
| | Highest recorded during 1932-1933. | Minimum percentage required by Acts. | Average of samples up to standard. | Average of samples below standard. | Lowest recorded during 1932-1933. | Up to standard. | Below standard. | Number of samples that contained prohibited weed seeds or diseased or insect infested seeds. | Total number of samples examined. |
| <i>Agricultural Seeds.</i> | | | | | | | | | |
| Barley— | % | % | % | % | % | | | | |
| Cape and Malting | 98 | 85 | 98 | 80 | 70 | 8 | 5 | .. | 13 |
| Skinless | 96 | 85 | 95 | 83 | 83 | 3 | 1 | .. | 4 |
| Clovers— | | | | | | | | | |
| Red or Broad-leaved (<i>Trifolium pratense</i>) .. | 97 | .. | 94 | .. | 93 | 7 | .. | .. | 7 |
| Subterranean (<i>Trifolium subterraneum</i>) .. | 98 | .. | 96 | .. | 93 | 3 | .. | .. | 3 |
| White Clover (<i>Trifolium repens</i>) | 95 | .. | 93 | .. | 91 | 6 | .. | .. | 6 |
| Cowpeas | 94 | 65 | 81 | 36 | 27 | 17 | 3 | 5 | 25 |
| Cowpeas (average percentage of hard seed not included in germination) | .. | .. | 7 | 4 | .. | .. | .. | .. | .. |
| Grasses— | | | | | | | | | |
| Canary (<i>Phalaris canariensis</i>) | 96 | 70 | 94 | .. | 90 | 4 | .. | .. | 4 |
| Cocksfoot (<i>Dactylis glomerata</i>) | 72 | 50 | 67 | 30 | 26 | 4 | 3 | .. | 7 |
| Couch (<i>Cynodon dactylon</i>) | 63 | 30 | 46 | .. | 30 | 6 | .. | .. | 6 |
| Molasses (<i>Melinis minutiflora</i>) | 61 | .. | 30 | .. | 4 | 6 | .. | .. | 6 |
| Paspalum dilatatum | 51 | 20 | 29 | 10 | 2 | 45 | 18 | .. | 63 |
| Prairie (<i>Bromus unioloides</i>) | 97 | 50 | 83 | 49 | 49 | 18 | 1 | 50 | 69 |
| <i>Phalaris tuberosa</i> (Perennial Canary Grass) .. | 56 | .. | 54 | .. | 53 | 4 | .. | .. | 4 |
| Rhodes (<i>Chloris gayana</i>) | 83 | 30 | 44 | 14 | 1 | 168 | 63 | .. | 231 |
| Rye Grasses— | | | | | | | | | |
| True Perennial | 96 | 60 | 92 | .. | 83 | 6 | .. | .. | 6 |
| Pseudo Perennial | 92 | 60 | 89 | 49 | 49 | 3 | 2 | .. | 5 |
| Italian | 88 | 60 | 78 | 54 | 52 | 5 | 2 | .. | 7 |
| Lucerne (<i>Medicago sativa</i>) | 94 | 65 | 80 | .. | 65 | 31 | .. | .. | 31 |
| Lucerne (average percentage of hard seed not included in germination) | .. | .. | 9 | .. | .. | .. | .. | .. | .. |
| Maize | 98 | 85 | 93 | 41 | 23 | 33 | 11 | .. | 44 |
| Mangel | *94 | *55 | *76 | *41 | *41 | 9 | 2 | .. | 11 |
| Millets— | | | | | | | | | |
| Foxtail (<i>Setaria italica</i>) | 98 | 70 | 92 | 68 | 68 | 26 | 1 | .. | 27 |
| Japanese (<i>Echinochloa crus-galli</i> , var. <i>edulis</i> , syn. <i>Panicum crus-galli</i>) | 98 | 70 | 91 | .. | 70 | 20 | .. | 1 | 21 |
| White Panicum (<i>Echinochloa frumentacea</i> , syn. <i>Panicum frumentaceum</i>) | 96 | 70 | 87 | 47 | 47 | 19 | 1 | .. | 20 |
| Oats | 96 | 80 | 90 | .. | 84 | 12 | .. | .. | 12 |
| Peas, Field (<i>Pisum arvense</i>) | 98 | 75 | 98 | .. | 97 | 6 | .. | .. | 6 |
| Rape | 94 | 70 | 93 | .. | 93 | 3 | .. | .. | 3 |
| Rye | 96 | 80 | 91 | .. | 87 | 4 | .. | .. | 4 |
| Sorghum vulgare | 97 | 70 | 90 | 43 | 43 | 21 | 2 | .. | 23 |
| Sudan Grass (<i>Sorghum Sudanense</i>) | 94 | 70 | 86 | 57 | 46 | 99 | 2 | 98 | 199 |
| Tares | 97 | 75 | 96 | .. | 95 | 4 | .. | .. | 4 |
| Tobacco | 98 | 55 | 86 | 20 | 2 | 58 | 4 | .. | 62 |
| Wheat | 91 | 85 | 89 | .. | 86 | 4 | .. | .. | 4 |
| Miscellaneous Samples | .. | .. | .. | .. | .. | .. | .. | .. | 157 |
| <i>Vegetable Seeds.</i> | | | | | | | | | |
| Beans, French | 99 | 75 | 92 | 45 | 18 | 30 | 5 | .. | 35 |
| Beet | *82 | *55 | *79 | .. | *76 | 6 | .. | .. | 6 |
| Cabbage | 86 | 65 | 74 | 27 | 10 | 3 | 4 | .. | 7 |
| Carrot | 61 | 55 | 57 | 15 | 1 | 3 | 5 | .. | 8 |
| Cucumber | 98 | 65 | 87 | .. | 76 | 4 | .. | .. | 4 |
| Lettuce | 98 | 65 | 94 | 10 | 0 | 6 | 4 | .. | 10 |
| Melon (<i>Cucumis melo</i>) | 68 | 65 | 66 | 60 | 60 | 2 | 1 | .. | 3 |
| Onion | 96 | 70 | 93 | 31 | 3 | 13 | 2 | .. | 15 |
| Peas, Garden (<i>Pisum sativa</i>) | 99 | 75 | 95 | 24 | 4 | 7 | 4 | .. | 11 |
| Pumpkin | 96 | 65 | 86 | .. | 82 | 8 | .. | .. | 8 |
| Tomato | 91 | 65 | 84 | .. | 72 | 7 | .. | .. | 7 |
| | | | | | | | | | 1,208 |

* Germinable clusters.

Table III.

GERMINATING CAPACITY OF THE PRINCIPAL SEEDS FOR SOWING IMPORTED INTO QUEENSLAND (PORT OF BRISBANE) DURING 1932-33. SAMPLES EXAMINED FOR THE PURPOSES OF THE COMMERCE (TRADE DESCRIPTIONS) ACT, 1905.

| Kind of Seed. | Imported from | Highest Germination recorded during 1932-33. | Minimum percentage of Germination required by Queensland Seeds Acts. | Average Germination of Samples up to Queensland Standard. | Average Germination of Samples below Queensland Standard. | Lowest Germination recorded during 1932-33. | Number of Samples up to Queensland Standard. | Number of Samples below Queensland Standard. | Total number of Samples examined. |
|---|--|--|--|---|---|---|--|--|-----------------------------------|
| Beans— | | % | % | % | % | % | | | |
| French | Norfolk Island, New Zealand, U.S.A., France | 99 | 75 | 93 | .. | 81 | 19 | .. | 19 |
| Lima | U.S.A. | 99 | 75 | 94 | .. | 88 | 3 | .. | 3 |
| Mauritius | Papua, Fiji | 99 | 60 | 89 | .. | 60 | 37 | .. | 37 |
| Rice | Papua | 99 | 75 | 96 | .. | 88 | 5 | .. | 5 |
| Beet | Holland, England, U.S.A., France, Germany | 94 | 55 | 71 | 50 | 50 | 50 | 1 | 51 |
| Cabbage | Holland, U.S.A., England, Germany, France | 95 | 65 | 86 | .. | 67 | 31 | .. | 31 |
| Carrot | Holland, France, England, U.S.A., New Zealand, Germany | 84 | 55 | 67 | 42 | 34 | 55 | 9 | 64 |
| Cauliflower | England, Holland, France | 97 | 60 | 94 | 53 | 53 | 1 | 4 | 5 |
| Clover— | | | | | | | | | |
| <i>Trifolium pratense</i> | New Zealand, Poland | 99 | .. | 98 | .. | 98 | 2 | .. | 2 |
| <i>Trifolium repens</i> | New Zealand | 93 | .. | 80 | .. | 81 | 3 | .. | 3 |
| Cucumber | U.S.A., England, Holland, France, New Zealand | 99 | 65 | 93 | .. | 74 | 23 | .. | 23 |
| Grasses— | | | | | | | | | |
| Cocksfoot | New Zealand, Denmark | 69 | 50 | 61 | .. | 54 | 2 | .. | 2 |
| Rye Grass | Ireland, New Zealand | 99 | 60 | 80 | .. | 65 | 7 | .. | 7 |
| Kohlrabi | Holland, France | 86 | 50 | 80 | .. | 72 | 4 | .. | 4 |
| Lettuce | England, Holland, U.S.A., Germany, France | 99 | 65 | 90 | 64 | 64 | 39 | 1 | 40 |
| Mangel | Holland, England, Denmark, Germany | 95 | 55 | 71 | 51 | 51 | 22 | 3 | 25 |
| Marrow | Holland, U.S.A., England, France, Germany, New Zealand | 99 | 65 | 90 | .. | 80 | 22 | .. | 22 |
| Rockmelon | U.S.A. | 99 | 65 | 89 | .. | 66 | 10 | .. | 10 |
| Watermelon | U.S.A. | 94 | 60 | 86 | .. | 78 | 26 | .. | 26 |
| Onion | France, Holland, England, Germany, U.S.A. | 92 | 60 | 87 | 34 | 21 | 17 | 5 | 22 |
| Parsnip | England, New Zealand, Holland | 64 | 25 | 48 | .. | 27 | 3 | .. | 3 |
| Parsley | Germany, Holland, France | 54 | 50 | 51 | 38 | 38 | 3 | 1 | 4 |
| Peas | New Zealand, Holland | 98 | 75 | 97 | .. | 94 | 7 | .. | 7 |
| Radish | Holland, Germany, England, U.S.A., France, New Zealand | 99 | 65 | 87 | 57 | 52 | 22 | 2 | 24 |
| Rape | England | 83 | 70 | 83 | .. | 83 | 1 | .. | 1 |
| Swede | Holland, England, Germany, Denmark, U.S.A. | 98 | 65 | 87 | .. | 75 | 17 | .. | 17 |
| Sweetcorn | U.S.A., Holland | 90 | 75 | 84 | .. | 80 | 3 | .. | 3 |
| Tomato | U.S.A., Holland, Germany | 94 | 65 | 85 | .. | 77 | 24 | .. | 24 |
| Turnip | Holland, Germany, England, U.S.A., France | 98 | 65 | 89 | .. | 75 | 23 | .. | 23 |
| Small consignments not elsewhere included | .. .. | .. | .. | .. | .. | .. | .. | .. | 115 |
| Total number of samples | | | | | | | 481 | 26 | 622 |

Table IV.

SAMPLES EXAMINED REPRESENTING SEEDS IMPORTED FOR FEEDING PURPOSES ONLY.

The Regulations under the Queensland Stock Foods Acts, in the case of seeds or grain, prohibit the following foreign ingredients:—

Claviceps purpurea (Ergot), plants, parts of plants, and seeds of *Cuscuta* spp. (Dodder), *Datura* spp. (Thorn Apple), *Ricinus communis* (Castor Oil Plant), *Jatropha* spp. (Physic Nut), *Papaver* spp. (Poppy), *Alternanthera Achyrantha* (Khaki Weed), *Agrostemma Githago* (Corn Cockle), *Xanthium spinosum* (Bathurst Burr), *Xanthium strumarium* (Noogoora Burr), or any substance of whatever character in itself deleterious to the life or health of stock.

The proportion or amount of weed seeds other than those of a deleterious character must not exceed 1 per cent. by weight.

| Kind of Seed. | Imported from— | Number of Samples Examined. | Average % of Analytical Purity. | Average % of Material other than Seed. | Average % of Seeds other than kind named. | Seeds other than kind named include— |
|---|----------------------|-----------------------------|---------------------------------|--|---|--|
| Canary (<i>Phalaris canariensis</i>) | Argentina, Turkey .. | 6 | 99.0 | 0.6 | 0.4 | <i>Polygonum convolvulus</i> , <i>Avena</i> sp., <i>Brassica</i> sp., <i>Cnicus lanceolatus</i> , <i>Rumex</i> sp., <i>Lolium</i> sp., <i>Amarantus</i> sp., <i>Silybum Marianum</i> , <i>Raphanus raphanistrum</i> , <i>Bromus</i> sp., <i>Allium</i> sp., <i>Lolium temulentum</i> . |
| Millet (<i>Panicum miliaceum</i>) White and Red-seeded French Millets | Japan | 13 | 99.2 | 0.3 | 0.5 | <i>Panicum</i> sp., <i>Setaria</i> sp., <i>Chloris</i> sp. |
| Hemp (<i>Cannabis sativa</i>) | Japan | 5 | 98.5 | 1.2 | 0.3 | <i>Setaria</i> sp., <i>Chenopodium</i> sp., <i>Buckwheat Convolvulus arvensis</i> , <i>Sorghum</i> sp., <i>Phaseolus</i> sp. |
| Rape (<i>Brassica</i> sp.) .. | Japan | 4 | 99.8 | 0.2 | .. | .. |

STOCK FOODS, 1932-33.

During the year ended 30th June, 1933, over 400 samples of stock foods were examined at the laboratory. Out of this number 173 represented samples of concentrates sent in under section 3 of the Stock Foods Acts. Eleven samples were received from sellers for examination, and twenty-one from users. These included several samples of cotton seed meal.

Under the Stock Foods Acts a printed label must be affixed to every package, such label setting out not only the chemical analysis in the manner prescribed, but the names of the materials from which the food is made. In the event of low-grade materials being used (low-

grade materials being foreign ingredients under the Regulations), the percentage of such foreign ingredients has to be declared on the printed label. An example is cotton seed hull bran, which varies somewhat in colour; the user, therefore, is aware of some difference in the material, and frequently overlooks the label informing him of the addition of such foreign ingredients to the concentrate. The following small table dealing with cotton seed meal sets out the sellers' guarantees, also the average figures found on analysis by the Agricultural Chemist. It will be noted that both the protein and fat are higher than the figures claimed and the fibre considerably less than the maximum declared by the manufacturers, which is to the users' advantage.

COTTONSEED MEALS AND PREPARATIONS ANALYSED BY THE AGRICULTURAL CHEMIST.

| Registered by the undermentioned as wholesale sellers within the meaning of the Regulations. | * Guaranteed by seller or found on analysis. | | | | | | Composition as declared by seller. |
|--|--|----------------|------------|--------------|------------|-------|---|
| | Moisture. | Crude protein. | Crude fat. | Crude fibre. | Crude ash. | Salt. | |
| | % | % | % | % | % | % | |
| Queensland Cotton Board, Whinstanes, Brisbane— | | | | | | | |
| “Bacal” Decorticated Cottonseed Meal | 6.8 | 40.0 | 6.0 | 15.0 | .. | .. | Decorticated Cottonseed. |
| “Bacal” Cottonseed Meal | 8.4 | 35.0 | 5.0 | 20.0 | .. | .. | Decorticated Cottonseed Meal with 15 per cent. added Cottonseed Hull Bran. |
| “Bacal” Compound Sheep Cubes | 10.6 | 30.0 | 3.0 | 15.0 | .. | 5.0 | Decorticated Cottonseed Meal with 15 per cent. added Cottonseed Hull Bran, Salt, and 10 per cent. Molasses. |
| Brisbane Cottonseed Stock Foods Co., Bowen street, Brisbane— | | | | | | | |
| B.C.C. Cottonseed Oil Meal | 11.8 | 25.0 | 4.0 | 30.0 | .. | .. | Decorticated Cottonseed Meal with 40 per cent. added Cottonseed Hull Bran. |
| Queensland Pastoral Supplies Pty., Ltd., Bowen street, Brisbane— | | | | | | | |
| Hibiscus Special Grade Cottonseed Oil Meal | 8.7 | 35.0 | 5.0 | 20.0 | .. | .. | Decorticated Cottonseed Meal with 15 per cent. added Cottonseed Hull Bran. |

* Figures in *italics* set out the seller's guarantee; the other figures give the average analyses of the samples.

STOCK LICKS AND MINERAL FEEDS.

The basis of all stock licks should be sterilised bone meal, or such other material capable of giving a high percentage of phosphates in a fine form of division. The Regulations under the Stock Foods Acts provide that in the case of bone meal the material shall be made from bones obtained from animals slaughtered for human consumption, and shall be subjected for at least two hours to a steam heat at a temperature of not less than 250 deg. F., equal to an indicated steam pressure of 30 lb. per square inch, and then ground to such fineness as will permit all passing through an aperture of one-sixteenth of an inch, and at least 95 per cent. through an aperture of one twenty-fifth of an inch.

During the year under review the under-

mentioned two samples of sterilised bone meal were registered:—

| Registered by the undermentioned as wholesale sellers within the meaning of the Regulations. | * Guaranteed by seller or found on analysis. | | | |
|--|---|----------------|---------------|-----------------|
| | Phosphoric acid (P ₂ O ₅). | Crude protein. | Fineness. | |
| | | | Fine material | Coarse material |
| | % | % | % | % |
| Thomas Borthwick and Sons (Australasia), Ltd., 127 Eagle street, Brisbane— | | | | |
| Borthwicks Sterilised Bonemeal | 24.0 | 24.0 | 95 | 5 |
| | 25.9 | 25.0 | 90 | 10 |
| Glues and By-Products Proprietary, Ltd., 459 Adelaide street, Brisbane— | | | | |
| Tri - Cal - Os Sterilised Bone Flour | 30.0 | 5.0 | 95 | 5 |
| | 32.9 | 8.0 | 100 | .. |

* Figures in *italics* set out the seller's guarantee, the other figures give the average analyses of the samples.

Mineral rock phosphate is also used in stock licks. The Regulations provide that in the case of Nauru or Ocean Island phosphate it shall contain not less than 37 per cent. of phosphoric acid (P_2O_5), and shall be ground to such fineness as will permit of all passing through an aperture of one-fortieth of an inch, and at least 95 per cent. through an aperture of one-hundredth of an inch.

Mineral phosphates registered during the current year have been analysed by the Agricultural Chemist with the undermentioned results:—

| Registered by the undermentioned as wholesale sellers within the meaning of the Regulations. | *Guaranteed by seller or found on analysis. | | |
|---|---|-----------------|-----------------|
| | Phosphoric acid (P_2O_5). | Fineness. | |
| | | Fine material | Coarse material |
| | % | % | % |
| A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane— Shirleys Finely Ground Nauru Phosphate Rock | <i>37.0</i> 36.9 | <i>95</i> 99 | <i>5</i> 1 |
| Gibbs, Bright, and Company, 406 Queen street, Brisbane—Finely Ground Nauru Phosphate | <i>37.0</i> 37.3 | <i>95</i> 93 | <i>5</i> 7 |

* Figures in *italics* set out the seller's guarantee; the other figures give the average analyses of the samples.

The general tendency at present is to use sterilised bone flour with a high phosphoric and low protein content instead of Nauru phosphate,

the consensus of opinion of users being that animals do not readily take to ground rock phosphates. It is known that several finely ground sterilised bone meals will shortly be on the market. Until quite recently difficulty was experienced in obtaining bone meal or bone flour of sufficient fineness to fully comply with the standard prescribed by the Regulations and be readily assimilated by animals.

During the year just ended several complaints were received regarding stock licks, and frequent reference was made to the alleged Department's formula. As far as this Branch is concerned no such formula exists. The Stock Foods Acts require that the seller shall affix a plainly printed label to each package setting out the maximum amount of salt, when such is present, and the minimum percentage of phosphoric acid and certain other particulars. The label is also required to state the specific name of each of the materials or ingredients of which the material is manufactured. It therefore follows that buyers should have the fullest possible information on the labels affixed to the material that they have purchased.

The following table of stock licks and mineral feeds gives the name of the wholesale seller, the specific name of the various ingredients of which the lick is composed, the seller's guarantee as to the minimum amount of phosphoric acid present in the lick, and the maximum amount of salt, together with the findings of the Agricultural Chemist based on samples obtained from the various sellers or sent in by them under section 3 of the Stock Foods Acts.

STOCK LICKS AND MINERAL FEEDS ANALYSED BY THE AGRICULTURAL CHEMIST.

| Registered by the undermentioned as Wholesale Sellers within the meaning of the Regulations. | * Guaranteed by seller or found on analysis. | | Composition as declared by seller. |
|---|--|---------------------|---|
| | Salt. | Phosphoric acid. | |
| | % | % | |
| A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane— Kwik-Lik | <i>45.0</i> 26.5 | <i>14.0</i> 17.6 | Sterilised Bone Meal, Ground Rock Phosphate, Salt, Magnesium Sulphate, Flowers of Sulphur, Sulphate of Iron, and Molasses. |
| Australian Disinfectant Co., C.E.Y. Buildings, Albert street, Brisbane— Wagstaff's Medicated Stock Salt .. | <i>85.0</i> 81.5 | .. .. | Salt, Flowers of Sulphur, Molasses, trace of Iron, Soda Bicarbonate, Aloes and Flavouring Matter; also 5 per cent. of Bran. |
| Thomas Borthwick and Sons (Australasia), Ltd., 127 Eagle street, Brisbane— Borthwick's Bomo Poultry Tonic .. | <i>35.0</i> 33.7 | <i>12.0</i> 14.1 | Sterilised Bone Meal, Lime, Salt, Powdered Sulphur, Iron, Epsom Salts, with 1½ oz. Pot. Iodide per 100 lb. |
| Borthwick's Moreton Bonolik for Stock .. | <i>45.0</i> 46.6 | <i>12.0</i> 13.0 | Sterilised Bone Meal, Salt, Powdered Sulphur, Iron, Epsom Salts, with 1½ oz. Pot. Iodide per 100 lb. |
| Borthwick's Moreton Salbolik for Stock .. | <i>66.0</i> 62.7 | <i>8.0</i> 8.4 | Sterilised Bone Meal and Salt. |
| Bowen Salt, Ltd., Bowen— "Vis Vitae" Stock Lick (White Label) .. | <i>79.0</i> 79.3 | <i>3.0</i> 3.9 | Salt, finely ground Nauru Phosphates, Magnesium Sulphate, Flowers of Sulphur, and Molasses. |
| "Vis Vitae" Stock Lick (Red Label) .. | <i>50.0</i> 45.2 | <i>13.5</i> 13.7 | Salt, finely ground Nauru Phosphates, Magnesium Sulphate, Flowers of Sulphur, Ferrous Sulphate, Pot. Iodide, and Molasses. |
| Dalgety and Co., Ltd., Elizabeth street, Brisbane— Dalco Stock Lick | <i>35.0</i> 32.8 | <i>16.5</i> 16.9 | Sterilised Bone Meal, Ground Rock Phosphate, Salt, Magnesium Sulphate, Flowers of Sulphur, Sulphate of Iron, Molasses, and Pot. Iodide. |
| Prophylactic Blue Cross Stock Lick .. | <i>83.0</i> 84.9 | .. .. | Salt, Sulphur, Magnesium Sulphate, Ferrous Sulphate, Sodium Bicarbonate, Calcium Sulphate, and Molasses. |

STOCK LICKS AND MINERAL FEEDS ANALYSED BY THE AGRICULTURAL CHEMIST—*continued.*

| Registered by the undermentioned as Wholesale Sellers within the meaning of the Regulations. | *Guaranteed by seller or found on analysis. | | Composition as declared by seller. |
|--|---|------------------|--|
| | Salt. | Phosphoric acid. | |
| | % | % | |
| Denhams Pty., Ltd., Roma street, Brisbane— Iodolik—Mineral Supplement for Sheep —Dry Grass Formula | 30.0 27.4 | 13.0 17.2 | Sterilised Bone Meal, Nauru Phosphate, Salt, Epsom Salts, Sulphate of Iron, Flowers of Sulphur, Peanut Meal, Molasses, and Pot. Iodide. |
| Iodolik—Mineral Supplement for Sheep —Green Grass Formula | 32.5 33.2 | 17.0 17.0 | Sterilised Bone Meal, Nauru Phosphate, Salt, Epsom Salts, Sulphate of Iron, Flowers of Sulphur, Peanut Meal, Molasses, and Pot. Iodide. |
| Iodolik—Mineral Supplement for Sheep —Concentrate | .. .. | 24.0 26.7 | Sterilised Bone Meal, Nauru Phosphate, Epsom Salts, Sulphate of Iron, Flowers of Sulphur, Peanut Meal, Molasses, and Pot. Iodide. |
| Iodolik—Mineral Supplement for Cattle.. | 32.5 29.0 | 16.0 18.5 | Sterilised Bone Meal, Nauru Phosphate, Salt, Epsom Salts, Sulphate of Iron, Flowers of Sulphur, Peanut Meal, Molasses, and Pot. Iodide. |
| Iodolik—Mineral Supplement for Pigs .. | 15.0 14.5 | 12.0 15.9 | Sterilised Bone Meal, Salt, Nauru Phosphate, Carbonate of Lime, Epsom Salts, Glauber Salts, Flowers of Sulphur, Sulphate of Iron, Bicarbonate of Soda, Charcoal, Meat Meal, and Pot. Iodide. |
| Fertiliser Distributers Pty., Ltd., 110 Roma street, Brisbane— F.D.L. Nutro-Lik—Grade C.O. | 53.5 47.5 | 6.0 10.9 | Sterilised Bone, Salt, Sulphur, Sulphate of Iron, Epsom Salts, Molasses, Maize Meal, Pot. Iodide, and Oil of Aniseed. |
| F.D.L. Nutro-Lik—Grade D.H. | 30.0 32.9 | 12.5 16.6 | Sterilised Bone, Nauru Rock Phosphate, Salt, Maize Meal, Flowers of Sulphur, Sulphate of Iron, Sulphate of Magnesia, Molasses, Pot. Iodide, and Oil of Aniseed. |
| F.D.L. Nutro-Lik—Concentrated .. .. | .. .. | 20.5 25.7 | Sterilised Bone, Nauru Rock Phosphate, Sulphate of Iron, Sulphate of Magnesia, Flowers of Sulphur, Maize Meal, Pot. Iodide, Gentian Powder, Powdered Ginger, Calumba Powder, Nux Vomica, and Oil of Aniseed. |
| A. Victor Leggo and Co. Pty., Ltd., 72 Albert street, Brisbane— Sheep Vigoreen (Ready Mixed) | 85.0 84.9 | 1.8 2.8 | Salt, Di-Calcic Phosphate, Calcium Carbonate, Magnesium Sulphate, Iron Sulphate, Sulphur, and Pot. Iodide. |
| Sheep Vigoreen (Concentrate) | 15.0 18.4 | 10.9 11.5 | Salt, Di-Calcic Phosphate, Calcium Carbonate, Magnesium Sulphate, Iron Sulphate, Sulphur, and Pot. Iodide. |
| Pig Vigoreen | 17.0 21.9 | 7.2 6.0 | Salt, Di-Calcic Phosphate, Calcium Carbonate, Magnesium Sulphate, Iron Sulphate, Sulphur, and Pot. Iodide. |
| Dairy Vigoreen | 32.0 32.4 | 11.4 12.3 | Salt, Di-Calcic Phosphate, Calcium Carbonate, Magnesium Sulphate, Iron Sulphate, Sulphur, and Pot. Iodide. |
| “Vigoreen” for Poultry .. .. | .. .. | 15.3 17.2 | Di-Calcic Phosphate, Calcium Carbonate, Magnesium Sulphate, Iron Sulphate, Sulphur, Pot. Iodide, and an oleaginous material rich in vitamins. |
| T. W. Moss and Co., 121 Eagle street, Brisbane— Osmond's “Toneca” Stock Lick | 75.0 42.6 | 6.0 8.7 | Salt, Sterilised Bone Meal, Magnesium Sulphate, Carbonate of Lime, Sulphate of Iron, Powdered Sulphur, with 14 oz. Pot Iodide to the ton. |
| Osmond's Codlivine for All Stock .. .. | .. .. | .. .. | Rice, Locust Beans, Linseed By-Products, Peanut Meal, Fenugreek, Caraway, Cod Liver Oil, Peas, Liquorice Root, Soda Bicarbonate, and Colouring matter. |
| Osmond's Codlivine for Pigs .. .. | .. .. | .. .. | Rice, Locust Beans, Linseed By-Products, Peanut Meal, Fenugreek, Cod Liver Oil, Peas, Liquorice Root, Black Antimony, Soda Bicarbonate, Flowers of Sulphur. |
| Osmond's Codlivine for Poultry .. .. | .. .. | .. .. | Rice, Locust Beans, Linseed By-Products, Peanut Meal, Fenugreek, Caraway, Cod Liver Oil, Peas, Liquorice Root, Soda Bicarbonate, and Colouring Matter. |
| New Zealand Loan and Mercantile Agency, Ltd., Eagle street, Brisbane— Cooper's Medico .. .. | .. .. | .. .. | Iron and Potassium Salts, Sulphur, Nicotine, and Special Vegetable Spices and Tonics, with 5 per cent. of Iron (Fe) and 6.6 per cent. Ground Sulphur. |
| Queensland Chemical and Distributing Co., 111 Elizabeth street, Brisbane— Eucalick Medicated Sheep Lick | 78.0 72.1 | 4.0 4.5 | Salt, Eucalyptus Oil, Ground Sulphur, Molasses, Fish Oil, Bone Charcoal. |
| Queensland Pastoral Supplies, Ltd., Bowen street, Brisbane— Hibiscus Salt Block Iodized | 99.0 97.6 | .. .. | Salt and Pot. Iodide. |

STOCK LICKS AND MINERAL FEEDS ANALYSED BY THE AGRICULTURAL CHEMIST—*continued.*

| Registered by the undermentioned as Wholesale Sellers within the meaning of the Regulations. | *Guaranteed by seller or found on analysis | | Composition as declared by seller. |
|--|--|------------------|---|
| | Salt. | Phosphoric acid. | |
| Queensland Pastoral Supplies Ltd.— <i>continued.</i> | | | |
| Hibiscus Salt Block Sulphurised | 97.0 96.2 | .. .. | Salt and Sulphur. |
| Hibiscus Stock Lick | 40.0 43.5 | 14.5 16.0 | Salt, Nauru Phosphate, Magnesium Sulphate, Sulphate of Iron, Flowers of Sulphur, and Molasses. |
| Hibiscus Iodised Stock Lick | 40.0 37.2 | 14.5 17.4 | Salt, Nauru Phosphate, Magnesium Sulphate, Sulphate of Iron, Flowers of Sulphur, Molasses, and Pot. Iodide. |
| Queensland Primary Producers Co-operative Association, Ltd., Eagle street, Brisbane— | | | |
| “Lix-All” Vitality Stock Lick | 50.0 67.9 | 10.0 5.1 | Bone Charcoal, Salt, Sulphur, Sulphate of Iron, Epsom Salts, Molasses, and pure by-products of Wheat, with 2 oz. Pot. Iodide per ton. |
| Webster and Co. Pty., Ltd., Mary street, Brisbane— | | | |
| Vita-Lick Mixed “D” | 77.0 68.8 | 2.5 2.5 | Salt, Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Flowers of Sulphur, Iron Sulphate, Pot. Iodide, and contains 6.8 per cent. meals derived from the by-products of Rice and Cocoa, and also contains 4 per cent. of Molasses. |
| Vita-Lick Mixed “G” | 77.0 71.6 | 3.8 3.5 | Salt, Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Flowers of Sulphur, Iron Sulphate, Pot. Iodide, and contains 3 per cent. meals derived from by-products of Rice and Cocoa, and also contains 3.5 per cent. Molasses. |
| Extra Strength Vita-Lick Mixed “D” .. | 64.0 58.1 | 4.2 4.2 | Salt, Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Flowers of Sulphur, Iron Sulphate, Pot. Iodide, and contains 11 per cent. meals derived from the by-products of Rice and Cocoa, and contains 4.5 per cent. Molasses. |
| Extra Strength Vita-Lick Mixed “G” .. | 64.0 59.0 | 6.2 5.9 | Salt, Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Flowers of Sulphur, Iron Sulphate, Pot. Iodide, and contains 5 per cent. meals derived from the by-products of Rice and Cocoa, and also contains 4 per cent. Molasses. |
| Vita-Lick Concentrated “D” .. .. | .. .. | 14.0 14.8 | Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Flowers of Sulphur, Iron Sulphate, Pot. Iodide, and contains 35 per cent. meals derived from the by-products of Rice and Cocoa. |
| Vita-Lick Concentrated “G” .. .. | .. .. | 20.0 19.7 | Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Flowers of Sulphur, Iron Sulphate, Pot. Iodide, and contains 15 per cent. meals derived from the by-products of Rice and Cocoa. |
| Vita-Lick Special Cattle Lick Mixed “D” | 73.0 65.5 | 5.3 6.2 | Salt, Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Iron Sulphate, Pot. Iodide, and contains 3.5 per cent. meals derived from the by-products of Rice and Cocoa, and also contains 3 per cent. Molasses. |
| Vita-Lick Special Cattle Lick Mixed “G” | 73.0 66.0 | 6.0 5.9 | Salt, Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Iron Sulphate, Pot. Iodide, and contains 3.7 per cent. meals derived from the by-products of Rice and Cocoa, and contains 3 per cent. Molasses. |
| Vita-Lick Special Cattle Lick Concentrated “D” | { | 23.3 23.4 | Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Iron Sulphate, Pot. Iodide, and contains 15 per cent. meals derived from the by-products of Rice and Cocoa. |
| Vita-Lick Special Cattle Lick Concentrated “G” | { | 25.5 25.6 | Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Iron Sulphate, Pot. Iodide, and contains 16 per cent. meals derived from the by-products of Rice and Cocoa. |
| Carbofos Medicated Blocks (Black) .. | 82.0 74.3 | 2.7 4.7 | Salt, Superphosphate, Nauru Phosphate, Calcium Hydrate, Sterilised Bone, Iron and Magnesium Sulphates. |
| Vita-Lick Medicated Blocks (White) .. | 86.0 83.4 | 1.5 2.1 | Salt, Superphosphate, Nauru Phosphate, Calcium Hydrate, Iron and Magnesium Sulphates. |
| Kaf-O-Vite | .. | 2.5 | Sterilised Bone, Lime, and by-products of Rice and Linseed, and also contains flavouring matter. |
| Por-Co-Vite | 35.0 21.8 | 12.0 13.1 | Salt, Sterilised Bone, Carbonate of Lime, Magnesium and Iron Sulphates, and Flowers of Sulphur. |
| Chic-A-Vite | .. | 20.0 20.1 | Sterilised Bone, Precipitated Di-Calcic Bone Phosphate, Magnesium Sulphate, Sulphate of Iron, Flowers of Sulphur, Pot. Iodide, Cod Liver Oil, and contains 16 per cent. meals derived from the by-products of Rice. |

It should be noted that the “Found” figures for Salt should be lower than the “Guarantee” figures.

* Figures in *italics* set out the seller's guarantee; the other figures give the average analyses of the samples.

On careful reference to the foregoing table, it will be noted that some preparations are claimed to contain 99 per cent. of salt, and many others contain over 75 per cent. In cases where the quantity of salt is greater than the maximum declared it is obvious that the user is being misled. Again, with phosphoric acid, the amount found on analysis should never be less than the guarantee. The Acts provide a penalty when the material on analysis is found to contain a greater proportion than the maximum percentage certified on the label, when such difference in percentage amounts to more than 5 per centum of the amount certified to be present; also when the material on analysis is found to contain a lesser proportion than the minimum percentage certified on the label, when such difference in percentage amounts to more than 5 per centum of the amount certified to be present.

FERTILIZERS, 1932-33.

Since the 1st January, 1933, 125 dealers in fertilizers obtained licenses. The Acts require that licenses be obtained on or before the 31st January in each year. On the 1st of February only 72 licenses had been issued. From 1st February until 31st March 37 licenses were issued. The remainder represent the licenses from 1st April until the end of July. On looking over the list of names which might well be published it would be found that the same old brigade invariably have to be written to three or four times each year, and represent general evaders of the Acts.

Every dealer is required to send in a certificate of registration in the form of Schedule A. Since the 1st January 812 such certificates have been accepted, and considerably over 1,000

failed to set out the required particulars. When it is considered that a certificate of registration should set out the particulars that a seller must give a buyer on the invoice certificate, it is obvious that the majority of sellers have never made themselves fully acquainted with the materials that they are offering for sale, and buyers unfortunately do not insist on invoice certificates or proper labelling, the majority being misled by low prices per ton without a full consideration of the constituents of the materials that they intend to use.

Wholesale dealers or producers within the meaning of the Regulations are required to send a certificate in the form of Schedule B. One hundred and eighty-two of such returns have been accepted during the current year; probably 100 had to be rejected as the returns failed to set out the particulars that the Regulations require, the dealers carefully evading mention of the price per ton or the actual raw materials of which the fertilizer consists. Owing to many inquiries for a list of the fertilizers registered during the current year a list of the registrations up to and including the 31st of March was published. It is frequently overlooked that the proportions of the constituents of mixed fertilizers vary from year to year, and the publication of a long list of names in November or December would be useless for the simple reason that the Fertilizers Acts start with the 1st of January, and the fertilizers registered during 1934 might vary considerably from the 1933 materials.

For the guidance of buyers and the information of the fertilizer trade the following small tables set out some of the analyses made by the Agricultural Chemist on official samples taken in different parts of the State:—

"STRAIGHT" FERTILIZERS ANALYSED BY THE AGRICULTURAL CHEMIST.

| Registered by the undermentioned as Producers within the Meaning of the Regulations. | *Guaranteed by Producer or found on analysis. | | | |
|--|---|---------------------------|---------------------|---------------------|
| | Nitrogen as Sulphate of Ammonia. | Phos. Acid—Water soluble. | Potash as | |
| | | | Sulphate. | Chloride. |
| SULPHATE OF AMMONIA. | | | | |
| | % | % | % | % |
| A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane— Sulphate of Ammonia (Australian Gas Light Co.) | <i>20.5</i> 20.9 | .. | .. | .. |
| Sulphate of Ammonia (I.C.I.) | <i>20.6</i> 21.0 | .. | .. | .. |
| Sulphate of Ammonia (Canadian) | <i>20.6</i> 21.0 | .. | .. | .. |
| SUPERPHOSPHATE. | | | | |
| A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane— Shirleys High Grade Superphosphate | .. | <i>20.5</i> 21.1 | .. | .. |
| Gibbs, Bright, and Co., 406 Queen street, Brisbane— Sulphide Superphosphate | .. | <i>20.5</i> 21.4 | .. | .. |
| G. F. Hudson, Innisfail— Superphosphate (Paton Burns) | .. | <i>20.5</i> 20.3 | .. | .. |
| SULPHATE OF POTASH. | | | | |
| A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane— A.C.F. Sulphate of Potash (Spanish) | .. | .. | <i>48.0</i> 49.9 | .. |
| MURIATE OF POTASH. | | | | |
| A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane— A.C.F. Muriate of Potash (Spanish) | .. | .. | .. | <i>50.0</i> 54.2 |
| A.C.F. Muriate of Potash (Palestine) | .. | .. | .. | <i>50.0</i> 51.5 |

* Figures in *italics* set out the seller's guarantee;—the other figures give the average analyses of the samples.

FERTILIZERS, THE PRODUCT OF BONE MILLS, MEATWORKS, AND BACON FACTORIES,
ANALYSED BY THE AGRICULTURAL CHEMIST.

| Registered by the undermentioned as producers within the meaning of the Regulations. | * Guaranteed by producer or found on analysis. | | | |
|---|--|---------------------|-----------|---------|
| | Nitrogen as | Phosphoric acid. | Fineness. | |
| | Blood, bone, flesh, and offal. | From bone. | Fine. | Coarse. |
| | % | % | % | % |
| DRIED BLOOD. | | | | |
| Queensland Meat Export Co., Ltd., 113 Eagle street, Brisbane— | | | | |
| Q.M.E. Ross River Dried Blood | <i>12.0</i> | .. | 53 | 31 |
| | 12.0 | .. | 53 | 31 |
| BONEMEAL. | | | | |
| Fertiliser Distributers Pty., Ltd., 110 Roma street, Brisbane— | | | | |
| F.D.L. Vitalised Bonemeal | 3.0 | 22.0 | 75 | 25 |
| | 4.0 | 23.1 | 57 | 42 |
| General Fertilisers, Ltd., 125 Adelaide street, Brisbane— | | | | |
| G.F. Bonemeal | 3.6 | 24.0 | 80 | 20 |
| | 4.0 | 23.5 | 51 | 44 |
| BLOOD AND BONE. | | | | |
| A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane— | | | | |
| Shirleys Blood and Bone Fertilizer | 5.0 | 15.0 | 60 | 40 |
| | 5.2 | 14.8 | 47 | 37 |
| Thomas Borthwick and Sons (Aust.), Ltd., 127 Eagle street, Brisbane— | | | | |
| Moreton Fertilizer No. 10 | 5.0 | 17.5 | 85 | 14 |
| | 5.2 | 18.5 | 69 | 27 |
| Brisbane Fertilizers, Ltd., 170 William street, Lutwyche— | | | | |
| A. and C. Fertilizer | 2.5 | 20.0 | 82 | 16 |
| | 3.1 | 21.1 | 82 | 17 |
| Committee of Direction of Fruit Marketing, Turbot street, Brisbane— | | | | |
| Meatworks Fertiliser (Aberdeen) | 5.5 | 14.0 | 60 | 40 |
| | 6.4 | 13.0 | 68 | 24 |
| BB Manure 6 and 16 (Paton Burns) | 6.0 | 16.0 | 60 | 40 |
| | 6.7 | 14.5 | 55 | 41 |
| L. C. Dobbie, Cottonvale— | | | | |
| Blood and Bone (Aberdeen) | 5.5 | 14.0 | 60 | 40 |
| | 5.7 | 12.9 | 64 | 25 |
| Fertiliser Distributers Pty., Ltd., 110 Roma street, Brisbane— | | | | |
| F.D.L. Meatworks Mixture | 5.0 | 15.0 | 80 | 20 |
| | 4.8 | 16.8 | 73 | 27 |
| General Fertilisers, Ltd., 125 Adelaide street, Brisbane— | | | | |
| G. F. Meatworks Fertiliser | 6.0 | 13.5 | 80 | 20 |
| | 6.4 | 14.8 | 73 | 27 |
| Queensland Meat Export Co., Ltd., 113 Eagle street, Brisbane— | | | | |
| Q.M.E. Ross River Meatworks Fertilizer—Plain Milled | 6.1 | 15.0 | 75 | 20 |
| | 6.1 | 14.7 | 75 | 20 |

* Figures in *italics* set out the seller's guarantee; the other figures give the average analyses of the samples.

MIXED FERTILIZERS (MECHANICAL MIXTURES) ANALYSED BY THE AGRICULTURAL CHEMIST.

| Registered by the undermentioned as Producers within the Meaning of the Regulations. | * Guaranteed by Producer or Found on Analysis. | | | | | | | |
|---|--|--------------------------------|------------------|------------|------------|-----------|----------------|------------------|
| | Nitrogen as— | | Phosphoric Acid. | | Potash as— | | Fineness. | |
| | Ammonium Sulphate. | Blood, Bone, Flesh, and Offal. | Water Soluble. | From Bone. | Sulphate. | Chloride. | Fine Material. | Coarse Material. |
| | % | % | % | % | % | % | % | % |
| A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane— | | | | | | | | |
| A.C.F. No. 3 | 3.0 | 2.5 | 4.0 | 10.0 | .. | 5.0 | 75 | 25 |
| A.C.F. B.3 | 3.2 | 3.0 | 3.4 | 11.1 | .. | 5.0 | 77 | 23 |
| A.C.F. No. 5 | 4.7 | 2.2 | 3.0 | 7.0 | .. | 10.0 | 75 | 25 |
| A.C.F. Three 6 | 4.6 | 2.4 | 3.1 | 7.5 | .. | 10.2 | 71 | 29 |
| A.C.F. No. 8 | 1.5 | 2.0 | 4.0 | 8.0 | .. | 12.0 | 75 | 25 |
| A.C.F. No. 8 | 1.3 | 2.6 | 3.8 | 9.5 | .. | 13.5 | 72 | 28 |
| A.C.F. No. 8 | 3.5 | 1.5 | 4.0 | 8.0 | 4.0 | 3.0 | 75 | 25 |
| A.C.F. No. 8 | 3.5 | 2.1 | 4.6 | 9.1 | .. | †8.8 | 72 | 28 |
| A.C.F. No. 8 | 1.0 | 1.0 | 12.0 | 6.0 | 6.0 | .. | 75 | 25 |
| A.C.F. No. 8 | 1.2 | 1.4 | 10.9 | 7.1 | 6.5 | .. | 59 | 34 |
| Shirleys Fertilizer No. 5 | 3.0 | .. | 12.0 | .. | 7.0 | .. | .. | .. |
| Shirleys Q.5 Fertilizer | 3.0 | .. | 12.0 | .. | 6.6 | .. | .. | .. |
| Shirleys Q.5 Fertilizer | 4.0 | .. | 12.0 | .. | 10.0 | .. | .. | .. |
| Shirleys Q.5 Fertilizer | 4.2 | .. | 11.4 | .. | 9.7 | .. | .. | .. |
| Shirleys No. 9 Pasture Fertilizer | 7.0 | .. | 13.6 | .. | .. | .. | .. | .. |
| Shirleys No. 9 Pasture Fertilizer | 7.7 | .. | 12.8 | .. | .. | .. | .. | .. |
| Shirleys Fertilizer No. 11 Mixture | 2.0 | .. | 15.5 | .. | .. | 4.0 | .. | .. |
| Shirleys Fertilizer No. 11 Mixture | 2.1 | .. | 14.2 | .. | .. | 3.5 | .. | .. |
| Committee of Direction of Fruit Marketing, Turbot street, Brisbane— | | | | | | | | |
| C.O.D. 1 (Paton Burns) | 1.0 | 2.5 | 4.0 | 8.0 | .. | 12.0 | 80 | 20 |
| C.O.D. 1 (Paton Burns) | 1.3 | 3.1 | 3.7 | 9.4 | .. | 11.4 | 67 | 28 |
| C.O.D. 3 (Paton Burns) | 2.5 | 2.5 | 4.0 | 8.0 | .. | 7.0 | 80 | 20 |
| C.O.D. 3 (Paton Burns) | 2.7 | 3.0 | 3.5 | 8.0 | .. | 6.7 | 64 | 27 |
| Fertiliser Distributers Pty., Ltd., 110 Roma street, Brisbane— | | | | | | | | |
| F.D.L. No. 2 Mixture | 5.7 | 1.2 | .. | 9.0 | .. | 3.0 | 75 | 25 |
| F.D.L. No. 2 Mixture | 5.3 | 1.7 | .. | 11.4 | .. | 3.7 | 78 | 21 |
| F.D.L. No. 3 Special | 1.5 | 1.7 | .. | 12.4 | .. | 5.1 | 75 | 25 |
| F.D.L. No. 3 Special | 2.2 | 2.1 | .. | 11.7 | .. | 4.1 | 81 | 18 |
| F.D.L. No. 4 Fish | 3.0 | 2.0 | .. | 12.2 | .. | 5.0 | 75 | 25 |
| F.D.L. No. 4 Fish | 3.4 | 1.6 | .. | 14.0 | .. | 5.0 | 71 | 28 |
| F.D.L. Mt. Etna V. 5 | 2.5 | 1.2 | 3.0 | 9.0 | .. | 12.0 | 75 | 25 |
| F.D.L. Mt. Etna V. 5 | 3.1 | 1.6 | 1.9 | 9.6 | .. | 10.3 | 75 | 21 |
| F.D.L. Mt. Etna No. 6 | 4.5 | 2.0 | .. | 12.2 | .. | 8.0 | 75 | 25 |
| F.D.L. Mt. Etna No. 6 | 5.2 | 1.8 | .. | 12.7 | .. | 10.4 | 74 | 25 |
| General Fertilisers, Ltd., 125 Adelaide street, Brisbane— | | | | | | | | |
| G.F. 2 | 1.5 | 2.5 | .. | 13.0 | .. | 7.0 | 80 | 20 |
| G.F. 2 | 1.9 | 2.8 | .. | 14.5 | .. | 6.4 | 63 | 35 |
| G.F. 3 | 4.5 | 2.5 | 1.5 | 10.5 | .. | 9.0 | 80 | 20 |
| G.F. 3 | 4.3 | 2.5 | 0.4 | 12.6 | .. | 8.3 | 66 | 30 |
| G.F. 4 | 1.5 | 2.5 | 6.0 | 11.0 | .. | 6.0 | 80 | 20 |
| G.F. 4 | 0.5 | 4.2 | 0.2 | 18.5 | .. | 3.4 | 58 | 41 |
| Shepherds Anvil Stores Pty., Ltd., River street, Mackay— | | | | | | | | |
| Q.3 Special (Paton Burns) | 5.0 | 2.0 | 3.0 | 7.0 | .. | 10.0 | 80 | 20 |
| Q.3 Special (Paton Burns) | 5.3 | 1.2 | 2.7 | 7.3 | .. | 10.1 | 68 | 27 |
| Q.3 Special (Paton Burns) | 5.0 | 2.0 | .. | 3.0 | .. | 10.0 | 80 | 20 |
| Q.3 Special (Paton Burns) | 5.2 | 1.7 | 2.5 | 7.2 | .. | 10.7 | 65 | 28 |

* Figures in *italics* set out the seller's guarantee; other figures give the average analyses of the samples.

† Total Potash.

It will be noted that some of the dealers claimed far higher percentages of fine material than was actually found by the Agricultural Chemist in official samples taken.

PEST DESTROYERS.

From the 1st of July, 1932, until the 30th of June, 1933, 382 samples of pest destroyers were received. Out of this number over 360 represent samples of material forwarded under section 3 of the Act accompanied by statutory declarations, specimen invoices, &c. The remainder represent samples taken by inspectors of this Branch or sent in by users for analysis. With pest destroyers, as with stock foods, many samples

are received that are not included in the numbers given. Such samples represented material not labelled in accordance with the requirements of the Act, or samples representing material that the sellers are unable to accompany with the necessary particulars as well as many representing preparations that are essentially for household use, not for application to plants or animals.

It would considerably facilitate the working of the Act and be a protection to buyers if such amendment was made as would make it compulsory for all labels to be plainly printed. The use of written or typed labels cannot be relied on for uniformity and is an easy method for the seller to mislead the buyer.

DUSTING PREPARATIONS.

The Regulations under the Pest Destroyers Act issued in December, 1923, did not anticipate many materials now on the market—in particular, dusting preparations or powders. Under the words "Miscellaneous Pest Destroyers," however, it is provided that in the case of mixtures of two or more of the preparations scheduled, preparations made for special purposes which do not come up to the standards prescribed and pest destroyers not elsewhere included, the label shall set out the actual percentage of the active constituents. With such preparations there is an absolute necessity for plainly printed labels, as many unscrupulous sellers actually label the containers forwarded to users in a way not to indicate the definite percentage of active constituents.

The guaranteed chemical analysis should state the proportion per centum in which the dusting preparations contain such ingredients as arsenic trioxide (As_2O_3), arsenic pentoxide (As_2O_5), copper (Cu), nicotine ($\text{C}_{10}\text{H}_{14}\text{N}_2$), fluorine (F), derris or derivatives, and the respective forms in which they respectively occur.

For example—

- Per cent. arsenic pentoxide As_2O_5 as arsenate of lead.
 Per cent. nicotine as nicotine sulphate.
 Per cent. sulphur as powdered sulphur.

Preparations not included in above to be treated on the same principle.

Directions for use should state—

- (a) What pests the material in question is intended to control;
 (b) How the material is to be applied;
 (c) Any precautionary measures that may be necessary.

For the better understanding of the work that has been carried out by the Agricultural Chemist on the samples received under the Pest Destroyers Act a few tables are given.

COPPER DUSTS.

In 1928 the Regulation under the Pest Destroyers Act prescribed a standard for copper dusts for the treatment of wheat against Bunt as follows:—It shall contain not less than 50 per cent. of metallic copper, and be of such fineness as to permit of 95 per cent. passing through a sieve of 200 meshes to the linear inch.

During the year three preparations were registered, the samples representing same being analysed by the Agricultural Chemist with the results as set out on the following table:—

| Name of Pest Destroyer. | Active Constituents as declared on Label. | Found on Analysis by Agricultural Chemist. | | | Queensland Wholesale Dealer. | |
|--|---|--|------------------------------|----------------------------|------------------------------|--|
| | | Copper (Cu). | Free copper (water soluble). | Through pre-scribed sieve. | | |
| | % | % | % | % | | |
| Bickford's "Aero" Brand Copper Carbonate | Basic Compound of Copper equivalent to Copper (Cu) | 50.0 | 50.8 | Nil | 99.7 | A. M. Bickford and Sons, Ltd., Tank street, Brisbane. |
| "Sickle" Brand Copper Carbonate | Copper (Cu) equivalent to Copper Carbonate and } Copper Hydrate } | 52.0 93.0 | 52.8 | Nil | 99.7 | A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane. |
| "Vallo" Brand Anti-Bunt .. | Copper Carbonate .. | 95.0 | 50.8 | Nil | 98.9 | A. Victor Leggo Co. Pty., Ltd., 72 Albert street, Brisbane. |

COPPER SULPHATE.

The standard for copper sulphate is that it shall not contain less than 98 per cent. of copper sulphate ($\text{CuSO}_4\cdot 5\text{H}_2\text{O}$).

During the year several complaints were

received and a series of samples were taken with the results as set out on the following table, from which it will be noted that the materials registered under the Act were fully up to the wholesale dealers' guarantees:—

| Name of Pest Destroyer. | Active Constituents as declared on Label. | Found on Analysis by Agricultural Chemist, Copper Sulphate ($\text{CuSO}_4\cdot 5\text{H}_2\text{O}$). | Queensland Wholesale Dealer. | |
|------------------------------|--|--|------------------------------|---|
| | % | % | | |
| Australian Bluestone | Copper Sulphate | 99.0 | 99.9 | Neptune Oil Co., 301 Ann street, Brisbane. |
| Bluestone | Copper Sulphate | 99.0 | 99.0 | A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane. |
| Bluestone | Copper Sulphate | 99.0 | 99.0 | G. Horsburgh and Co. Pty., Ltd., Maryborough. |
| Bluestone | Copper Sulphate | 98.0 | 99.0 | C. H. Slade and Co., Mary street, Brisbane. |
| Copper Sulphate | Copper Sulphate ($\text{CuSO}_4\cdot 5\text{H}_2\text{O}$) | 98.0 | 99.8 | Taylor's Elliotts and Australian Drug Co. Pty., Ltd., 154 Charlotte street, Brisbane. |
| E.S.A. Bluestone | Copper Sulphate | 99.0 | 98.7 | Elder, Smith and Co., Ltd., 334-8 Queen street, Brisbane. |
| Macclesfield Bluestone | Copper Sulphate | 99.0 | 99.0 | Neptune Oil Co., 301 Ann street, Brisbane. |

BORDEAUX MIXTURE.

The definition of Bordeaux Mixture and the standards prescribed by the Regulations require careful consideration. From the table, which is divided into three parts, it will be noted that the first part consists of true Bordeaux Mixtures, composed of copper sulphate and lime. The second part consists of preparations of copper sulphate and alkaline compounds other than lime. The third part consists of preparations that are not mixtures of copper sulphate and lime which react to give a basic copper compound, but are prepared substances already in the form of a basic copper compound; they con-

tain a much higher percentage of copper than it is possible to obtain in a true Bordeaux, and are nearly similar to the pest destroyers shown in the Regulations under the Pest Destroyers Act as "Copper Dusts."

The definition for Bordeaux Mixture, paste or powder, is essentially a mixture containing basic sulphate of copper and a calcium compound.

The following table sets out the material registered during the current year, also the findings of the Agricultural Chemist on the analyses of the samples:—

| Name of Pest Destroyer. | Active Constituents as declared on Label. | Found on Analysis by the Agricultural Chemist. | | | | Queensland Wholesale Dealer. |
|--|--|---|---------------------------------------|--------------------|--------------------|---|
| | | Total Copper Sulphate $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$. | Free Copper Sulphate (water soluble). | Total Copper (Cu.) | Total Lime as CaO. | |
| | % | % | % | % | % | |
| True Bordeaux—composed of Copper Sulphate and Lime— Bordeaux Mixture Powder | Sulphate of Copper .. 50.0 | 56.5 | Nil | 14.45 | 36.4 | Taylor's Elliotts and Australian Drug Pty., Ltd., Charlotte street, Brisbane. |
| "Vallo" Dry Bordeaux .. | Copper Sulphate $(\text{CuSO}_4 \cdot 5\text{H}_2\text{O})$.. 56.0 | 55.0 | Nil | 14.00 | 23.6 | A. Victor Leggo and Co. Pty., Ltd., 72 Albert street, Brisbane. |
| "Vallo" Home Made Bordeaux Blue Carton | Copper Sulphate $(\text{CuSO}_4 \cdot 5\text{H}_2\text{O})$.. 75.0 Prepared Lime .. 25.0 | 73.7 | .. | 18.8 | 16.7 | A. Victor Leggo and Co. Pty., Ltd., 72 Albert street, Brisbane. |
| "Vallo" Home Made Bordeaux Pink Carton | Copper Sulphate $(\text{CuSO}_4 \cdot 5\text{H}_2\text{O})$.. 67.0 Prepared Lime .. 33.0 | 65.9 | .. | 16.8 | 22.0 | A. Victor Leggo and Co. Pty., Ltd., 72 Albert street, Brisbane. |
| Mixtures—wrongly called Bordeaux—composed of Copper Sulphate and Alkaline Compounds other than Lime— | | | | | | |
| Bickford's "Aero" Brand Improved Bordeaux Powder | Crystallised Copper Sulphate .. 50.0 | 52.2 | 0.11 | 13.35 | 2.6 | A. M. Bickford and Sons, Ltd., Tank street, Brisbane. |
| Buzacott Bordeaux Mixture | Copper Sulphate .. 51.0 | 50.9 | 0.13 | 12.96 | 3.7 | Buzacotts (Q'land), Ltd., Adelaide street, Brisbane. |
| Cooper's Bordinette .. | Copper Sulphate .. 50.0 | 48.8 | 0.29 | 12.45 | 3.7 | Queensland Fruitgrowers' Society, Ltd., Makerston street, Brisbane. |
| "Kwik-Kure" Bordeaux Powder | Copper Sulphate .. 50.0 | 52.0 | 0.05 | 13.29 | Nil | A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane. |
| Preparations wrongly called Bordeaux— | | | | | | |
| Blair Bordinette Powder .. | Basic Copper Sulphate 80.0 | *79.7 | Nil | 45.6 | 1.9 | Neptune Oil Co., Ltd., 301 Ann street, Brisbane. |
| Blair Bordeaux Powder .. | Basic Copper Sulphate 80.0 | *84.7 | Nil | 48.7 | Nil | Queensland Fruitgrowers' Society, Ltd., Makerston street, Brisbane. |

* As Basic Copper Compound.

LIME SULPHUR.

The standard prescribed by the Regulations for lime sulphur allows too much latitude to the unscrupulous, the standard being that lime sulphur shall be wholly soluble in water, and shall contain in solution at least 20 per cent. of sulphur, free or combined, or both. Many dealers claim a far higher percentage than the prescribed standard, and last year several preparations were not up to the guarantees. Dealers sometimes claim virtue in the specific gravity.

It is now recognised that specific gravity does not form a safe guide to a knowledge of a lime sulphur solution. In some other countries it has been necessary to adopt a different standard, as evidence now exists to show the fungicidal efficiency of polysulphides, and the statement as to the amount of sulphur present in polysulphide form is regarded as the best means known for disclosing the fungicidal value of any particular lime sulphur solution. The following table sets out a list of the lime sulphurs regis-

tered during the current year, the guarantees by the sellers, and the findings of the Agricul-

tural Chemist. Particular attention is directed to the percentage of polysulphide sulphur:—

| Name of Pest Destroyer. | Active Constituents as declared on Label. | Found on Analysis by Agricultural Chemist. | | Queensland Wholesale Dealer. |
|--|---|--|-----------------------------------|--|
| | | Total Sulphur (by volume). | Polysulphide Sulphur (by volume). | |
| A.C.F. Lime Sulphur Solution .. | Dissolved Sulphur 25.0 | 24.0 | 17.2 | A.C.F. and Shirleys Fertilizers, Ltd., Little Roma street, Brisbane. |
| C.O.D. Special Lime Sulphur .. | Sulphur .. 25.0 | 25.0 | 18.6 | Committee of Direction of Fruit Marketing, Turbot street, Brisbane. |
| Harola Lime Sulphur Spraying Solution | Sulphur in solution 25.0 | 26.8 | 18.7 | Buzacotts (Q'land), Ltd., Adelaide street, Brisbane. |
| Harola Lime Sulphur Spraying Solution | Total Sulphur .. 25.0 | 25.2 | 17.5 | Queensland Fruitgrowers' Society, Ltd., Makerston street, Brisbane. |
| "Neptune" Lime Sulphur Spraying Solution | Sulphur .. 25.0 | 25.7 | 19.2 | Neptune Oil Co., 301 Ann street, Brisbane. |
| "United" Lime Sulphur Spray .. | Sulphur .. 25.0 | 24.8 | 18.4 | United Chemical Co. Pty., Ltd., Grey street, South Brisbane. |
| "Vallo" Lime Sulphur Wash .. | Dissolved Sulphur 20.0 | 23.8 | 15.6 | A. Victor Leggo and Co. Pty., Ltd., 72 Albert street, Brisbane. |

ARSENATE OF LEAD.

The standard prescribed for arsenate of lead is as follows:—"Arsenate of lead shall contain not less than 28 per cent. of arsenic pentoxide (As_2O_5) combined with lead, and not more than one-half of 1 per cent. (0.5 per cent.) of water soluble arsenic compounds calculated as arsenic pentoxide; both calculated on a dry basis.

Arsenate of lead shall not contain more than 50 per cent. of moisture. When mixed with water the compound shall keep well in suspension. The rate of settling may be fixed."

The samples received during the current year have been analysed by the Agricultural Chemist with the results as set out in the following table:—

| Name of Pest Destroyer. | Active Constituents as declared on Label. | Found on Analysis by Agricultural Chemist. | | Queensland Wholesale Dealer. |
|---|--|--|---|---|
| | | Total Arsenic Pentoxide (As_2O_5) | Water Soluble Arsenic Pentoxide (As_2O_5) | |
| A.C.F. Arsenate of Lead Powder .. | Arsenic Pentoxide As_2O_5 31.0 Not more than $\frac{1}{2}$ per cent. of water soluble As_2O_5 | 31.3 | 0.25 | A.C.F. and Shirleys Fertilizers, Ltd., Brisbane. |
| Berger's "Mercury" Brand Arsenate of Lead (Powder) | Arsenic Pentoxide As_2O_5 30.0 Not more than $\frac{1}{2}$ per cent. of water soluble As_2O_5 | 30.5 | 0.41 | Neptune Oil Co., Ltd., 301 Ann street, Brisbane. |
| Bickford's "Aero" Brand Arsenate of Lead (Powder) | Arsenic Pentoxide As_2O_5 31.5 Not more than $\frac{1}{4}$ per cent. of water soluble As_2O_5 | 31.0 | 0.27 | A. M. Bickford and Sons, Ltd., Tank street, Brisbane. |
| Bickford's "Aero" Brand Arsenate of Lead (Powder) | Arsenic Pentoxide As_2O_5 31.5 Not more than $\frac{1}{4}$ per cent. of water soluble As_2O_5 | 30.5 | 0.17 | Buzacotts (Q'land), Ltd., Adelaide street, Brisbane. |
| Challenge Arsenate of Lead (Powder) | Arsenic Pentoxide As_2O_5 30.0 Not more than $\frac{1}{2}$ per cent. of water soluble As_2O_5 | 30.4 | 0.16 | Neptune Oil Co., Ltd., 301 Ann street, Brisbane. |
| Cooper's Arsinette | Arsenic Pentoxide As_2O_5 30.0 Not more than $\frac{1}{2}$ per cent. of water soluble As_2O_5 | 31.9 | 0.25 | Queensland Fruitgrowers' Society, Ltd., Makerston street, Brisbane. |
| Lead Spread | Arsenic Pentoxide As_2O_5 30.0 Not more than 0.3 per cent. of water soluble As_2O_5 | 30.8 | 0.19 | Neptune Oil Co., Ltd., 301 Ann street, Brisbane. |
| "Vallo" Arsenate of Lead Powder | Arsenic Pentoxide As_2O_5 32.0 Not more than $\frac{1}{2}$ per cent. of water soluble As_2O_5 | 30.5 | 0.45 | A. Victor Leggo and Co. Pty., Ltd., 72 Albert street, Brisbane. |
| Berger's Mercury Brand Arsenate of Lead (Paste) | Arsenic Pentoxide. Not more than $\frac{1}{2}$ per cent. of water soluble As_2O_5 (Dry Basis) | 31.2 | 0.49 | Neptune Oil Co., Ltd., 301 Ann street, Brisbane. |
| "Vallo" Arsenate of Lead Paste | Arsenic Pentoxide As_2O_5 32.0 Not more than $\frac{1}{2}$ per cent. of water soluble As_2O_5 (Dry Basis) | 31.9 | 0.22 | A. Victor Leggo and Co., Pty., Ltd., 72 Albert street, Brisbane. |
| Calcium Arsenate— "Vallo" Arsenate of Calcium .. | Arsenic As_2O_5 40.0 | 36.4 | 1.68 | A. Victor Leggo and Co. Pty., Ltd., 72 Albert street, Brisbane. |

ARSENICAL SHEEP DIPS.

The definition for Arsenical Sheep Dip is: "Sheep Dip is any preparation in liquid, paste, or powder form containing a soluble arsenious compound, and represented as useful for making fluids used for dipping and/or jetting of sheep. The dip concentrates herein set out, when diluted in accordance with the directions on the

labels were found on analysis by the Agricultural Chemist to contain not less than two-tenths of 1 per cent. and not more than one-quarter of 1 per cent. of arsenious trioxide (As_2O_3)."

The following table briefly sets out the names of the materials registered, also the findings of the Agricultural Chemist:—

| Name of Concentrate. | Active Constituents and Rate of Dilution as declared on Label. | Name and Address of Queensland Wholesale Dealer. |
|---|---|---|
| POWDER. | | |
| Cooper's Sheep Dipping Powder .. | Arsenic and Sulphur Compounds (10 lb. $\frac{1}{2}$ -oz. concentrate to 100 galls. water) | New Zealand Loan and Mercantile Agency Co., Ltd., Eagle street, Brisbane. |
| Little's Powder Sheep Dip | Arsenic and Sulphur (10 lb. concentrate to 100 galls. water) | Wilcox Mofflin, Ltd., Longland street, Brisbane. |
| Quibell's Powder Sheep Dip | Arsenic (11 lb. 4 oz. concentrate to 100 galls. water) | Dalgety and Co., Ltd., Elizabeth street, Brisbane. |
| "Vallo" Powder Sheep Dip | Arsenic and Sulphur Compounds (10 lb. concentrate to 100 galls. water) | A. Victor Leggo and Co., Pty. Ltd., 72 Albert street, Brisbane. |
| LIQUID. | | |
| "Mactaggarts" Arsenical Sheep Dip (Liquid) Carbolised | Arsenic (1 gall. concentrate to 150 galls. water) | Mactaggarts Co-operative Association, Ltd., 64 Eagle street, Brisbane. |
| "Standard" Sheep Dip Liquid Arsenical | Arsenic (1 gall. concentrate to 150 galls. water) | Queensland Chemical and Distributing Co., 111 Elizabeth street, Brisbane. |
| "United" Sheep Dip No. 1 (Liquid Arsenical) | Arsenic (1 gall. concentrate to 150 galls. water) | United Chemical Co. Pty., Ltd., Grey street, South Brisbane. |
| BAR. | | |
| Kiltic Sheep Dip (Bar Form) | Arsenic (2 $\frac{1}{4}$ lb. concentrate to 50 galls. water) | Surgical Supplies, Ltd., 246 Queen street, Brisbane. |

The following dip concentrates when diluted in accordance with the directions on the labels, on analysis by the Agricultural Chemist, were found to contain quantities of Arsenious Trioxide (As_2O_3) not within the limits set out by the Regulations under the Pest Destroyers Acts.

It should be noted that both of these concentrates are in paste form—a form in which homogeneity is usually hard to obtain; a consequent variance in analyses from different parts of the one sample is the result.

| PASTE. | | |
|---------------------------------|---|--|
| Lan-O-Leen | Arsenic (1 gall. concentrate to 250 galls. water) | Buzacotts (Q'land), Ltd., Adelaide street, Brisbane. |
| Vacdip (Arsenical Sheep Dip) .. | Arsenic Compounds and Phenols (10 lb. concentrate to 75 galls. water) | Vacuum Oil Co. Pty., Ltd., Eagle street, Brisbane. |

CATTLE DIPS.

The Regulations provide that a Cattle Dip is "any preparation in liquid, paste, or powder form containing a soluble arsenious compound, and represented as useful for making a dipping fluid. The dip concentrates herein set out, when analysed by the Agricultural Chemist, were found to contain soap or saponifiable material, and at the rate of dilution specified contained

not less than two-tenths of 1 per cent. of arsenious trioxide, and were of such consistency that they did not separate into layers on standing, but remained homogeneous mixtures."

The following table sets out the cattle dip concentrates that have been analysed and found to comply with the prescribed standards when diluted with water at the rate set out in the table:—

| Name of Concentrate. | Active Constituents and Rate of Dilution as declared on Label. | Name and Address of Queensland Wholesale Dealer. |
|--------------------------------|--|--|
| LIQUID. | | |
| Cooper's "Tixol" | Arsenic (1 gall. concentrate to 320 galls. water) | New Zealand Loan and Mercantile Agency Co., Ltd., Eagle street, Brisbane. |
| Harton Cattle Dip Fluid | Arsenic and Cresols (1 gall. concentrate to 320 galls. water) | Chemical and Tar Products, Ltd., Ann street, Brisbane. |
| "Maxdip" | Arsenic and Cresols (1 gall. concentrate to 320 galls. water) | Mactaggart's Co-operative Association, Ltd., 64 Eagle street, Brisbane. |
| "Uccol" Cattle Dip | Arsenic (1 gall. concentrate to 320 galls. water) | The Australian Estates and Mortgage Co., Ltd., 35-7 Creek street, Brisbane. |
| Young's Improved Cattle Dip .. | Arsenic (1 gall. concentrate to 320 galls. water) | Sturmfels Primary Producers' Co-operative Association, Ltd., Creek street, Brisbane. |

CATTLE DIPS—*continued.*

| Name of Concentrate. | Active Constituents and Rate of Dilution as declared on Label. | Name and Address of Queensland Wholesale Dealer. |
|--|---|--|
| Acco Liquid Cattle Dip | Arsenic and Cresols (1 gall. concentrate to 300 galls. water) | The Australian Chemical Co., Ltd., Donkin street, South Brisbane. |
| "Hibiscus" Cattle Dip Fluid | Arsenic and Cresols (1 gall. concentrate to 300 galls. water) | Queensland Pastoral Supplies, Ltd., Bowen street, Brisbane. |
| "Kiltic" Concentrated Liquid Cattle Dip | Arsenic (1 gall. concentrates to 300 galls. water) | Surgical Supplies, Ltd., Queen street, Brisbane. |
| Little's Cattle Dip (Concentrated) | Arsenic and Phenols (1 gall. concentrate to 300 galls. water) | Wilcox, Mofflin, Ltd., Longland street, Brisbane. |
| Royal Cattle Dip (Concentrated) | Arsenic and Cresols (1 gall. concentrate to 300 galls. water) | Australian Machinery Co. Pty., Ltd., 371 Adelaide street, Brisbane. |
| "Vallo" Improved Fluid Cattle Dip | Arsenic and Phenols (1 gall. concentrate to 180 galls. water) | A. Victor Leggo and Co. Pty., Ltd., 72 Albert street, Brisbane. |
| Australian Liquid Dip | Arsenic and Cresols (1 gall. concentrate to 160 galls. water) | Australian Disinfectant Co., C.E.Y. Buildings, Albert street, Brisbane. |
| Harton Junior Cattle Dip Fluid | Arsenic and Cresols (1 gall. concentrate to 160 galls. water) | Chemical and Tar Products, Ltd., Ann street, Brisbane. |
| "Kiltic" Liquid Cattle Dip | Arsenic (1 gall. concentrate to 160 galls. water) | Surgical Supplies, Ltd., Queen street, Brisbane. |
| Little's Cattle Dip | Arsenic and Phenols (1 gall. concentrate to 160 galls. water) | Wilcox, Mofflin, Ltd., Longland street, Brisbane. |
| "Mactaggart's" Improved Liquid Non-scalding Cattle Dip | Arsenic and Cresols (1 gall. concentrate to 160 galls. water) | Mactaggarts' Co-operative Association, Ltd., 64 Eagle street, Brisbane. |
| Non-Ox Liquid Cattle Dip | Arsenic and Cresols (1 gall. concentrate to 160 galls. water) | The Australian Chemical Co., Ltd. Donkin street, South Brisbane. |
| Queensland Cattle Dip | Arsenic and Cresols (1 gall. concentrate to 160 galls. water) | Australian Machinery Co. Pty., Ltd., 371 Adelaide street, Brisbane. |
| Royal Cattle Dip | Arsenic and Cresols (1 gall. concentrate to 160 galls. water) | Australian Machinery Co. Pty., Ltd., 371 Adelaide street, Brisbane. |
| "Standard" Non-oxidising Liquid Cattle Dip | Arsenic, Phenols, and Cresols (1 gall. concentrate to 160 galls. water) | Queensland Chemical Distributing Co., 111 Elizabeth street, Brisbane. |
| "United" Cattle Dip | Arsenic (1 gall. concentrate to 160 galls. water) | The Australian Estates and Mortgage Co., Ltd., 35-7 Creek street Brisbane. |
| Cooper's Improved Cattle Dip | Arsenic (1 gall. concentrate to 125 galls. water) | New Zealand Loan and Mercantile Agency Co., Ltd., Eagle street, Brisbane. |
| PASTE. | | |
| Thomas' Carbolized Cattle Wash | Arsenic (10 lb. concentrate to 175 galls. water) | James Campbell and Sons, Pty. Ltd., 13-20 Creek street, Brisbane. |
| BAR. | | |
| "Kiltic" Cattle Dip (Bar Form) | Arsenic (2½ lb. concentrate to 50 galls. water) | Surgical Supplies, Ltd., Queen street, Brisbane. |

Every dealer in pest destroyers is required to send in a return stating the names of the materials that he is selling, also the name and

address of the wholesale dealer from whom such materials were obtained; 209 such returns were received.

FRED. F. COLEMAN, Officer in Charge.

REPORT OF THE CHIEF INSPECTOR OF STOCK.

STOCK STATISTICS.

The following preliminary numbers have been received from the Registrar-General, showing the number of live stock in Queensland on the 1st January, 1933:—

| Year. | Horses. | Cattle. | Sheep. |
|---------------------------------------|---------|-----------|------------|
| Preliminary—1st January, 1933 | 436,176 | 5,410,049 | 21,161,142 |
| Actual—1st January, 1932 | 469,474 | 5,550,399 | 22,324,278 |
| Decrease | 33,298 | 140,350 | 163,136 |

The rainfall during the year was not general, consequently considerable losses of stock occurred. Under these conditions the live stock industry has not been as prosperous as hitherto. It is essential that every effort should be made to create a permanent overseas market, with regular supplies. Once this is established and can be maintained it is assumed that the stock grower will have the benefit of better and stabilised prices.

Horses have been in greater demand, and prices have been satisfactory for good class animals, more particularly heavy draughts. This was particularly noted at Hughenden, where some 900 head were sold, and the supply was not equal to the demand. Prices realised from £25 to £41 per head; Italian farmers from the sugar districts were the principal buyers.

Some Zebu bulls are being imported from America, with a view of experimenting in the breeding of new types of cattle suitable for North Australian and Gulf conditions. It is understood that the breeding arrangements will be under the direction of the Council for Scientific and Industrial Research. The object of this experiment is to ascertain if this cross-bred animal will be practically immune to tick-borne diseases, also if it thrives under the Northern climatic conditions, and will produce meat suitable for the British market.

Deterioration in the herds of Northern cattle for years past has been mainly due to neglect in procuring fresh bulls of suitable type and quality to improve breeding standards, and not to unhealthy climatic conditions.

An amendment to "The Stallion Registration Act of 1923" was passed during the year, providing for examination boards in the various districts where horse breeding is carried on. A number of the Regulations under "The Slaughtering Act of 1898" were also amended.

BUFFALO FLY.

A survey of the north-western portion of the State was again made by Mr. Ohman, M.V.Sc., and Mr. Roberts, M.Sc., during April and May. It was found that several holdings fly-infested last year were this year free, and that the fly had not extended further east as anticipated. Mr. Roberts reports: "In 1932, the area infested by buffalo fly extended from the border of Inverleigh on the coast, and as far south as Talawanta and Gregory Downs. This year the eastern boundary did not extend beyond Armrynald, whilst a provisional survey in the south did not reveal any flies south of Brookdale." It appears

that cold weather and a low rainfall are mainly responsible for the reduction of flies on some properties and its apparent disappearance from others, but Mr. Roberts is of opinion that the main factor concerned is not so much the rainfall for 1932, but the comparatively long dry spell between the end of the wet season in April and the advent of storms yielding any quantity of rain at the end of the year. Owing to the favourable position after the survey, cattle from properties free from fly, provided the adjoining properties were also free, have been allowed to travel upon inspection only, thus avoiding spraying and treatment at Kajabbi.

The Wild Mint (*Salvia lanceifolia*) has caused considerable concern to stock owners during the year. It appears that the pest is gradually spreading and causing a material diminution of natural grasses, together with the risk of killing stock which are travelling on stock routes practically devoid of feed other than the wild mint. Eradication is essential, but at the present time mechanical or chemical control are expensive and not too satisfactory, consequently for complete eradication biological control appears the best and only practicable method.

PROSECUTIONS.

| Act. | Number of Prosecutions. | Number of Convictions. |
|--------------------------------|-------------------------|------------------------|
| Diseases in Stock Acts | 47 | 47 |
| Slaughtering Act | 16 | 16 |
| Brands Act | 3 | 3 |

VISCERA EXAMINED DURING THE YEAR 1932-33.

Again this year many samples of viscera and stomach contents were analysed—viz., 119—and of these 26 were found to contain arsenic and 1 strychnine.

APPENDICES.

Appendices A, Report of the Instructor in Sheep and Wool; B, Report of the Deputy Registrar of Brands.

HORSES EXPORTED OVERSEAS.

Nine hundred and forty horses were exported overseas.

TUBERCULIN TEST.

The test was applied to 394 animals, the number of positive reactions being 77. In addition to this number, others were tested by the officers of the Animal Health Station, Yeerongpilly.

DIPS.

The total number of registered cattle dips is 4,510, distributed throughout the State as follows:—

| District. | No. | District. | No. |
|----------------|-------|----------------|-------|
| Barcardine .. | 4 | Normanton .. | 36 |
| Bowen .. | 226 | Rockhampton .. | 455 |
| Brisbane .. | 1,118 | Roma .. | 68 |
| Cairns .. | 211 | Springsure .. | 75 |
| Clermont .. | 135 | Toowoomba .. | 118 |
| Cloncurry .. | 47 | Townsville .. | 225 |
| Cooktown .. | 39 | Warwick .. | 36 |
| Gladstone .. | 329 | Winton .. | 4 |
| Hughenden .. | 34 | | |
| Longreach .. | 2 | Total .. | 4,510 |
| Maryborough .. | 1,348 | | |

DIPPING FLUIDS.

The number of dipping fluids analysed during the year was 356.

PLEURO-PNEUMONIA CONTAGIOSA.

The total number of outbreaks reported was 23. It will be noted from the following figures that the number has decreased for several years.

| Year— | No. of Outbreaks. |
|-----------------|-------------------|
| 1928-29 | 129 |
| 1929-30 | 69 |
| 1930-31 | 70 |
| 1931-32 | 38 |
| 1932-33 | 23 |

| District. | 1932. | | | | | | 1933. | | | | | | Total. |
|------------------|-------|------|-------|------|------|------|-------|------|------|--------|------|-------|--------|
| | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | April. | May. | June. | |
| Brisbane | 1 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| Bowen | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 |
| Clermont | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. |
| Cloncurry | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | 1 |
| Hughenden | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Longreach | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Maryborough .. | 1 | .. | 2 | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | 5 |
| Rockhampton .. | 1 | .. | 1 | 1 | .. | .. | 1 | .. | 1 | .. | .. | 1 | 6 |
| Roma | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 2 |
| South Burnett .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | 1 |
| Toowoomba | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Townsville | 1 | .. | .. | 1 | .. | 1 | .. | .. | 1 | .. | .. | .. | 4 |
| Warwick | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 |
| Totals | 4 | 1 | 3 | 4 | 1 | 2 | 4 | .. | 2 | 1 | .. | 1 | 23 |

TICK CLEANSING AREAS.

Helidon Area.

This area has not been extended this year, but some properties have been subdivided and certain Crown lands taken up, making the number of holdings now being treated 412, with an approximate area of 331 square miles, carrying about 17,000 head of stock.

Of the 412 properties, 238 have been free from ticks for one year or more, and carry some 7,000 head of stock. The declared clean area is similar to last year, viz.:—558 holdings, with an area, approximately, of 212 square miles, containing about 20,000 stock. During the previous year 69 holdings became reinfested with ticks, but with regular treatments only 5 holdings are now very lightly infested.

| Holdings Inspected. | Total Stock Inspected. | Holdings Infested. | Stock Treated. |
|---------------------|------------------------|--------------------|----------------|
| 2,475 | 84,056 | 221 | 27,066 |

Crow's Nest Area.

It is considered that large portions of this area will be free from ticks during the coming year, as it contains only a few doubtful properties. Tick-cleansing work has been somewhat handicapped due to regular office work, and the

dipping of travelling stock and duties under the Slaughtering Act having to be attended to.

| Holdings Inspected. | Total Stock Inspected. | Holdings Infested. | Stock Treated. |
|---------------------|------------------------|--------------------|----------------|
| 1,411 | 77,119 | 201 | 17,946 |

South Burnett Area.

Cleansing work in this area has been very satisfactory, although several transfers of officers took place, and at times there was a shortage of staff. A further 100 square miles of country has been proved clean, and is being added to country forming a clean buffer area to the Darling Downs, and now totalling 750 square miles. It may be pointed out that in the past there was a certain amount of opposition and passive resistance by some stock owners, but it is now reported that there is complete co-operation. A new dip has been put down at the Tingoora township, which will materially assist in cleansing up that country and establish a strong boundary line at that point.

| Holdings Inspected. | Total Stock Inspected. | Holdings Infested. | Stock Treated. |
|---------------------|------------------------|--------------------|----------------|
| 2,371 | 131,448 | 219 | 77,300 |

QUARANTINE ACT.

During the year the following hides and skins were imported and disinfected:—

| | |
|-----------------|-------------------|
| Italy | 845 ox hides |
| Argentine | 100 ox hides |
| India | 15,000 goat skins |
| Russia | 100 hare skins |

Live Stock Imported.—Three horses, 2 cattle, 16 dogs, 2 pigs, 1 monkey, 5 canaries, 5

pheasants, 3 pigeons, 4 Queen bees, 3,143 gold fish.

Imported articles disinfected in accordance with the Quarantine Regulations:—Three used riding saddles, 5 bridles, 3 horserugs, &c., 1 case wool samples, 1 stuffed mongoose, 1 stuffed tiger cub, 1 stuffed crocodile, 1 leopard skin, 1 tiger skin, 2 snake skins, 2 sjamboks, 3 bird cages, 2 animal crates.

TABLE SHOWING STOCK MOVEMENTS IN THE SEVERAL STOCK DISTRICTS FOR THE YEAR ENDED 30TH JUNE, 1933.

| District. | ENTERED DISTRICT. | | | REMOVED FROM DISTRICT. | | | MOVEMENTS IN DISTRICT. | | | STOCK DIPPED. | | STOCK SPRAYED. | |
|------------------|-------------------|---------|---------|------------------------|---------|-----------|------------------------|---------|-----------|---------------|---------|----------------|---------|
| | Horses. | Cattle. | Sheep. | Horses. | Cattle. | Sheep. | Horses. | Cattle. | Sheep. | Horses. | Cattle. | Horses. | Cattle. |
| Barcaldine .. | 696 | 2,303 | 113,061 | 8,643 | 11,558 | 1,098,781 | 9,110 | 5,967 | 1,207,383 | 138 | 176 | .. | 2,644 |
| Bowen .. | 1,185 | 5,852 | 19,315 | 1,717 | 13,969 | 187 | 7,613 | 51,903 | 558 | 8 | .. | .. | 31 |
| Brisbane .. | 4,443 | 91,725 | 296,295 | 3,383 | 51,645 | 13,045 | 8,549 | 277,578 | 83,659 | 254 | 6,437 | 917 | 228 |
| Cairns .. | 1,145 | 26,286 | 36,808 | 1,565 | 19,772 | 235 | 7,111 | 31,382 | 393 | .. | 26,288 | .. | .. |
| Charleville .. | 7,599 | 32,360 | 370,085 | 15,778 | 101,629 | 1,529,359 | 18,385 | 61,137 | 1,395,502 | .. | 1,007 | .. | .. |
| Clermont .. | 176 | 2,512 | 103,073 | 1,850 | 21,468 | 51,390 | 3,073 | 22,940 | 176,903 | 160 | 2,399 | 4 | 5,222 |
| Cloncurry .. | 2,078 | 30,759 | 108,679 | 3,647 | 44,803 | 75,140 | 6,704 | 49,212 | 446,602 | .. | 43,367 | 555 | 10,472 |
| Coolangatta .. | 333 | 2,919 | 1,029 | 363 | 1,355 | 1,109 | 67 | 1,599 | .. | 272 | 717 | 17 | 4 |
| Crow's Nest .. | 278 | 3,109 | 2,656 | 536 | 12,675 | .. | 249 | 13,277 | .. | 177 | 18,062 | 7 | 29 |
| Emerald .. | 531 | 694 | 42,916 | 2,649 | 33,254 | 107,188 | 4,809 | 34,643 | 152,035 | 192 | 12,911 | .. | 10,016 |
| Gladstone .. | 1,058 | 24,000 | 3,985 | 1,159 | 13,919 | .. | 716 | 24,982 | .. | .. | 84 | 319 | .. |
| Helidon .. | 1,612 | 6,004 | 3,742 | 2,285 | 18,267 | .. | 1,214 | 45,081 | .. | 2,056 | 31,467 | 283 | 833 |
| Hughenden .. | 3,218 | 7,958 | 333,875 | 4,268 | 10,987 | 627,908 | 6,897 | 7,860 | 685,770 | 115 | 4,099 | 39 | .. |
| Longreach .. | 970 | 8,045 | 65,770 | 9,322 | 15,351 | 1,396,617 | 10,503 | 7,098 | 1,395,624 | .. | .. | .. | 746 |
| Maryborough .. | 1,199 | 16,122 | 44,805 | 2,384 | 59,559 | 164 | 3,088 | 100,611 | 4,338 | 78 | 41,209 | 21 | 14 |
| Normanton .. | 567 | 4,390 | 11,600 | 2,441 | 50,246 | .. | 7,708 | 37,222 | .. | 85 | 7,143 | 498 | 18 |
| Rockhampton .. | 356 | 23,098 | 104,895 | 1,263 | 24,382 | 62,526 | 2,236 | 111,544 | 32,672 | 3 | 598 | 14 | 12 |
| Roma .. | 1,154 | 13,924 | 132,304 | 1,699 | 36,924 | 152,689 | 3,788 | 37,347 | 490,077 | 391 | 16,426 | 276 | .. |
| South Burnett .. | 2,048 | 30,538 | 15,987 | 4,447 | 79,985 | 9,521 | 11,332 | 223,655 | 13,197 | 631 | 90,141 | 688 | 2,118 |
| Toowoomba .. | 8,834 | 122,401 | 254,384 | 11,932 | 138,264 | 348,851 | 33,600 | 616,266 | 1,205,135 | 792 | 53,429 | 1,099 | 865 |
| Townsville .. | 3,289 | 43,648 | 33,121 | 3,492 | 17,677 | 1,883 | 5,464 | 38,300 | 233 | .. | .. | 6 | 23 |
| Warwick .. | 1,113 | 9,547 | 32,188 | 2,094 | 9,441 | 69,168 | 4,056 | 85,305 | 128,444 | 143 | 14,094 | 259 | .. |
| Winton .. | 3,404 | 54,306 | 224,719 | 4,835 | 29,576 | 255,448 | 2,994 | 16,829 | 599,588 | .. | 194 | .. | 4,409 |

STOCK SOLD AT CANNON HILL YARDS FOR THE YEAR ENDED 30TH JUNE, 1933.

| | | |
|---|-------------------|-----------|
| Sheep, 644,699 ; lambs, 104,633 ; cattle, 103,526 ; calves, 18,143 ; pigs, 31,863 | Total Stock Sold. | = 902,864 |
| Total stock sold year ended 30th June, 1932 | | = 862,141 |
| Increase sale all stock for year ended 30th June, 1933 | | = 40,723 |

Cattle—

Average value per cental bullocks and steers, 20s. 5d. = per head £6 13s. 4d.

Average value per cental cows and heifers, 17s. 11d. = per head £4 4s. 2d.

Sheep—

Average value per lb., 1-91d. (per head not stated).

Lambs—

Average value per lb., 3-44d. = per head 7s. 8d.

Pigs—

Average value per lb., porkers, 4½d. = per head £1 13s.

Average value per lb., baconers, 4d. = per head £1 15s.

Suckers, per head 7s.

Slips, per head 10s.

Store, per head 15s. to 17s.

Calves—

Suckers, 2d. per lb. = 7s. per head.

Vealers, 60 lb. to 80 lb., 10s. to 13s. per head.

"THE SLAUGHTERING ACT OF 1898."

The Senior Slaughtering Inspector reports having visited the following centres in the course of the year:—Beenleigh, Southport, Logan, Redcliffe, Bribie, Caboolture, Woodford, Dayboro', Mt. Mee, Maleny, Beerwah, Nambour, Gympie, Rockhampton, Mackay, Ayr, Townsville, Charters Towers, Ingham, Innisfail, Cairns, Laidley, Cracow, Wandoan, Roma, Quilpie, Cunnamulla, and many other towns on the branch and main lines.

As in previous years, constant supervision has been maintained; the majority of the premises inspected were reasonably clean and in good order. It has been observed in numerous instances that any laxity of inspection is quickly

followed by carelessness and inattention to cleanliness, consequently where it was found that verbal warnings and written orders had no effect action was taken to enforce the regulations under the Acts.

Notwithstanding the adverse economic conditions which have prevailed during the past year, reports submitted from permanent officers of the Department show that many improvements have been effected by owners to shops, slaughterhouses, and piggeries.

The prevalence to slaughter illegally still continues, and many complaints have been investigated. In some cases warnings have been sufficient, but in others prosecutions have been necessary.

The number of prosecutions for the year under review is the lowest on record for some years past.

The health of stock treated for human consumption is more fully described in the tabulated list of stock slaughtered and condemned.

METROPOLITAN SHOPS.

Abattoir Area.

The shops and vehicles in the metropolitan abattoir area are being maintained to the standard as reported upon last year.

The number of shops and vehicles now registered under the Queensland Meat Industry Board to the 30th June, 1933, is as under:—

| | |
|--------------------------------|-----|
| Shops | 272 |
| Vehicles, motor and other.. .. | 367 |
| Cash carts | 63 |

At the various premises, &c., continuous inspection has been carried out by the two supervising officers, and some 10,119 visits have been made and numerous instructions given for cleansings, paintings, &c.

SHOPS.

Forty-three new shops have been erected in different cities, towns, and country centres, some of which were costly, having been built in brick and concrete.

SLAUGHTER-HOUSES.

Twenty-eight new slaughter-houses have been erected in various parts of the State. Apart from these there are quite a number under construction.

The approximate number of slaughter-houses, meatworks, and bacon factories operative in the State is as follows:—

| | |
|-----------------------------------|-------|
| Country slaughter houses | 420 |
| City and town slaughter houses .. | 154 |
| Farmers slaughter houses | 100 |
| Meatworks | 7 |
| Bacon factories | 7 |
| Abattoir | 1 |
| | <hr/> |
| | 689 |
| New slaughter houses | 28 |
| | <hr/> |
| Total | 717 |

Owing to depression and various other reasons many of the previously erected slaughter-houses are at the present time inoperative. The number is estimated to be 50.

The return of stock slaughtered under supervision of Police, Acting Inspectors, is as follows:—

| | |
|------------------|---------|
| Bullocks | 40,013 |
| Cows | 43,297 |
| Calves | 2,234 |
| Sheep | 151,468 |
| Swine | 15,994 |

BACON FACTORIES.

| Number Slaughtered. | 1931-32. | 1932-33. |
|---------------------|----------|----------|
| Pigs | 254,655 | 237,956 |

Condemnations from the above are as follow:—

| Tuberculosis. | 1931-32. | 1932-33. |
|-------------------|----------|----------|
| Carcasses | 2,892 | 2,968 |
| Heads | 15,024 | 13,635 |

In addition, the following cattle were slaughtered at the various bacon factories:—Bullocks, 4,872; cows, 3,935; calves, 205.

Statement showing number of cattle slaughtered and condemned at the Brisbane Abattoir, for the period under review.

Number slaughtered.—Bullocks, 40,062; cows, 31,826; calves, 37,420; sheep and lambs, 542,064; swine, 37,047.

Condemnations from the above are as follow. (These figures do not include stock slaughtered for export purposes):—

| Cause. | Bullocks. | Cows. | Calves. | Sheep & Lambs. | Swine. |
|--------------------------|-----------|-------|---------|----------------|--------|
| Tuberculosis | 490 | 967 | 18 | .. | 675 |
| Bruising | 30 | 48½ | 5½ | .. | .. |
| Emaciation | 54 | 413 | 449 | 479 | 10 |
| Gangrene | 52½ | 44½ | 9 | 3 | 12 |
| Fever | 12 | 27 | 4 | 506 | 1 |
| Abscess | 6 | 2½ | 58 | 360 | 13 |
| Jaundice | .. | 1 | 5 | 29 | .. |
| Immaturity | .. | .. | 342 | .. | .. |
| Actinomycesis | 0½ | .. | .. | .. | 1 |
| Septic Pneumonia | .. | .. | .. | 1 | 1 |
| Dropsy | .. | .. | .. | .. | .. |
| Oedema | 3 | .. | .. | .. | 1 |
| Pyæmia | .. | .. | .. | 1 | .. |
| Septic Metritis | .. | .. | 7 | .. | .. |
| Navel Ill | .. | 1 | .. | .. | .. |
| Emphysema | .. | .. | .. | .. | .. |
| Melanosis | 1 | .. | .. | .. | 3 |
| Peritonitis | .. | .. | .. | .. | 1 |
| Worms | .. | 1 | .. | .. | .. |
| Cancer | .. | 1 | .. | 5 | .. |
| Redwater | 4 | 1 | .. | .. | .. |

The following tabulated list shows stock slaughtered and condemned in the course of the period under review, and is compiled from returns furnished by permanent officers of the Department performing slaughtering duties at the following centres:—Ayr, Barcaldine, Boonah, Bundaberg, Beaudesert, Bowen, Brandon, Clermont, Coolangatta, Crow's Nest, Cloncurry, Charters Towers, Cairns, Charleville, Dalby, Gympie, Gladstone, Gayndah, Goondi-

windi, Helidon, Hughenden, Home Hill, Innisfail, Ingham, Ipswich, Julia Creek, Kingaroy, Longreach, Maryborough, Miles, Mackay, Mareeba, Normanton, Pittsworth, Rockhampton, Roma, Toowoomba, Townsville, Warwick, Wondai, Wondoan, and Winton.

The return of swine slaughtered is exclusive of those treated at bacon factories, a list of which is shown separately.

| Description of Stock. | Number Slaughtered. | Carcasses and Portions Condemned. | Disease. | Percentage. |
|-----------------------|---------------------|-----------------------------------|--------------------------|-------------|
| Bullocks | 48,619 | 41 carcasses | Tuberculosis | .084 |
| | | 30 forequarters | Tuberculosis | .061 |
| | | 25 heads | Tuberculosis | .051 |
| | | 3 carcasses | Bruised | .006 |
| | | 5 forequarters | Bruised | .0102 |
| | | 2 carcasses | Emaciation | .004 |
| | | 52 heads | Actinomycosis | .106 |
| Cows | 59,766 | 185 carcasses | Tuberculosis | .309 |
| | | 64 forequarters | Tuberculosis | .107 |
| | | 4 hindquarters | Tuberculosis | .006 |
| | | 47 heads | Tuberculosis | .078 |
| | | 3 carcasses | Bruised | .005 |
| | | 3 forequarters | Bruised | .005 |
| | | 53 carcasses | Emaciation | .088 |
| | | 12 heads | Actinomycosis | .02 |
| | | 1 carcass | Advanced pregnancy | .001 |
| | | 2 forequarters | Gangrene | .003 |
| Calves | 7,101 | 56 carcasses | Under weight | .788 |
| Sheep | 370,093 | 88 carcasses | Emaciation | .023 |
| | | 10 carcasses | Bruised | .002 |
| | | 2 carcasses | Lantana poisoning | .0005 |
| Swine | 34,027 | 96 carcasses | Tuberculosis | .223 |
| | | 935 carcasses | Tuberculosis | 2.747 |
| | | 2 carcasses | Abscesses | .005 |
| | | 2 heads | Abscesses | .005 |
| | | 1 carcass | Fevered | .002 |

ARTHUR H. CORY, M.R.C.V.S.,
Chief Inspector of Stock.

APPENDIX A.

REPORT OF THE SENIOR INSTRUCTOR IN SHEEP AND WOOL.

The rainfall for the year was of a very patchy nature over most of our sheep-grazing areas, and was well under the annual average in the districts from Mungindi on the New South Wales border to Springsure and Muttaborra in the Central Division, which embrace some of our most important pastoral country. The extreme North-West, West, and South-East were favoured with the most beneficial rains during summer, but owing to the extensive heat wave which occurred in January their good effect on pastures soon disappeared. After the heat wave the only areas to benefit by further rains were the North-West, West, and portion of the Darling Downs, leaving all the Central portion bare and dry. In this division heavy losses occurred. Dry conditions, difficult finance, and the state of the stock routes made some classes of sheep, old ewes in particular, unsaleable, while the prices offering for other classes, such as stores and old wethers, were under the cost of production.

In sympathy with other rural industries during the period of depression, prices for fat stock have not been satisfactory. Recent sales, however, showed a welcome advance with conditions pointing to a more stable market for wethers and fat lambs. This section of the industry has been fostered by the Stock Branch in order that the growing of fat lambs of the proper type may be established on a firmer basis. Generally speaking the season has been against the project, but a notable advance has been made, and many rams of the English breeds have been introduced on the Darling Downs. The improvement in the merino breeding flocks of the State has been fully maintained, mainly by the continued introduction of better rams and by systematic culling of the ewe flock.

Officers of this Branch have visited many areas and holdings for instructional purposes. The nature of this instructional work varies according to the circumstances met with, and embraces inspection of country, instruction in the necessary improvements, expenditure on improvements, selection of rams and ewes for breeding purposes, culling, classing the clip for market, making and administering sheep drenches, dipping, jetting, and practical demonstrations of interest to growers. Close touch has been maintained with the graziers' and selectors' associations, and these bodies are addressed frequently and questions discussed in relation to sheep and wool matters.

Many pastoral holdings have been much improved by ringbarking, a matter in which this Branch has interested itself with advantage.

The injurious practice of using tar for the branding of sheep has been discouraged and with success, especially in connection with the Brisbane market. The saving thus effected is considerable.

The health of the flocks generally has been satisfactory as compared with previous years, except in relation to lung worms which are

becoming more prevalent in the south-eastern portion of the sheep country. Stomach worms caused the usual amount of trouble in some districts, but were in all cases held in check where reliable and recommended drenches were used. Lice in sheep are becoming more general, and growers have been advised to make dipping part of their routine in good management. The blowfly has not been as troublesome or as widespread during the season owing, no doubt, to the climatic conditions in some areas and the dipping, jetting, shearing, and crutching of sheep in others. Malnutrition, with which may be associated licks for sheep for special circumstances, form a considerable part in the activities of the officers of the Branch, especially during dry periods. Sheep have been selected and forwarded to the Animal Health Station for investigation there with a view of locating any specific ailment, and its control.

A continuous correspondence is maintained with those seeking information relative to all matters appertaining to the sheep and wool industry, and forms a very important section of instructional work.

Radio lectures are given at intervals, and the subjects chosen are such as to be of educational interest to sheepowners generally.

The usual wool display at the Royal National Show was staged, and proved to be of special interest to those engaged in the wool industry. The exhibit comprised a useful range of merino wool selected from small growers.

EXPERIMENTS WITH ANTHELMINTICS.

Connelly's Specific was added to water at Bon Accord, Dalby, the property of Jekyll Brothers, and at the Queensland Agricultural High School and College, Gatton, on 1st March, 1931, and 8th June, 1931, respectively. The sheep were inspected from time to time during the experiments which terminated on 26th July, 1932, and 5th August, 1932. Before finalising the experiments at Gatton, specimens were taken from the rumen (first stomach), the omasum (third stomach), abomasum (fourth stomach), liver, and large intestine of both experimental and control sheep for analysis. All specimens were normal, and the analysis proved to be practically identical.

As a result of the experiments with Connelly's Specific in the drinking water for the control of Stomach Worm in sheep, both at New Bon Accord, Dalby, and at the Queensland Agricultural High School and College, the sheep that were on the specific showed to be in better condition than the controls. Weather conditions during the period could not be regarded as suitable as the summer was exceedingly hot, with no rain from December to early May.

Giving full consideration to all circumstances and influences, I cannot see sufficient advantage in the use of the specific to recommend its use in a general way.

WOOL.

The production of wool for the selling season was most satisfactory, and constituted a record number of bales catalogued for sale in Brisbane. The following is a summary:—

| Sale. | | | | Bales Catalogued. | Sold. | Price per bale. | | Price per lb. | |
|-------------|----|----|----|-------------------|---------|--------------------|---------------------|---------------|----------------|
| No. | | | | No. | No. | Greasy. £ s. d. | Scoured. £ s. d. | Greasy. d. | Scoured. d. |
| 1 | .. | .. | .. | 53,602 | 59,231 | 13 7 2 | 14 7 1 | 9.84 | 16.18 |
| 2 | .. | .. | .. | 46,251 | 45,500 | 12 10 6 | 12 15 0 | 9.30 | 14.68 |
| 3 | .. | .. | .. | 46,055 | 46,361 | 12 7 3 | 13 3 7 | 9.34 | 15.56 |
| 4 | .. | .. | .. | 51,765 | 51,480 | 12 3 5 | 13 8 5 | 9.10 | 15.34 |
| 5 | .. | .. | .. | 50,820 | 48,975 | 11 11 9 | 14 6 0 | 8.52 | 16.29 |
| 6 | .. | .. | .. | 51,186 | 52,888 | 10 15 0 | 12 9 4 | 7.93 | 14.32 |
| 7 | .. | .. | .. | 47,951 | 48,713 | 12 0 9 | 12 16 2 | 8.81 | 14.68 |
| 8 | .. | .. | .. | 44,316 | 45,054 | 13 2 8 | 13 11 4 | 9.63 | 15.58 |
| 9 | .. | .. | .. | 51,052 | 52,672 | 15 0 9 | 16 16 0 | 10.04 | 18.89 |
| 10 | .. | .. | .. | 49,767 | 49,648 | 15 3 8 | 16 6 9 | 11.18 | 19.57 |
| Total | | | | 492,765 | 500,522 | | | | |

It will be seen that there were 7,757 bales more sold than catalogued.

During the season terminating 30th June, 1932, the number of bales catalogued was 466,808, sold 446,077, or 20,731 bales less than catalogued.

The sixth sale of the season was responsible for the lowest price, when the average price was 7.93d. per lb. Since then an upward tendency has been maintained, with the tenth or last sale of the season averaging 11.18d. per lb. for greasy, the peak point of the selling season.

Sheep numbers are now on the decline, which, according to the Registrar-General's latest supplementary figures at 1st January, 1933, total 21,161,142.

FARMERS' WOOL SCHEME.

In the course of the season 324 bales, representing 86,552 lb. of wool were put through the wool room for classification and sale in connection with this scheme, which is a slight increase on last season. The average price realised was 8.88d., while that for the whole of Queensland was 9.42d. Considering that there have been English long wools, coarse crossbreds, and very indifferent coastal grown wools included in the clips handled, the price speaks well for the general get-up of the wools received.

In order to keep the lines distinct to type, it was necessary to make no fewer than sixty-three different classes, each carrying a distinctive classification brand. The conditions as regards receipts for sale are now more favourable than previously, which provides a better opportunity of putting it on the market without unnecessary delay. With this advantage the scheme should be supported to a greater extent, especially by those running small flocks and mixed flocks, and where there are star lots from the larger flocks up to 1,500 sheep.

JAS. CAREW,

Senior Instructor in Sheep and Wool.

APPENDIX B.

REPORT OF THE DEPUTY REGISTRAR OF BRANDS.

DETAILS OF REGISTRATIONS, TRANSFERS, ETC., YEAR 1932-1933.

| | Number. | Fees Received. | Number since Inception of Legislation. |
|--|---------|----------------|--|
| | | £ s. d. | |
| Three-piece brands registered | 598 | 573 10 0 | 84,118 |
| Cancelled brands re-allotted | 17 | 46 10 0 | 6,905 |
| Symbol brands registered | 9 | 57 10 0 | 1,538 |
| Cattle earmarks registered | 255 | 231 10 0 | 26,551 |
| Brands transferred .. | 1,580 | 667 15 0 | 45,874 |
| Sheep brands and ear marks registered | 130 | 63 7 6 | 11,335 |
| Sheep brands and ear marks transferred | 137 | 31 15 0 | 5,070 |
| Distinctive brands registered | 17 | .. | .. |
| Alteration of address of brands | 217 | .. | .. |
| Brands cancelled .. | 20 | .. | .. |
| Earmarks cancelled .. | 117 | .. | .. |
| Total | .. | 1,671 17 6 | |

The registrations show a falling-off compared with the figures for the previous year, but the number of transfers of brands has increased.

The fees received are £348 in excess of last year, due to the increase in fees which took effect in August, 1932.

In the course of the year warnings were issued to numerous offenders against the Brands Acts, and three prosecutions were successful for breaches of the Acts.

In the last session of Parliament the Brands Acts were amended and certain provisions embodied which should be of benefit to stock-owners.

Under the amended Acts, breeders or first branders may now imprint numerals under their three-piece brands to denote the age of cattle and horses. Previously the use of age numbers was confined to the cheek of stock.

The owner of a symbol brand may be allotted, on application, a specified position on which to rebrand purchased stock, instead of following the usual order of rebranding.

Additional earmarks may be registered by a breeder of stud cattle, for the purpose of identification of the different classes of cattle bred by him and which carry the same three-piece brand or symbol brand.

A breeder of stock entered in the stud book of an approved stud horse or stud cattle society may be granted a distinctive brand for use on a specified portion of the stock.

A cattle earmark may not be made upon any cattle not bearing the owner's brand with which the earmark is registered.

The size of branding irons for horses and cattle is prescribed as not less than $1\frac{1}{4}$ inches, or more than $3\frac{1}{2}$ inches, in length, but stock fully grown may be branded with a brand not more than 5 inches in length.

The Minister is empowered to refuse to register, transfer, or alter the registration of any

brand or mark, and to cancel the brand or mark of an owner who is convicted of any offence against the Acts.

On account of the serious loss to the wool industry through the use of pitch and tar for sheep branding, these materials have been omitted from those specified for branding.

The use of distinctive earmarks for sheep has been restricted in so far that one similar to, or easily convertible into any earmark used in the same locality, may not be used. Any right which may have existed to use an earmark for distinctive purposes, such as to denote speyed cows, inoculated cattle, &c., has been cancelled, also the right to use a knife in earmarking cattle is withdrawn. This refers principally to certain old registrations of earmarks, when the owners were granted the commissions referred to.

A number of formal amendments were also included, which should facilitate the administration of the Brands Acts.

H. S. ILIFF,
Deputy Registrar of Brands.

REPORT OF THE DIRECTOR, ANIMAL HEALTH STATION.

For the purpose of widening the scope of investigation of animal pests and diseases and broadening the field of veterinary research, the activities of the Stock Experiment Station at Yeerongpilly were extended early in the official year. The designation of the institution was changed to that of Animal Health Station, to which, on 1st August, I had the honour to be appointed as Acting Director. The appointment was subsequently confirmed.

Reorganisation, consequent on the change, occupied a considerable portion of the year. A brief review of the general work of the Station is set out hereunder.

Of the more important investigational work, greater attention was given to tick fever and pleuro-pneumonia in cattle, and blowfly strike in sheep. The dry season in the grazing districts has not been favourable to a closer study of the blowfly pest.

Mammitis vaccine has, contrary to reports from other States, given much satisfaction in Queensland, the reason apparently being that large doses were used. Prophylactic treatment, however, has been found to give the best results. The vaccine treatment is not recommended in herds where tuberculosis of the udder or contagious abortion are prevalent—chiefly the latter. In every herd where contagious abortion permeates the mass, the vaccine of purely coccal strains has not, up to the present, given satisfactory results. It is a moot point, however, whether vaccine containing a mixture of *Brucella abortus* plus various strains of cocci may not prove efficient as a prophylactic in such herds.

Experiments have been initiated in this direction, and they may give results encouraging enough to pursue the matter further to a decisive conclusion.

The routine work has been heavier than previous years, and the immunisation work on tick fever and pleuro-pneumonia was carried through without loss. It has been possible to do this by a change of method, the results from which are not sufficiently conclusive for a special report up to the present, but they are, nevertheless, worthy of continuance.

Contrary to the generally accepted belief, tick fever due to the various piroplasmata in other parts of the world also exists here, for *T. mutans*, *P. bigeminum*, and *Anaplasma marginale* have been seen here in smears, taken from the blood of animals undergoing immunisation against tick fever. The cattle were of both sexes, and have been inoculated with the virulent blood of tick fever from bleeder No. 2, which was prepared for this purpose at this Station and has been responsible for all the more recent reactions.

Although the season has not been favourable, fodder reserves are ample for requirements, all the available storage capacity being fully occupied at present.

A certain amount of work in connection with tuberculin testing of cows used for the retail milk supply of the city was carried through. One herd is now free of tuberculosis, and it is hoped that others will follow the example set by this enterprising dairyman. No good purpose could, however, be served by testing for tuberculosis alone. A blood test for contagious abortion should be enforced, besides a general examination for good health, before a herd is declared clean and free of disease. In this connection, the intradermal test proved of value as a deciding factor as a check on the subcutaneous test when the results from the latter were indecisive or difficult to interpret.

A certain amount of care and supervision in the general health of the herd, and its separation from infected cattle during the enforced period of rest, and a retest of the whole herd at stated intervals is also desirable, in order to ensure that this particular continuity of purpose is maintained.

A poultry nutritional experiment commencing with day-old chicks has been very satisfactory, and the absence of parasites and disease a marked factor. This experiment duplicated the one carried out elsewhere last year, but the former one was vitiated to a certain extent by the presence of parasites and disease, so that it was considered advisable to repeat the experiment this year, in order to fully ascertain the value and relative merits of the rations used in the former experiment.

Appended are extracts from staff reports, which are duly submitted.

J. A. RUDD, L.V.Sc. (Melb.), Director.

STAFF REPORTS.

VETERINARY OFFICER'S REPORT.

Yeerongpilly, 14th July, 1933.

Mr. A. Forsyth Stewart, B.V.Sc., Veterinary Officer, reports:—

Since commencing duty on 1st October, 1932, I have been engaged in carrying out the diagnostic and pathological work of this Station. In the course of this work various important matters have arisen and are worthy of special mention.

The widespread existence among poultry flocks of a disease as yet unknown to aetiology is a matter of considerable importance. This disease occurs mainly during the late spring and early summer months, and at times inflicts heavy loss on the poultry farmer. Investigational work was carried out last year in order to determine the aetiology of the disease, but was not successful. However, definite indications were obtained, and it is hoped that, with improved equipment, greater success will be attained this year.

Again, the establishment of *Bacillus pullorum* infection among a flock in Queensland is of interest.

In view of the recent work done at the C.S.I.R. Animal Health Station at Townsville, it is worth recording that the two piroplasms—namely, *Theileria mutans* and an organism of the *babesiella* type—besides the well-known *Piroplasma bigeminum*, and also *Anaplasma marginale*, have been seen in blood smears at this laboratory. While *Theileria mutans* for many years has been known to exist and its occurrence is widespread, the organism of the *babesiella* type, has been seen in only one smear. *Anaplasma marginale* has been seen on several occasions, but the extent of infection is unknown.

The diagnosis of *Enzootic hæmaturia* amongst the dairy herds of the Helidon district offers a field where very valuable work can be done to make a contribution towards our present knowledge of this disease.

Sheep in certain areas of the Emerald district develop a peculiar condition which, when the sheep are suddenly startled, produces tetanic convulsions. The incidence of this condition among the flocks in the affected areas is increased during shortage of feed, and it is thought that the cause of the condition is the ingestion of yellow-wood (*Terminalia bursarina*). Feeding experiments with the leaves of this tree are now being conducted. This experiment has been made possible by the generosity of Mr. McCosker, of Coden-warra, in the Emerald district.

Several mortalities have occurred among stock and have warranted investigation. Two are worthy of mention. During the months from October to December, 1932, several thousands lambing ewes were lost in the Muttaborra district from pregnancy disease. During May of this year approximately 600 sheep were lost in the Roma district from arsenical poisoning.

Another matter of interest is the exhibit demonstrated by this Station at the Health Week Exhibition held in the City Hall from 3rd April to 10th April of this year. This exhibit consisted of pathological specimens of diseases in stock which are directly related to public health. Considerable attention was attracted by the exhibit, and it is considered that the interest taken by the public was sufficiently encouraging to warrant a similar exhibit on future occasions.

ENTOMOLOGIST'S REPORT.

Mr. F. H. Roberts, M.Sc., reports:—

For the year 1932-1933 the following projects have been in hand:—

SURVEY OF THE INTERNAL PARASITES OF CATTLE.

This work was conducted at the Brisbane Abattoirs. A total of twelve species was recorded, the most important being *hæmonchus contortus* and *Bunostomum phlebotomum*. *Hæmonchus contortus* is the most pathogenic sheep helminth in Queensland, and information obtained to date indicates that it is responsible for severe losses among calves, especially in the North. The cattle hookworm *Bunostomum*

phlebotomum may be regarded as being fairly prevalent in the southern coastal districts. This parasite is regarded as being exceedingly pathogenic in other parts of the world.

ASCARIS LUMBRICOIDES OF PIGS.

Work with this common pig parasite has been continued and should be completed early this year. To date, information on its prevalence, pathogenicity, life cycle, therapeutics, and prophylaxis has been obtained.

TREATMENT OF POULTRY NEMATODES.

Certain experiments were undertaken in the treatment of poultry for the round worm *Ascaridia lineata*. Unfortunately, no conclusive results were obtained.

BUFFALO FLY.

During March to June, 1933, a survey of the area under occupation by the buffalo fly was conducted.

BACTERIOLOGIST'S REPORT.

Mr. St. G. Thorn, Bacteriologist, reports:—

Herewith is a brief account of the more important duties delegated to me since my appointment as Bacteriologist in August, 1932.

CONTAGIOUS MAMMITIS.

Microscopic examination of some 700 samples of strippings suspected contagious mammitis and the subsequent isolation of the micro-organism connected with this disease were carried out. From these specimens vaccines have been prepared for the treatment of 15,644 cows. The results, so far as can be ascertained, are distinctly encouraging, and indicate that the vaccine is useful for prophylactic and curative purposes. In this particular work valuable assistance has been given by Miss Rowett.

TICK FEVER.

The successful immunisation of 117 animals in the stalls has necessitated the microscopic examination of at least 3,978 blood smears, as it is now the practice to examine films from the eighth to the fortieth day subsequent to the injection of recovered blood. The importance of this routine work should not be underestimated, for it not only affords definite information as to whether an animal has responded to the inoculation, but, in addition, indicates when an animal may with reasonable safety be discharged from the Station. It is of interest to note, in connection with the examination of blood smears, that, while the presence of *P. bigeminum* and *T. mutans* have long been established, the occurrence of *A. marginale* has more recently been observed.

TREATMENT OF CATTLE AFFECTED WITH NATURAL TICK FEVER WITH TRYPAFLAVIN.

In the course of the year some opportunity was afforded of testing the efficacy of *trypaflavin* for the curative treatment of tick fever due to *P. bigeminum*. It is necessary to mention that the symptoms exhibited by the affected animals prior to the intravenous injection of *trypaflavin* were urgent and grave.

Conclusions.—As all the animals recovered, the injection of *trypaflavin* appeared to have a definitely beneficial effect, but, as the animals were very valuable, unfortunately, no controls were employed.

The general bacteriological work at the Station in the course of the year included:—

LABORATORY.

Seriological agglutination tests for contagious abortion; bacteriological examination of water samples; preparation of culture media; preparation of microscopical stains; and dispensing drenches.

OUTDOOR ANIMAL HEALTH STATION.

Temperatures of animals in stalls; pleuro inoculations; vaccine injections and branding and tuberculin tests; and spraying for ticks.

FIELD WORK.

Tuberculin testing; drenching stock; and intravenous injections of *trypaflavin* in tick fever cases.

EXHIBIT AT ROYAL NATIONAL SHOW.

This display was prepared with the object of bringing under public notice the importance of the subject of dairy hygiene, particularly stressing the necessity for sterilizing all dairy utensils.

REPORT OF THE REGISTRAR OF PRIMARY PRODUCERS' CO-OPERATIVE ASSOCIATIONS.

“The Primary Producers’ Co-operative Associations Acts, 1923 to 1926.”

In accordance with Rule 52 of Part II. of the Schedule to the abovenamed Acts, I have the honour to submit, for transmission to the Governor in Council, my report for the year ended 30th June, 1933.

Since my last report eleven additional associations have been registered, making a total of 170 associations and 1 federation registered under the Acts.

The registrations for the year under review were:—

Darling Downs Co-operative Bacon Association Limited.
Cooloola Group Fruitgrowers’ Co-operative Association, Limited.
Manyung West Co-operative Dip Association, Limited.
Captain’s Mountain Co-operative Dairy Association, Limited.
Bore View Co-operative Dip Association, Limited.
The Coolana Co-operative Dip Association, Limited.
Windera Co-operative Dip Association, Limited.
The Tent Hill Co-operative Dip Association, Limited.
The Silverleaf Co-operative Dip Association, Limited.
Wondai Co-operative Dip Association, Limited.
Greenview Co-operative Dip Association, Limited.

The associations registered under the Acts to 30th June, 1933, are listed below:—

| | |
|--|----|
| Bacon Associations—Having a capital divided into shares with limited liability | 4 |
| Canning, Jam, and Preserving Association—Having a capital divided into shares with limited liability. (Since cancelled) .. | 1 |
| Carrying Association—Having a capital divided into shares with limited liability | 1 |
| Chicken Hatchery Association—Having a capital divided into shares with limited liability | 1 |
| Cold Storage Federation—Having a capital divided into shares with limited liability | 1 |
| Cotton Association—Having a capital divided into shares with limited liability | 1 |
| Dairy, Butter, and Cheese Associations— | |
| Having a capital divided into shares with limited liability | 53 |
| Without share capital, with liability limited to the assets of the Association | 4 |
| Dip Associations—Having a capital divided into shares with limited liability | 18 |
| Egg Producers’ Association—Without share capital with liability limited to the assets of the Association | 1 |

| | |
|---|-----|
| Farmers’ Association—Without share capital with liability limited to the assets of the Association | 1 |
| Farmers’ Distributing Association—Having a capital divided into shares with limited liability | 1 |
| Fat Pig Selling Association—Without share capital with liability limited to the assets of the Association | 1 |
| Fruitgrowers’ Associations— | |
| Having a capital divided into shares with limited liability | 5 |
| Without any share capital with liability limited to the assets of the Association .. | 56 |
| Fruit, Vegetable, and Poultry Association— | |
| Having a capital divided into shares with limited liability | 1 |
| Fur Farming Association—Having a capital divided into shares with limited liability | 1 |
| Packing Associations—Having a capital divided into shares with limited liability | 3 |
| Peanut Growers’ Association—Having a capital divided into shares with limited liability | 1 |
| Producers’ Associations—Having a capital divided into shares with limited liability | 3 |
| Publication Association—Having a capital divided into shares with limited liability | 1 |
| Stock and Produce Associations—Having a capital divided into shares with limited liability | 3 |
| Sugar Associations— | |
| Having a capital divided into shares with limited liability | 1 |
| Without share capital with liability limited to the assets of the Association | 8 |
| Associations without share capital with unlimited liability | Nil |
| | 171 |

Since the Acts came into force several associations have amalgamated, the registrations of others have been cancelled, and some have ceased to function and are being wound-up voluntarily, so at present there are actually 164 associations registered under the Acts.

Several associations have amended their rules to meet the changing circumstances, and there are other associations considering the question of amalgamation with a view to securing more economical working and further co-operative efficiency.

Some exemptions have been granted from the provisions of the Acts, and 153 auditors have been licensed thereunder.

JAMES P. ORR,
Registrar of Primary Producers’
Co-operative Associations.

REPORT OF THE DIRECTOR OF MARKETING FOR THE YEAR ENDED 30TH JUNE, 1933.

In accordance with the provisions of "*The Primary Producers' Organisation and Marketing Acts, 1926 to 1932*" I have the honour to submit herewith a report of the operations of the pools that have been constituted in relation to the various commodities under the Acts, which have been introduced to provide for the orderly marketing of primary products in Queensland.

ARROWROOT BOARD.

Personnel of the Board to 14th April, 1934.—R. Stewart (chairman), J. F. Cassidy, C. Brumm, G. C. Sempf, A. Rose, and E. Graham (Director of Marketing).

Mr. G. C. Sempf resigned from the Board in October of last year, and at present a vacancy exists on the Board. At a conference between the Board and the arrowroot millers, held on the 28th April, it was suggested that the millers nominate one of their number for election. At a subsequent conference of millers on 23rd June Mr. G. R. Walker was nominated, and a recommendation has been made by the Board to the Minister that he be appointed to fill the vacant position.

1931 Season.—Deliveries of flour during the 1931 season amounted to 753 tons, of which 732 tons have been sold. The balance of stock—21 tons—it is expected will be cleared by August, 1933.

The average price per ton to date for all grades of flour is £36 4s. The growers received payment for bulbs delivered to the mill—

| | s. | d. | |
|---------------------------|----|----|----------|
| 1st advance payment | 18 | 0 | per ton. |
| 2nd advance payment | 8 | 0 | per ton. |
| 3rd advance payment | 5 | 6 | per ton. |

making a total to 30th June of the present year of £1 11s. 6d. per ton. It is anticipated, however, that a fourth and final advance—possibly to 5s. 6d. per ton—will be available within the course of a week or so.

1932 Season.—The quantity of flour manufactured amounted to 582 tons. Stocks of flour on hand as at 30th June, 1933, are—

| | Tons. | cwt. | qr. | lb. |
|--|-------|------|-----|-----|
| Balance of 1931 Season .. | 20 | 17 | 0 | 0 |
| Balance of 1932 Season .. | 247 | 3 | 3 | 7 |
| | 268 | 0 | 3 | 7 |
| Less deliveries still to be made against contracts | 156 | 9 | 0 | 14 |
| Balance on hand .. | 111 | 11 | 2 | 21 |

Growers have received a first advance of 20s. per ton on bulbs from the 1932 crop, delivered to the mill, and it is anticipated that a second advance of 5s. 6d. will be available shortly. In continuance of the policy adopted by the Board to reduce the cost of manufacturing flour, they again offered millers £13 per ton for the manufacturing of the 1932 season's bulbs into flour, and, following on a conference with the millers, this price was accepted on the basis of £10 on delivery of the flour, and further payments coincident with the subsequent advances made to growers.

The recent High Court judgment in the Peanut Case was having some effect on the arrowroot position, and to meet the situation a conference was arranged between the millers and the Board on 28th April and the position placed

before the former. It was pointed out that, as the control of interstate sales of the commodity was affected by such judgment, and that as certain millers voluntarily had asked for the Board to control the marketing of the flour, this could only be accomplished by agreement between both parties, whereby the Board would be assured of supplies; otherwise it would not be willing to function.

The necessary finance connected with the marketing of the 1932 crop has been provided by the Bank of Australasia. The Board arranged with its agents that the latter, in consideration of the amount of that firm's fidelity bond with the Board being reduced from £3,000 to £1,000, would guarantee the bank against any loss.

Negotiations which, it is expected, will be successful, have been entered into between the Bank of Australasia and the Board to finance the value of the crop covered by the agreement, and it would appear that, although it may be difficult to fully control the market, sufficient protection can be afforded (at least for the current season) to growers and millers who are directly concerned in the agreement.

It may be necessary to meet market rates in respect to outstanding flour the property of dissenting millers, but it is anticipated that growers of bulbs may be deflected from such millers, which will improve the position.

It is proposed to call a meeting of growers at an early date to place the position before them and to solicit the hearty co-operation of those millers who are signatories to the agreement. If this is given—and every reason exists for anticipation of such support—the handling of the 1933-34 crop should present no grave difficulties.

ATHERTON TABLELAND MAIZE BOARD.

Personnel of the Board to 31st March, 1934.—H. H. Collins (chairman), J. F. Quilter, W. Bailey, L. R. Crouch, R. W. Dawson, and E. Graham (Director of Marketing).

My last report indicated that a ballot of growers would be taken on the 12th July, 1932, to decide whether or not the operations of the pool would be continued for a further period of ten years. The majority of the growers concerned voted in favour of continuance and the operations of the pool were extended to the 30th June, 1943.

The total quantity of maize delivered to the pool for the year was 17,437 tons, and the deductions for moisture, &c., amounted to 519 tons, leaving the net balance of maize handled at 16,918 tons. Of this quantity only 46 tons were classified as second quality.

To date growers have received £7 10s. a ton for the maize delivered to the pool, and it is anticipated that a final payment of 5s. 6d. per ton will be made in August next, making the total payment to growers of £7 15s. 6d., which is a considerable increase on last year's price of £4 11s. 1½d.

The handling charges of the pool for the year, which included Government interest and redemption, bags, silo costs, cartage, and administrative costs, amounted to £1 7s. 2d. per ton, this being a slight reduction on last year's figure.

The average selling price of maize per ton for the year was—

| | £ | s. | d. |
|--------------------------|----|----|----|
| North Queensland | 10 | 7 | 2 |
| Maize Products Pty. Ltd. | 7 | 5 | 0 |
| Sydney consignments .. | 7 | 16 | 4 |
| Brisbane consignments .. | 7 | 7 | 7 |

During the past year the Board again approached the Government for a loan of £15,000 for the purpose of erecting six additional bins at Atherton, together with the necessary equipment. The loan was granted and it is anticipated that the work will be completed by the end of August.

During the year the Board has given consideration to the possibility of establishing a maize by-products factory in the North, and it is intended that the proposal will be placed before the growers at an early date.

During the month of June the Board commenced to take delivery of the 1933-34 season's crop, which it is anticipated will reach a total tonnage of 21,000 tons, the area planted in the Tolga, Kairi, and Atherton districts being approximately 18,000 acres. A first advance is being made to growers at the rate of £3 10s. a ton on all maize delivered for the 1933-34 season's crop.

BARLEY BOARD.

Personnel of the Board to 30th September, 1934.—E. Fitzgerald (chairman), H. Kessler, and E. Graham (Director of Marketing).

The Board's term of office expired on 23rd April, 1933, and on nominations being called for the election of two representatives to hold office to 30th September, 1934, Messrs. E. Fitzgerald and H. Kessler were returned unopposed, Mr. Fitzgerald again being appointed chairman.

1931-32 Season.—The auditor's report for the season 1931-32 showed that the Board's operations covered the handling of 31,471 bushels of barley, which were dealt with as follows:—

| | |
|--|--------------------|
| Used for malting | 21,410 bushels. |
| Used for barley meal and feed barley | 7,689 bush. 24 lb. |
| Loss in handling | 2,371 bush. 26 lb. |
| The loss in handling is equal to 7.5 per cent. | |
| Quantity malted—21,410 bushels = 50 lb. per bushel. | |
| Malt sold—22,077 bushels 21 lb. = 40 lb. per bushel. | |

Payments to growers—

| |
|---|
| 29,429 bushels 18 lb. Cape and Malting at 2s. 6d. per bushel. |
| 2,041 bushels 32 lb. (feed) at 2s. per bushel. |

Further advances have been made on—

| | |
|---------------------|-----------------|
| Malting | 6d. per bushel. |
| Cape (feed) | 2d. per bushel. |
| Feed | 3d. per bushel. |

Total payments to growers therefore were at the rate of 3s. per bushel for malting, 2s. 8d. for Cape, and 2s. 3d. for feed barley respectively.

Hail Insurance.—The auditor drew the attention of the Board to the fact that no reserve fund for hail insurance had been made. Compensation amounted to £39 8s. 10d. on 402 bushels 37 lb. at 1s. 11½d. per bushel.

Pool administration charges totalled £1,461 16s. 10d., making an average of 11.14d. per bushel.

1932-33 Season.—Negotiations which were opened up between the Board and Castlemaine Perkins Limited during the early part of 1932 were ultimately finalised prior to the intake season. The Board agreed to supply up to 40,000 bushels of malting barley at 3s. 6d. per bushel for No. 1 malting at Toowoomba, but reserved the right of supplying proportionately less if the

crop did not reach a total of 100,000 bushels. In order to protect the interests of the Queensland Brewery Limited, who were entitled to be supplied with barley equal in quality and quantity to that supplied to Castlemaine Perkins Limited, the Board arranged that the maltster should visit Toowoomba during the delivery season and select the barley for the Queensland Brewery Limited, selections and quantity to be on the basis of 50-50, any rejects from Castlemaine Perkins Limited to be diverted to the Maltings for sale as feed.

Dockages were applied and advances made, as under:—

| | s. | d. |
|-------------------------------|----|----|
| No. 1 Malting Barley | 2 | 0 |
| No. 1A Malting Barley | 1 | 11 |
| No. 2 Malting Barley | 1 | 10 |
| No. 2A Malting Barley | 1 | 9 |
| No. 3 Malting Barley | 1 | 8 |
| Cape and Feed Barley | 1 | 6 |

The Wheat Board has again made the Maltings available to the Barley Board for malting operations, and has increased the malting capacity by making available No. 4 floor, in consideration of the Barley Board's agreeing to put the floor in good order. This was given effect to at a small expenditure, and malting operations, which commenced early in May, are now in full swing.

As in former years, Mr. Elliott has undertaken the malting operations on behalf of the agents (Messrs. Denhams Limited). He reports that this is proceeding smoothly, and that by using the fourth floor the malting season will be appreciably shortened.

The quantity so far delivered to the Board for the 1932-33 season has fallen short of the 100,000 bushels anticipated prior to harvest. Deliveries total 77,239 bushels, the bulk of which has been dealt with for malting purposes, while the balance has been disposed of for feed and seed purposes.

During last malting season the maltster drew the Board's attention to the fact that the class of malting barley grown had to a great extent lost its identity, and suggested that the Board would be well advised to give some attention to the matter of obtaining fresh supplies of seed. The Board, through its agents, secured for seed purposes several hundred bushels of Archer's Plumage barley from Tasmania, which has all been disposed of for seed.

Coincidentally, one of the seed merchants of Toowoomba interested himself in the introduction of Archer's Spratt from New Zealand, and it is understood that this has also been disposed of for this year's planting.

BROOM MILLET BOARD.

Personnel of the Board to 31st October, 1933.—H. Niemeyer (chairman), E. M. Schneider, and E. Graham (Director of Marketing).

1931-32 Season.—The quantity of broom millet received into the pool during the 1931-32 season amounted to 32 tons, which realised £1,460, making an average of £45 10s. 7d. per ton. This quantity, together with an amount carried over from the 1930-31 season, was not sufficient for local requirements, and necessitated the direct importation by manufacturers of approximately 20 tons.

1932-33 Season.—Owing to the prospects of the broom millet crop being a light one, the Board after calling for returns, decided against exercising full control, provided that growers sent their millet to the Board's agents at Brisbane or

Rockhampton, who would account direct to the growers. The Board fixed the sale price and stipulated that in the case of Rockhampton sales the agents were to submit a sample to Brisbane of each consignment received, for valuation.

Receipts into the pool for the season amounted to 90½ tons, of which 84½ tons were disposed of at an average price of £37 10s. per ton. Compared with previous seasons, this average appears to be considerably lower, but consideration must be given to the lower prices of brooms, and the fact that a large crop in the Southern States has resulted in manufactured brooms, also a good-quality millet, being unloaded on this market at a relatively low figure. In view of these circumstances, it is quite apparent that the prices realised have been very satisfactory to Queensland growers.

BUTTER BOARD.

Personnel of the Board to 30th June, 1934—J. Purcell (chairman), W. J. Sloan, J. L. Wilson, J. McRobert, T. F. Plunkett, A. G. Muller, and E. Graham (Director of Marketing).

Mr. A. G. Muller was appointed to the Board on 4th March, 1933, *vice* Mr. C. H. Jamieson, resigned.

During the year the Board, with a view to strengthening its system of control, was successful in inducing the Government to give effect to a comprehensive amending Order in Council, this being gazetted on the 13th April, 1933.

Control is exercised by the Board over the marketing of the commodity without obliging those concerned to actually submit same to the Board for handling. In this regard it is worth repeating that the Board's policy invariably has been to interfere with existing channels of trade as little as possible. To achieve this objective, each of the companies operating in the State is asked to submit the name (or names) of a suitable company, firm, or person (or companies, firms, or persons) it desires to handle its product, and the Board, after satisfying itself of the *bona fides* of the concern (or concerns) nominated, proceeds to appoint it (or them) as agent. The control exercised by the Board is to a large extent indicated in the Order in Council to which reference has been made, but the nature of the control is set out more elaborately in the conditions which the Board attaches to its agents. The Board determines the price to be charged on the local market, and imposes a limit of 3 per cent. commission, and the agent is required to take all risks in the matter of finance. As butter is also sold direct *ex* factory, the manufacturing companies are also appointed agents of the Board and subjected to agency conditions.

Equalisation.—The system of equalisation followed by the Board has been fully outlined in reports for the years ended 30th June, 1930, and 30th June, 1931, and removes the need to reiterate the principles here. However, in view of the widespread interest being taken in the matter owing to the likelihood of the application of some equalising system throughout the Commonwealth, it is deemed desirable to again briefly traverse the methods adopted.

In brief, all butter sold in each month is made the subject of a distinct equalisation; particulars as to sales on the different markets are secured from factories and agents. In the case of

sales intrastate and interstate, prices taken are those decided upon from time to time. Overseas sales are taken in on the basis of London prices operating as between the seventh and fourteenth day after arrival of shipments in London. Prices in this regard are for first-grade butter, and are submitted from time to time by the London office of the Commonwealth Dairy Export Board. The average London price is arrived at after taking into account the quantities shipped in each boat. The figure so arrived at serves also for the purpose of determining the value in respect of ships' stores sales to vessels trading outside Commonwealth waters and sales to countries other than Britain. From all prices so determined is deducted the levy paid to the Australian Stabilisation Committee. In the case of interstate and overseas sales, shipping charges, &c., which are not incurred in connection with sales on the local market, are deducted. In the case of exports from the Commonwealth, bounty (as determined from time to time by the Australian Stabilisation Committee) and also exchange are added with a view to arriving at the net price. With the quantities disposed of on each of the different markets, together with the net prices determined in the manner indicated, the Board is enabled to strike a general average price for the whole of the butter and make reclamations from or rebates to the factories, as the case may be. Set out in Appendix 1 hereto will be found a complete equalisation as determined for the month of April. To enable the factories to check up their figures, basic information is supplied to them monthly.

Provision for Quality in Equalisation.—In some quarters the question of providing for the recognition of quality in equalising has been raised in connection with the proposals to effect a Commonwealth price referred to herein. In the circumstances, it might be well to point out that this presents no difficulty under the scheme. The system provides that all butter, wherever sold, shall be taken in on the basis of prices determined by the Board for butter of first-grade quality sold in the various markets. Naturally, butter of an inferior quality cannot be expected to realise the price paid for the first-grade article, and consequently, it having been assumed that such a price had been secured, the factory making the inferior butter is penalised to the extent of the difference between the first-grade price determined and that actually received. This system obviously is fair and equitable, meaning as it does that, whilst the factory concerned is assured of receiving a reasonable price as determined by competition on the various markets for its inferior-quality butter, it has before it a continuous reminder of the desirableness in its own interests of improving its quality and bringing its prices up to those determined or recognised by the Board. First-grade values have been taken in Queensland because of the fact that there is no definite means of determining whether the butter sold locally is choicest or first-grade. For purposes of uniformity, therefore, first-grade values only are taken in respect of exports, and, as is generally known, this means that factories manufacturing choicest butter receive a small premium. Queensland has been fortunate, perhaps, in this connection by reason of the fact that practically the whole of her inferior quality butters are exported.

However, precisely the same principle would apply in the event of it being found desirable to effect the sale of a proportion of our inferior butters in the Commonwealth. Such butter would be regarded under the equalisation as having been sold at the price fixed for the better-quality article, and, as is the case at present under the Queensland system of equalisation, the makers of such butter would be required to bear the loss of the difference in value between the price fixed for the better article and that of the inferior.

Exchange.—Since my last report the buying rate on London (thirty days) has remained at £124 10s. It is gratifying to be able to record that dairy farmers of Queensland receive the last possible shilling as far as exchange is concerned. The Board's estimate of the value of the favourable exchange rate to them during the year under review is £850,000. In computing this amount, regard has been taken to the fact that the rate of exchange is reflected also in local market values.

Production for Year.—There is attached as Appendix 2 a table showing manufacture, sales, and consignments of butter for the year ended 30th June, 1933. It is desired to point out that the figures shown under the heading "Sales in Queensland" relate only to butter of Queensland manufacture.

Consumption of Butter in Queensland.—As indicated in Appendix 2, 427,920 boxes of Queensland-produced butter were consumed in the State during the year. Known imports from Victoria total 10,912 boxes, and by rail from New South Wales 6,688 boxes, the latter again being practically wholly in accordance with the interstate agreement. There was otherwise imported into Queensland, via the Tweed, under the interstate agreement, a quantity of butter estimated at 9,000 boxes, making a total consumption for the year of 454,520 boxes (each of 56 lb.).

The following table in relation to the consumption of butter since the Board commenced operations is furnished:—

| Year. | Consumption, inclusive of Imports from other States. | | | |
|---------|--|----|----|---------|
| | Boxes (56 lb.) | | | |
| 1925-26 | .. | .. | .. | 401,806 |
| 1926-27 | .. | .. | .. | 407,698 |
| 1927-28 | .. | .. | .. | 409,452 |
| 1928-29 | .. | .. | .. | 410,879 |
| 1929-30 | .. | .. | .. | 421,009 |
| 1930-31 | .. | .. | .. | 414,244 |
| 1931-32 | .. | .. | .. | 422,234 |
| 1932-33 | .. | .. | .. | 454,520 |

According to latest information made available following upon the recent census, the present population of Queensland is 949,000. It may be seen that the *per capita* consumption in this State at present represents 26.9 lb. per annum. As far as is known, an equal *per capita* consumption is not approached in any other tropical or sub-tropical country in the world.

Depreciation in Values.—A steady decline in values has extended throughout the past few years. For instance, the average value of butter per lb. was 1s. 5½d. during the year ended 30th June, 1930, but the value for the year ended 30th June, 1933, has fallen to 10½d. per lb.

Board Benefits Industry.—Despite the decline in market values, the operations of the Board have been beneficial to the industry and have maintained price levels here on a comparatively higher basis. In this connection it will be seen from Appendix 3 hereto that Queensland dairymen, on the basis of the quantity of butter manufactured and sold locally, were better off than those of Victoria to the extent of £141,956. Furthermore, they were £268,317 better off than would have been the case had parity rates obtained after the effect of the operations of the Australian Stabilisation Committee had been taken into account.

Finance.—This Board is in a sound position financially, and its functions are carried out with due regard to economy.

APPENDIX 1.
FINAL EQUALISATION STATEMENT FOR APRIL, 1933.

| Factory. | OVERSEAS. | | INTERSTATE. | | LOCAL. | | TOTAL. | | Realisation on Board's Average at £2-3064487 per Box (56 lb.). | FINAL. | |
|----------|-------------------------|--------------|------------------|--------------|-------------------------|---------------|-------------------------|--------------|--|--------------|-------------|
| | Boxes (each of 56 lb.). | Realisation. | Boxes, ea. 56lb. | Realisation. | Boxes. (each of 56 lb.) | Realisation. | Boxes. (each of 56 lb.) | Realisation. | | Reclamation. | Rebate. |
| | | £ s. d. | | £ s. d. | | £ s. d. | | £ s. d. | | £ s. d. | £ s. d. |
| A | 1,742 | 3,730 15 8 | .. | .. | 2,574 | 6,456 9 0 | 4,316 | 10,187 4 8 | 9,954 12 8 | 232 12 0 | .. |
| B | 305 | 653 4 2 | .. | .. | 770 | 1,931 8 4 | 1,075 | 2,584 12 6 | 2,479 8 8 | 105 3 10 | .. |
| C | 613 | 1,312 16 10 | .. | .. | 293 | 734 18 10 | 906 | 2,047 15 8 | 2,089 12 10 | .. | 41 17 2 |
| D | 482 | 1,032 5 8 | .. | .. | 802 | 2,011 13 8 | 1,284 | 3,043 19 4 | 2,961 9 7 | 82 9 9 | .. |
| E | 133 | 300 7 2 | .. | .. | 376 | 943 2 8 | 509 | 1,243 9 10 | 1,173 19 8 | 69 10 2 | .. |
| F | 11,801 | 26,650 11 10 | .. | .. | 4,473 | 11,219 15 6 | 16,274 | 37,870 7 4 | 37,535 2 11 | 335 4 5 | .. |
| G | 2,447 | 5,526 2 10 | .. | .. | 741 | 1,858 13 6 | 3,188 | 7,384 16 4 | 7,352 19 2 | 31 17 2 | .. |
| H | 15,035 | 33,954 0 10 | .. | .. | 2,491 | 6,248 5 2 | 17,526 | 40,202 6 0 | 40,422 16 5 | .. | 220 10 5 |
| I | 4,040 | 9,123 13 4 | .. | .. | 297 | 744 19 6 | 4,337 | 9,868 12 10 | 10,003 1 4 | .. | 134 8 6 |
| J | 6,239 | 14,089 14 10 | 46 | 100 1 0 | 2,588 | 6,491 11 4 | 8,873 | 20,681 7 2 | 20,465 2 5 | 216 4 9 | .. |
| K | 2,979 | 6,727 11 6 | .. | .. | 76 | 190 12 8 | 3,055 | 6,918 4 2 | 7,046 4 0 | .. | 127 19 10 |
| L | 17,920 | 40,469 6 8 | .. | .. | 2,854 | 7,158 15 8 | 20,774 | 47,628 2 4 | 47,914 3 4 | .. | 286 1 0 |
| M | 3,172 | 7,163 8 8 | 46 | 100 1 0 | 2,477 | 6,213 2 10 | 5,695 | 13,476 12 6 | 13,135 4 6 | 341 8 0 | .. |
| N | 1,414 | 3,193 5 8 | .. | .. | 412 | 1,033 8 8 | 1,826 | 4,226 14 4 | 4,211 11 6 | 15 2 10 | .. |
| O | 2,004 | 4,525 14 0 | 4 | 8 14 0 | 206 | 516 14 4 | 2,214 | 5,051 2 4 | 5,106 9 6 | .. | 55 7 2 |
| P | .. | .. | .. | .. | 27 | 67 14 6 | 27 | 67 14 6 | 62 5 6 | 5 9 0 | .. |
| Q | 16,968 | 38,319 8 0 | 22 | 47 17 0 | 2,749 | 6,895 8 2 | 19,739 | 45,262 13 2 | 45,526 19 10 | .. | 264 6 8 |
| R | 5,644 | 12,746 0 8 | 15 | 32 12 6 | 1,459 | 3,659 13 2 | 7,118 | 16,438 6 4 | 16,417 6 0 | 21 0 4 | .. |
| S | 10,076 | 22,754 19 4 | .. | .. | 2,358 | 5,914 13 0 | 12,434 | 28,669 12 4 | 28,678 7 8 | .. | 8 15 4 |
| T | 3,263 | 7,368 18 10 | .. | .. | 120 | 301 0 0 | 3,383 | 7,669 18 10 | 7,802 14 3 | .. | 132 15 5 |
| U | 129 | 291 6 6 | .. | .. | 436 | 1,093 12 8 | 565 | 1,384 19 2 | 1,303 2 10 | 81 16 4 | .. |
| V | 11 | 24 16 10 | 22 | 47 17 0 | 1,006 | 2,523 7 8 | 1,039 | 2,596 1 6 | 2,396 8 0 | 199 13 6 | .. |
| W | 4,743 | 10,711 5 6 | .. | .. | 134 | 336 2 4 | 4,877 | 11,047 7 10 | 11,248 11 0 | .. | 201 3 2 |
| X | 1,902 | 4,295 7 0 | .. | .. | 1,013 | 2,540 18 10 | 2,915 | 6,836 5 10 | 6,723 5 11 | 112 19 11 | .. |
| Y | 9,688 | 21,878 14 8 | .. | .. | 741 | 1,858 13 6 | 10,429 | 23,737 8 2 | 24,053 19 0 | .. | 316 10 10 |
| Z | 534 | 1,205 19 0 | .. | .. | 17 | 42 12 10 | 551 | 1,248 11 10 | 1,270 17 0 | .. | 22 5 2 |
| AA | 10,280 | 23,215 13 4 | .. | .. | 2,259 | 5,666 6 6 | 12,539 | 28,881 19 10 | 28,920 11 2 | .. | 38 11 4 |
| | 133,564 | £301,265 9 4 | 155 | £337 2 6 | 33,749 | £84,653 14 10 | 167,468 | £386,256 6 8 | £386,256 6 8 | £1,850 12 0 | £1,850 12 0 |

Note.—The following were the net prices ruling for April—Overseas, 90s. 4d. per cwt., excepting 3,142 boxes shipped ex Cairns at 85s. 8d. per cwt.; Interstate, 87s.; Local, 100s. 4d. per cwt.

APPENDIX 2.

STATEMENT SHOWING TOTAL BOXES (EACH OF 56 LB.) MANUFACTURED, SALES, AND CONSIGNMENTS OF QUEENSLAND BUTTER, JULY, 1932, TO JUNE, 1933.

| Month. | MANUFACTURE (Factory Grading.) | | | | SALES. | | | | Overseas, S/Stores, and Other Countries. | CONSIGNED AND/OR SOLD TO GREAT BRITAIN. | | |
|--------------|-----------------------------------|---------|--------|---------|------------------|-------------|----------------------|----------------------|---|--|---------|--|
| | Choice and First. | Second. | Third. | Pastry. | Queens- land. | Interstate. | East and Tinnars. | Choice and First. | | Second. | Pastry. | |
| 1932. | Boxes. | Boxes. | Boxes. | Boxes. | Boxes. | Boxes. | Boxes. | Boxes. | Boxes. | Boxes. | Boxes. | |
| July .. | 103,436 | 4,132 | 131 | 125 | 33,876 | 167 | 3,856 | 315 | 70,362 | 4,302 | 2,225 | |
| August .. | 94,390 | 4,119 | 62 | 50 | 37,282 | 207 | 2,959 | 155 | 52,536 | 3,547 | 1,380 | |
| September .. | 84,192 | 4,217 | 104 | 68 | 37,178 | 144 | 2,984 | 142 | 45,385 | 4,072 | 1,941 | |
| October .. | 123,527 | 9,629 | 430 | 138 | 34,606 | 136 | 3,357 | 231 | 63,483 | 6,479 | 2,979 | |
| November .. | 147,212 | 11,677 | 344 | 116 | 34,844 | 149 | 3,448 | 113 | 105,855 | 8,665 | 5,587 | |
| December .. | 172,753 | 16,287 | 930 | 298 | 36,838 | 155 | 3,391 | 139 | 93,889 | 7,793 | 6,883 | |
| 1933. | | | | | | | | | | | | |
| January .. | 161,809 | 19,987 | 1,217 | 1,047 | 33,216 | 142 | 4,816 | 136 | 101,452 | 10,181 | 6,914 | |
| February .. | 197,603 | 23,433 | 1,103 | 825 | 31,651 | 149 | 2,012 | 159 | 165,709 | 21,299 | 16,598 | |
| March .. | 188,506 | 23,373 | 805 | 346 | 35,697 | 157 | 5,907 | 141 | 167,354 | 23,847 | 15,641 | |
| April .. | 146,208 | 9,801 | 400 | 164 | 35,487 | 155 | 6,045 | 254 | 110,032 | 9,969 | 7,264 | |
| May .. | 131,609 | 4,388 | 158 | 116 | 41,815 | 3,823 | 8,486 | 1,099 | 90,723 | 4,636 | 2,134 | |
| June .. | 91,848 | 2,287 | 29 | 94 | 35,430 | 1,949 | 6,283 | 328 | 50,274 | 2,795 | 850 | |
| | 1,643,093 | 133,330 | 5,713 | 3,387 | 427,920 | 7,333 | 53,544 | 3,212 | 1,117,054 | 107,585 | 70,396 | |

Note.—Interstate sales include sales to ships trading within Commonwealth waters.

APPENDIX 3.

COMPARISON OF AVERAGE PRICES REALISED IN THE QUEENSLAND, NEW SOUTH WALES, VICTORIAN, AND LONDON MARKETS FOR THE YEAR 1932-33.

| Month. | Amount sold in Queensland (Boxes, each of 56 lb.) | ACTUAL REALISATION PER CWT. | | | | BENEFITS TO QUEENSLAND COMPARED WITH— | | | | | | | | | |
|--------------|--|-----------------------------|---------------------|-----------|-------------------|---------------------------------------|-----------|-----------|-----------|----------------|-----------|-----------|----------|-----------|-----------|
| | | Queens- land. | New South Wales. | Victoria. | Great Britain. | New South Wales. | | Victoria. | | Great Britain. | | | | | |
| 1932. | | <i>s.</i> | <i>d.</i> | <i>s.</i> | <i>d.</i> | <i>s.</i> | <i>d.</i> | <i>s.</i> | <i>d.</i> | £ | <i>s.</i> | <i>d.</i> | £ | <i>s.</i> | <i>d.</i> |
| July .. | 33,876 | 135 | 6 | 131 | 0 | 123 | 10 | 123 | 4 | 3,811 | 1 | 0 | 9,880 | 10 | 0 |
| August .. | 37,282 | 137 | 8 | 133 | 0 | 123 | 8 | 114 | 8 | 4,349 | 11 | 4 | 13,048 | 14 | 0 |
| September .. | 37,178 | 137 | 8 | 133 | 0 | 125 | 10 | 101 | 10 | 4,337 | 8 | 8 | 10,998 | 9 | 10 |
| October .. | 34,606 | 134 | 4 | 124 | 0 | 118 | 0 | 96 | 0 | 8,939 | 17 | 8 | 14,130 | 15 | 8 |
| November .. | 34,884 | 122 | 8 | 111 | 2 | 105 | 6 | 91 | 0 | 10,017 | 13 | 0 | 14,953 | 17 | 8 |
| December .. | 36,838 | 114 | 4 | 105 | 0 | 100 | 4 | 85 | 0 | 8,595 | 10 | 8 | 12,893 | 6 | 0 |
| 1933. | | | | | | | | | | | | | | | |
| January .. | 33,216 | 114 | 4 | 104 | 8 | 100 | 0 | 81 | 6 | 8,027 | 4 | 0 | 11,902 | 8 | 0 |
| February .. | 31,651 | 109 | 4 | 98 | 4 | 93 | 10 | 77 | 0 | 8,704 | 0 | 6 | 12,264 | 15 | 3 |
| March .. | 35,697 | 100 | 4 | 91 | 0 | 88 | 2 | 89 | 0 | 8,329 | 6 | 0 | 10,857 | 16 | 9 |
| April .. | 35,487 | 100 | 4 | 91 | 0 | 91 | 0 | 90 | 4 | 8,280 | 6 | 0 | 8,280 | 6 | 0 |
| May .. | 41,815 | 110 | 4 | 102 | 10 | 99 | 2 | 92 | 0 | 7,840 | 6 | 3 | 11,673 | 7 | 1 |
| June .. | 35,430 | 120 | 4 | 116 | 2 | 107 | 10 | 90 | 10 | 3,690 | 12 | 6 | 11,071 | 17 | 6 |
| | 427,920 | .. | .. | .. | .. | .. | .. | .. | .. | £84,922 | 17 | 7 | £141,956 | 3 | 9 |
| | | | | | | | | | | | | | £269,939 | 18 | 8 |

Note.—Prices given above represent actual monthly averages obtained in places mentioned after taking fully into account Paterson bounty, levy, and exchange. Shipping charges have been deducted in the case of Great Britain, prices given for which represent first grade only. The table therefore shows clearly the actual benefits the producers of Queensland have secured in comparison to the producers in the Southern States, as a direct result of the Board's policy. It shows clearly also the benefits resulting from the maintenance by the Board of a local price over and above London parity as created by the Paterson scheme.

As information in regard to actual realisations for butter shipped overseas for the months of May and June is not to hand at time of compilation of this report, London realisations in respect of these months are estimated only. The actual figures, however, will not materially affect the totals given.

CANARY SEED BOARD.

Personnel of the Board to 31st May, 1934:—G. Burton (chairman), G. D. O'Neill and E. Graham (Director of Marketing).

Mr. M. Coleman, of Nobby, a former member of the Board, opposed Mr. G. D. O'Neill but at the election on 28th February was defeated by the narrow margin of one vote. In order to facilitate the finalisation of each year's pool, an application was made to the Minister to have the date of the election of subsequent boards extended to 31st May of each year. Such request was granted and gazetted on 25th February, 1933.

1931-32 *Crop.*—Although the board anticipated sufficient supplies to meet Australian requirements the dry period experienced during the earlier part of the growing season was responsible for the comparatively light crop harvested.

| | Tons. | cwt. | qr. | lb. |
|---|-------|------|-----|-----|
| Deliveries amounted to .. | 743 | 7 | 3 | 0 |
| Of which cleanings and gradings totalled .. | 84 | 13 | 0 | 13 |
| Total cleaned seed equals .. | 658 | 14 | 2 | 15 |

Owing to the demand for seed for planting the 1932-33 crop, the Board, through its agents, made arrangements for the purchase of imported seed to meet this extra demand.

The working account of the Board shows the payments for canary seed delivered to the Pool, including the first, second, and third advances to growers, totalled £17,990 18s. 2d., exclusive of the purchases of seed amounting to £563 0s. 1d. Pool charges, including steamer freights, railage, cartage, cleaning seed, commission, Board fees, amounted to £3,781 10s. 9d., equalling a cost of £5 1s. 9d. per ton.

All the seed of the 1931-32 crop has been sold at an average of £32 19s. 10d. per ton of cleaned seed whilst the gradings realised an average of £6 11s. 11d.

1932-33 *Crop.*—Total consignments of this season's crop equalled 1,230 tons, of which 547 tons of cleaned seed have so far been disposed of. A first and second advance have been made to growers totalling £15 per ton.

Hail insurances have been paid on 114 tons 10 cwt., equalling £9 15s. per ton, made up of a first advance of £4 15s. and a second of £5. In connection with the difference between the £10 first advance paid ordinarily to the grower and the £4 15s. paid to the grower whose crop met with damage from hail, it might be explained that in the latter case the sum of £5 5s. was deducted as cost of bags and harvesting and carting operations, which the grower was not called upon to provide for by reason of his crop being rendered unfit for harvesting.

The amount of seed available from the 1931-32 crop being far short of the Commonwealth annual requirements, it became advisable for the Board to inform the Minister for Customs of the position, and in this connection a visit was paid to Canberra by the chairman and the manager of Denhams Limited, for the purpose of placing the position before him. A suggestion was made that a committee consisting of a buyer's representative, a Board representative, and a representative of the Minister should deal with applications for imports. This was refused, but an assurance was given by the Federal authorities that impor-

tations would be limited to the amount of the estimated shortage which would exist before the Queensland crop was available—approximately 500 tons. It has since been ascertained that imports to the extent of at least double that quantity have been introduced, and such a quantity is acting detrimentally to the interests of Australian growers. At the same time the price guaranteed to the Tariff Board—*i.e.*, of supplies landed at principal Australian ports—of £32 10s. per ton *c.i.f.* has resulted in growers of canary seed in South Australia producing and disposing of a quantity of seed, estimated at 100 tons, on the South Australian market. Although the commodity is admittedly lacking in quality as compared with Queensland-grown seed, buyers appear to be satisfied to entertain purchases at a slightly lower rate than that quoted by the Board.

It would appear therefore that, placed as the Board is at present with competition in the South in Australian-grown as well as imported seed, some immediate review of the *c.i.f.* quotation will be imperative. A visit to South Australia by the manager of Denhams Limited on behalf of the Board has already been authorised, the object being to make a general survey of the position in each capital city and report to the Board thereon.

CHEESE BOARD.

Personnel of the board to 31st July, 1933.—H. T. Anderson (chairman), T. Dare, A. J. Harvey, D. G. O'Shea, A. Pearce, and E. Graham (Director of Marketing).

The past year has been a difficult one for the cheese industry owing to the decline in values on practically all markets. The board has done much in the adverse circumstances to maintain the industry on an orderly marketing basis. The majority of factories have whole-heartedly co-operated in this direction.

The total expenditure incurred by the Pool for the year under review was £1,555 1s. 3d., equivalent to 3-09d. per 100 lb. of cheese sold, as compared with 3-92d. for the previous year and 3-28d. for the 1930-31 period.

The main principles underlying the board's system of equalisation have not been altered during the year, except as from 1st February last a change in the method of arriving at reclamations and rebates was adopted, and, although this system entails considerably more detail work, it is thought that the greater accuracy in the results obtained thereby justifies the alteration.

During the past year monthly meetings of the board were held with a full attendance of members on almost every occasion.

Particulars of the complement of cheese placed within the pool for the purpose of marketing are as follows:—

| | lb. | |
|---|------------|------------------|
| Stock on hand, 1st July, 1932 | 583,636 | (green weight) |
| Manufacture during year | 12,705,419 | " " |
| Total | 13,299,055 | " " |
| Less stock on hand, 30th June, 1933 | 762,166 | " " |
| Available for sale | 12,536,889 | " " |
| Actual sales | 12,056,089 | (selling weight) |
| Difference representing shrinkage | 480,800 | or 3.8 per cent. |

The following is a dissection of the disposals of cheese on the various markets during the past year, together with gross realisations for the product:—

| Market. | Lbs. | Per cent. | Gross value. | | |
|---------------------|------------|-----------|--------------|----|----|
| | | | £ | s. | d. |
| East | 134,828 | 1.12 | 4,098 | 7 | 4 |
| Interstate | 1,960,099 | 16.26 | 60,645 | 8 | 4 |
| Process | 1,007,670 | 8.36 | 29,365 | 5 | 11 |
| Local | 2,549,751 | 21.15 | 97,642 | 15 | 1 |
| Great Britain | 6,403,741 | 53.11 | 164,663 | 19 | 1 |
| Totals | 12,056,089 | 100.00 | 356,415 | 15 | 9 |

Final account sales have not yet been received for March, April, May, and June exports, the values for which have been estimated in the above statement.

During the year a total of 42,064 crates of cheese were exported to the United Kingdom, as against 27,048 crates for the previous year. The realisations ex the various vessels on which cheese was shipped during these two years are set out hereunder:—

| | 1931-32. | | | Per cwt. | |
|--------------------------------|----------|----|----|----------|----|
| | | | | s. | d. |
| Orama | .. | .. | .. | 60 | 2 |
| Otaio | .. | .. | .. | 66 | 3 |
| Baradine | .. | .. | .. | 64 | 3 |
| Tasmania | .. | .. | .. | 56 | 6 |
| Orari | .. | .. | .. | 54 | 7 |
| Devon | .. | .. | .. | 61 | 5 |
| Tekoa | .. | .. | .. | 61 | 3 |
| Port Dennison | .. | .. | .. | 60 | 1 |
| Surrey | .. | .. | .. | 61 | 1 |
| Turakina | .. | .. | .. | 57 | 5 |
| Tasmania | .. | .. | .. | 56 | 0 |
| Narkunda | .. | .. | .. | 57 | 9 |
| Surrey | .. | .. | .. | 58 | 7 |
| | 1932-33. | | | | |
| Northumberland | .. | .. | .. | 62 | 10 |
| Cornwall | .. | .. | .. | 61 | 2 |
| Hurunui | .. | .. | .. | 58 | 10 |
| Devon | .. | .. | .. | 51 | 0 |
| Orari | .. | .. | .. | 49 | 10 |
| Peshawur | .. | .. | .. | 47 | 11 |
| Autolyceus | .. | .. | .. | 46 | 6 |
| Port Alma | .. | .. | .. | 42 | 6 |
| Tongario | .. | .. | .. | 39 | 7 |
| Turakina | .. | .. | .. | 40 | 7 |
| Hertford (estimated) | .. | .. | .. | 48 | 9 |
| Hurunui (estimated) | .. | .. | .. | 48 | 9 |
| Devon (estimated) | .. | .. | .. | 48 | 9 |
| Westmoreland (estimated) | .. | .. | .. | 48 | 9 |
| Tasmania (estimated) | .. | .. | .. | 49 | 9 |
| Maloja (estimated) | .. | .. | .. | 49 | 9 |

The above figures do not include exchange.

A comparison of the relative market values as given above clearly indicates the extent to which exporters of cheese have come under the influence of depressed market conditions.

COTTON BOARD.

Personnel of the Board to 31st December, 1933—D. C. Pryce (chairman), J. Beck, H. R. Brake, J. P. Fleming, J. Bryant, F. A. Kajewski, and E. Graham (Director of Marketing).

1932-33 Season.—Particulars of cotton, lint, and cotton seed handled by the Board up to and including the 30th June, 1933, are as follows:—

| | Quantity. | | Value. | |
|---|---------------|--|---------|-------|
| | lb. | | £ | s. d. |
| Seed cotton received to 30th June, 1933 | 14,201,729 | | 142,434 | 2 6 |
| Cotton seed delivered to oil mill | 6,732,592 | | 18,033 | 14 7 |
| Cotton seed reserved for planting | 1,983,518 | | 5,312 | 19 11 |
| Cotton lint | 4,358,055 | | 158,088 | 0 0 |
| | (8,599 bales) | | | |

Marketing of the Cotton.—By far the greater proportion of the cotton produced has been disposed of to manufacturers within the Commonwealth. A limited quantity, however (100 bales), of cotton was exported to Japan. This cotton was of a good middling grade and staple length of $1\frac{1}{8}$ inches, and evidently gave satisfaction to the spinners, as enquiry was made in regard to the prospects of obtaining further supplies. The price realised was slightly in excess of Liverpool values ruling at the time the sale was effected.

Additional Varieties of Cotton.—It being the case that Australia firms are the principal purchasers of cotton lint, the Board naturally is anxious that all reasonable effort should be exerted in the production of lint that in all major respects meets with the requirements of the manufacturers here. With this objective in view, seed cotton of additional varieties is being introduced and will be grown experimentally under quarantine conditions. The Board and the Department of Agriculture and Stock are co-operating in this matter.

Finance: Payments for 1932 Crop.—During the year a further payment was made to growers of seed cotton sent to the pool during the 1932 season, the rate being $\frac{5}{16}$ of a penny per lb., thereby bringing the payments to date to growers up to 3.8d. per lb. It is anticipated that an additional payment to growers in the vicinity of $\frac{1}{16}$ d. per lb. will be made within the next three months.

1933 Crop Finance.—The Board was again able to make satisfactory arrangements through the Rural Credits Branch of the Commonwealth Bank for the finance of the 1933 cotton crop.

Two advance payments have been made to growers who have delivered cotton of the 1933 season's crop to the pool. The first advance, which includes the Commonwealth bounty, ranged from 2.6d. to 1.4d. per lb., according to grade and staple length, while a second advance of $\frac{1}{2}$ d. per lb. was made on all seed cotton delivered to the pool up to the 31st May, 1933.

By-products.—In addition to the ginning of the cotton, the by-products principally recovered from the seed are treated and manufactured into products that are of commercial value. The extraction, treatment, and preparation of these by-products form an important part of the work carried out at the cotton premises at Whinstanes. A high standard of quality is maintained, and the various by-products command sale in competition with products of similar kind in the various markets in which they are disposed.

EGG BOARD.

Personnel of the Board to 31st December, 1933—R. B. Corbett (chairman), A. F. Cousner, T. Hallick, A. McLauchlan, W. T. Hughes, and E. Graham (Director of Marketing).

There has been an increase in the quantity of eggs handled by the Board and its agents, and, in view of the large increase in egg production throughout the Commonwealth generally and

increased difficulties in the marketing of the surplus which the local market was unable to absorb, the results are satisfactory.

The quantity of eggs exported to the United Kingdom during the period under review greatly exceeded the shipments of the previous year. It is noteworthy that the prices obtained for eggs in London during last export season relatively were higher than realisations for other primary products exported from Australia, or, to put it another way, eggs escaped the general slump which affected nearly all other primary commodities exported to Great Britain. Excellent reports were received concerning the quality of Queensland eggs from official and other sources. A small loss of £44 5s. 10d. was made on the season's operations.

It will be recalled that the intrusion of a Southern firm in September of last year resulted in the Board having to maintain prices at a higher level than it deemed prudent whilst the firm referred to continued operating in this market. This policy was followed solely for the protection of the producers' marketing organisation. Subsequently the Board was successful in forcing the withdrawal of this firm from the Queensland market.

In the summary furnished for the year July, 1931, to June, 1932, the net average price embracing all grades paid to suppliers is given as 10.12d., but a distribution of the credit balance in export account (when accounts were finalised for the export season of 1931) at the rate of .76d. per dozen on all eggs increased the figure to 10.88d.

Even at the latter figure the net price returned for the year 1932-33 is considerably better.

Every egg which is delivered to the floors is tested by the candling process before sale, and eggs for cold storage are candled in and out in every instance except consignments sent to Southern agents, when eggs are candled on arrival at destination. On occasions it has been found expedient to candle cold-stored stocks for the second time if they have been moving out rather slowly from the floors. This is done to ensure the quality of the eggs to consumers. Careful consideration has been given to consumers' interests, and prices have been arranged at levels at which it was felt consumers could afford to purchase and which would increase local consumption.

A summary of the activities and trade transactions of the Board is set out below giving particulars of the volume of trade and the comparative increase that has taken place during the year:—

| | Increase on 1931-32 | |
|---|---|-----------|
| | Dozen | Per cent. |
| Quantity of eggs received at packing floors of the Board .. | 2,591,279 | 13 |
| Quantity of eggs received by Board's authorised agents .. | 1,272,603 | 19 |
| Surplus stocks transferred by agents to Board's floors .. | 537,404 | 55 |
| Eggs cold-stored | 167,880 | 12 |
| Eggs converted into pulp .. | 55,058 | 150 |
| | = 1,525 tins (1,463 x 40 lb. 62 x 20 lb.) | |
| | Dozen. | Per cent. |
| Eggs exported overseas .. | 1,301,430 | 69 |
| Eggs exported interstate .. | 356,370 | |

| | £ | s. | d. |
|---|---------|---------|----------|
| Turnover | 166,095 | 2 | 9 |
| Payment to suppliers | 143,590 | 6 | 9 |
| General reserve fund as at 24th June, 1933 | 25,178 | 17 | 3 |
| Loss overseas export season 1932 | 44 | 5 | 10 |
| Average gross realisations, embracing all grades | | Dozen. | 1/1.29d. |
| Average net payments to suppliers, embracing all grades | | 11.39d. | |
| | £ | s. | d. |
| Salaries and wages | 10,490 | 4 | 2 |
| Total working expenses | 9,235 | 17 | 1 |
| Deductions 7½ per cent. for working expenses | 10,391 | 17 | 2 |
| Cold-storage charges | 2,330 | 12 | 7 |
| Board fees and expenses | 430 | 0 | 6 |

THE FRUIT INDUSTRY.

The Committee of Direction of Fruit Marketing, functioning under "The Fruit Marketing Organisation Acts, 1923 to 1930," has been active throughout the year. A perusal of the particulars given below indicates the volume and nature of the activities of the organisation.

Interstate Transport.—The following number of packages of fruit and vegetables was consigned by the Committee of Direction per special fruit trains and by steamer to the southern markets for the period of twelve months ended 30th June, 1933:—

| To— | By Special Fruit Train. | By Steamer. | Total. |
|-----------------------|-------------------------|-------------|-----------|
| Victoria | 449,050 | 3,508 | 452,558 |
| New South Wales | 624,841 | 27,559 | 652,400 |
| Totals | 1,073,891 | 31,067 | 1,104,958 |

QUANTITIES OF BANANAS AND PINEAPPLES HANDLED BY THE COMMITTEE OF DIRECTION OF FRUIT MARKETING DURING YEAR ENDED 30TH JUNE, 1933.

| Bananas. | | |
|---|---------|---------|
| Southern Consignments to— | Cases. | Cases. |
| Melbourne | 281,175 | |
| Sydney | 61,123 | |
| Other Southern Places | 6,196 | |
| Interstate Total | | 348,494 |
| Brisbane Market | | 36,238 |
| Total Cases | | 384,732 |
| Bunch Bananas— | | |
| Total quantity marketed in Brisbane | | 614,477 |

of which the Committee of Direction handled 205,250.

The average price realised by the Committee of Direction during the above period for bunch bananas was 3.6d.; the average quantity per bunch being seven dozen. The average price realised for cased bananas was 12s. per case.

| PINEAPPLES. | | |
|--|---------|---------|
| Southern Consignments to— | Cases. | Cases. |
| Melbourne | 107,860 | |
| Sydney | 143,309 | |
| Other Southern Places | 6,758 | |
| Interstate Total | | 257,927 |
| Factory Consignments— | | |
| Winter Pack, 1932 | 78,020 | |
| Summer Pack, 1933 | 229,322 | |
| | | 307,342 |
| Queensland Sales (approximately) | | 127,128 |
| Grand Total | | 692,397 |

FACTORY ACTIVITIES.

STANTHORPE FRUITS.

| Season: December to May— | Tons. | Tons. |
|--------------------------|-------|-------|
| Apples | 154 | |
| Peaches | 10 | |
| Plums | 497 | |
| Apricots | 4 | |
| Nectarines | 4 | |
| Quinces | 18 | |
| Tomatoes | 326 | |
| | — | 1,013 |

CITRUS FRUITS.

| Season: April to October— | Tons. | Tons. |
|------------------------------------|-------|-------|
| Citrons | 9 | |
| Sevilles | 81 | |
| Lisbon Lemons | 80 | |
| Bush Lemons | 16 | |
| Grape Fruit, Pomeloes, &c. | 19 | |
| Sweet Oranges | 64 | |
| | — | 269 |

FIGS.

| | |
|--------------------------------|----|
| Season: January to May | 63 |
|--------------------------------|----|

PAPAWS.

| | |
|----------------------------------|-----|
| Season: June to February | 116 |
|----------------------------------|-----|

PASSION FRUIT.

| | |
|--------------------------------------|----|
| Season: December to February | 40 |
|--------------------------------------|----|

STRAWBERRIES.

| | |
|---------------------------------|----|
| Season: July to January | 50 |
|---------------------------------|----|

TOMATOES.

| | |
|--|-----|
| Metropolitan Crop: October to December | 144 |
|--|-----|

PINEAPPLES.

| | Cases. | |
|---------------------------|-------------------|-------|
| Winter Crop, 1932 | 78,020 | |
| Summer Crop, 1933 | 229,322 | |
| Total | 307,342 (approx.) | 8,306 |

A case contains 60 lb. net weight of fruit, equals 37 cases per ton, approximately.

| | |
|-----------------------|--------|
| Total Tonnage | 10,001 |
|-----------------------|--------|

GENERAL MATTERS.

BANANA SECTION.

Banana Ripening Rooms.—The banana ripening rooms established by the Committee of Direction in Brisbane and Sydney have continued to operate successfully throughout the year. In Brisbane an average of about 1,100 cases per week, and in the peak week 1,560 cases were ripened.

Brisbane Marketing.—As a result of numerous experiments in bunch ripening, ripening in hands in cases, and ripening "singles" in cases, it was ascertained that the last method was the most satisfactory. By packing the fruit in cases on the plantation the bruising and breakages which are inevitable when fruit is transported in the bunch, are avoided, and the fruit is placed in the ripening rooms without undue handling.

Supplies of Queensland bananas to the Sydney market show a considerable decrease on the quantities sent for the previous year, viz.:

| | Cases. |
|---|---------|
| Twelve months ended 30th June, 1932 | 176,902 |
| Twelve months ended 30th June, 1933 | 61,123 |

The Sydney market can now be regarded as being supplied by the New South Wales growers. Prices on this market, however, were well maintained.

Melbourne.—In Melbourne, where no modern ripening facilities are available, prices dropped

during a period of heavy supply. Marketing conditions there, however, were improved for the growers by reason of an agreement which the Committee of Direction was instrumental in bringing about with the merchants and agents, whereby certain anomalous marketing practices detrimental to the grower were overcome. This agreement has been renewed for a further term of twelve months.

Fijian Bananas.—During the period under review the announcement of the reduced tariff from 8s. 4d. to 2s. 6d. per cental on 40,000 centals of Fijian bananas per annum (a concession given at the Ottawa Conference) was made at a time when the industry was already facing a disheartening outlook.

The growers' organisation strongly protested against the alteration of the tariff rate. The first consignment was landed in Australia at the beginning of 1933, at a time when Australian supplies were light, and this factor, combined with the publicity given the Fijian fruit, resulted in fictitiously high prices being received.

It is estimated that the first three monthly consignments from Fiji on the Melbourne market alone resulted in a loss of £7,000 to Australian growers by reason of the depreciated price of the Australian product. The poor prices realised, however, on succeeding Fijian consignments have discouraged the exporters, and only very small consignments are now being introduced monthly. The worst feature of the introduction of Fijian bananas is the dislocation of the market for the Australian fruit at a time when the Australian production is more than adequate to meet consumption demands.

PINEAPPLE SECTION.

A grant of £20,000 was again obtained from the Fruit Industry Sugar Concession Committee to assist in the export of canned pineapples. The production of pineapples in Queensland is now such that approximately half the crop must be canned if the market price is to be kept at a remunerative level, and more than half of the quantity of the canned pineapples must be exported. Unfortunately, the Canadian market for canned pineapples was considerably curtailed because of the loss of preference over the low-priced Singapore pineapples which was conceded at the Ottawa Conference.

For the period immediately prior to the Ottawa Conference, Australia had been supplying approximately 20 per cent. of the Canadian requirements of canned pineapples. The reduction of duty on Singapore pineapples to the same level as the duty on the Australian product places Australia on a non-competitive basis, and further, owing to the stocks held in Canada, this market was closed to Australia for the first six months of 1933. The summer crop, therefore, was processed for the London market, which frequently is a more difficult market from a sales point of view than the Canadian.

The satisfactory finalising of the 1932 crops resulted in providing for growers a deferred payment at the rate of 6d. per case on all pineapples supplied to the canneries in 1932. This payment was made in February, 1933, when a total amount of £7,341 was disbursed to growers.

OTHER FRUITS SECTION.

In the other fruits section the principal development has been the establishment of a new outlet for tomatoes for juice purposes. Tomato juice enjoys a wide popularity in the United States of America and Canada. Its manufacture has been undertaken by a Brisbane firm, and during the year 225 tons of tomatoes were utilised for this purpose.

DECIDUOUS SECTION.

Heavy Production.—The season on the Granite Belt was characterised by a heavy production of all classes of deciduous fruits, which coincided with similar crop conditions throughout Australia. The tonnage of fruit and vegetables forwarded to the Brisbane market alone was 5,000 tons in excess of the quantity of the previous year.

Apple Stabilisation Scheme.—To meet the anticipated heavy production of apples, the growers, prior to the season, had agreed by ballot to a levy of 3d. per case on all apples marketed for the purpose of constituting a stabilisation scheme. Under the scheme, when the supply of apples to the Brisbane market was in excess of the quantity the market could absorb at a payable price to the grower, the Committee of Direction purchased excess supplies which were either exported or cold-stored for later local marketing. A total of 9,498 cases were purchased, of which 5,862 cases were exported and the balance marketed locally.

The prices offered by the Committee of Direction for stabilisation purposes were higher than could have been obtained on any market, but growers did not fully appreciate market prospects and failed to furnish adequate supplies. In consequence, the quantity temporarily removed from the local market or exported was insufficient to effect full stabilisation, but it undoubtedly had a steadying influence.

Packing Houses.—Four packing houses operated in the Stanthorpe district last season, the additional two houses being established at Passmore and Thulimbah. The Amiens packing house was in operation, and the Summit packing house was again leased to the Summit Fruit-growers' Co-operative Association. The total output of the three packing sheds of the Committee of Direction was 10,677 cases, the fruit being packed for export or storage or on account of growers for local marketing.

Export.—The export trade in deciduous fruits, particularly apples, is steadily growing. The quantities exported last season were—Apples: 27,434 cases to United Kingdom, 4,220 cases to the East—31,654 cases. Pears: 117 cases to the East, making a total export of deciduous fruits of 31,771 cases. This represents an increase of 23,462 cases on the total number of cases exported during the previous season.

Hail Relief Scheme.—Prior to the season the growers by ballot adopted a hail relief scheme, whereby a levy of 10d. per ton collected on all fruit and vegetables raised from the Stanthorpe district was diverted to a fund, from which grants in proportion to the damage sustained would be made to growers suffering loss through hail. Previous efforts to establish hail insurance

on a compulsory basis had failed. When all claims have been met from this fund an amount of approximately £900 will have been distributed to growers. In necessitous cases the grant has been made in cash, but in most cases it has been taken out in fertilizers or other growers' requisites.

Trading Department.—The Committee of Direction trading department was commenced three years ago, chiefly because of the inability of growers to purchase fertilizer from meatworks in the form of blood and bone. As a result the Committee of Direction was requested to engage in the business of supplying fertilizer and other requisites to growers.

For the convenience of local growers, it has been found necessary to lay down stocks at various places, and stores are now held at Brisbane, Bowen, Cleveland, and Wallangarra.

The Committee of Direction recently commenced trading in seeds, and the production of vegetable seeds by members is in prospect.

HONEY BOARD.

Personnel of the Board to 15th April, 1934.—O. N. Tanner (chairman), C. W. Edwards, H. E. Fagg, J. Schutt, and E. Graham (Director of Marketing).

The former Board of growers' representatives retired on 15th April, 1933, and was displaced, with the exception of Mr. C. W. Edwards.

The current season has been a particularly good one, and yields of high-grade honey have been very satisfactory. Owing to the marketing of honey being controlled in this State, and the prices maintained, considerable quantities have been imported from South Australia and New South Wales, to the detriment of ruling values in Queensland. The breakdown of the Honey Board in New South Wales has also been responsible for increased quantities being received here.

Prior to the expiration of the term of the former Board, consideration was given to the desirability of changing the agency and generally reviewing the marketing methods of the pool. A recommendation to this effect was conveyed to the incoming Board. Weight of opinion on the new Board was against the change, and at present the conditions obtaining are the same as those under which the old Board operated, with the exception that an advance at the rate of—

- 2d. per lb. for 1st-grade quality.
- 1½d. per lb. for 2nd-grade quality.
- 1d. per lb. for 3rd-grade quality.

on edible honey is now being made on consignments received by the agents without any charge to the grower for the accommodation. The Board agreed to increase the agent's commission to 6 per cent. in remuneration for the additional services now rendered. No advance payment is made on honey of manufacturing quality.

During the year the Board has handled 9,406 tons of honey, equal to 564,360 lb., at prices varying from 2d. to 5½d. per lb. The quantity disposed of—honey in bottles and sections—reached 123¾ dozens, at prices ranging from 7s. to 16s. per dozen. Beeswax received amounted to 7,381¼ lb., realising from 1s. to 1s. 6d. per lb.

During the period under review it was found necessary to make a change in the personnel of secretary, and Mr. H. H. Bentley was appointed and took up his duties early in November, 1932.

By reason of the extremely favourable season for honey, the amount received by the Board in levies has placed it on an improved financial footing, and at a recent meeting it was decided to suspend, with the Minister's approval, the levy of 1½ per cent. as from 1st July, 1933, until the date of its expiration—namely, 22nd August, 1933. This levy will not be reimposed until the end of December next—and not then, unless it is found absolutely necessary to do so.

NORTHERN PIG BOARD.

Personnel of the Board to 31st December, 1933.—H. T. Skennar (chairman), R. Campbell, J. E. Foxwell, F. W. Collard, D. Johnston, and E. Graham (Director of Marketing).

During the year ended 30th June, 1933, the Board disposed of 8,754 pigs. Of this number 7,644 were classified as first grade. The average return for baconers was 4.36 d. per lb., which compares more than favourably with the average price paid elsewhere in Queensland.

The number of pigs supplied was 2,093 less than last year and was not nearly enough to supply the demand. There is still prevalence of bruised pigs, which results in a loss to the industry.

A net loss of £157 1s. 6d. was shown on the year's trading, which the Board attributes to the reduced business turnover occasioned by the comparatively smaller number of pigs supplied to the pool throughout the year.

PEANUT BOARD.

Personnel of the Board to 27th August, 1933.—G. M. Pedersen (chairman), N. A. Nielsen, A. G. Whiting, N. J. Christiansen, and E. Graham (Director of Marketing).

At the last election, held on 24th August, 1932, Mr. F. C. Petersen was defeated by Mr. N. G. Christiansen. Mr. A. G. Whiting was returned unopposed.

Prior to the retirement of Mr. F. C. Petersen, applications had been called for the position of manager, the period of Mr. W. Muir's appointment—i.e., five years—having expired. At the first meeting of the new Board, held on 21st September, 1932, Mr. G. M. Pedersen was appointed chairman, and at that meeting applications for the position of manager were dealt with. At the conclusion of the meeting it was decided by a majority of three votes to two to dispense with Mr. Muir's services, which had been continued up to the date of the meeting, on the basis of conditions which had prevailed under an agreement, and, in lieu of notice, to allow him the sum of £250. Mr. R. C. Rowlinson was appointed in his stead.

Owing to the fact that Rockhampton growers had made a definite movement in the direction of selling their commodity outside the Board's control, the Board obtained legal advice on the matter, and subsequently, acting on such, took action against the Rockhampton Harbour Board,

who were cited as defendants. The case was heard in the Supreme Court, Brisbane, and a decision was given against the Board.

The legality of pools constituted under the Primary Producers' Organisation and Marketing Acts was questioned, particularly in respect to their bearing on Section 92 of the Commonwealth Constitution. The Peanut Board appealed to the High Court, but the appeal was not upheld.

A doubt as to the future market prospects which existed in the minds of peanut-growers subsequent to the decision of the Court, resulted in reduced areas being planted with peanuts. At present the quantity of peanuts available is not equal to Australian requirements, and to meet the position an application has been made by the Board to the Federal authorities at Canberra to permit the Board, through its agents, to import from overseas up to 500 tons of Spanish peanuts, of which variety the Board is at present short of supplies.

In the winter of last year a visit was paid by the former manager to clients of the Board in the southern States with the object of interesting them in broken or faulty kernels of Virginian Bunch variety, and orders totalling 100 tons were secured. This trade has considerably expanded, and recently orders have totalled more than double that amount.

Although useful up to a point for manufacturing purposes, the Virginian Bunch is not equal to Spanish variety for such purposes as the manufacture of peanut butter. Owing to the shortage in supplies of the latter, the Board has been forced to take the action outlined above in order to protect manufacturers against shortage in the Spanish nuts.

It has been suggested to the Commonwealth authorities that the cost of the nuts to the manufacturers would be the bare cost of landing such nuts, plus the handling charges, without any profit. The Board reappointed for a further twelve months Messrs. Harrisons, Ramsay, Proprietary, Limited, as selling agents at a reduced rate of commission.

1931 Season.—This crop was referred to in the last report as having produced 2,673 tons. Sales were not then completed, but the crop has been finalised this year. Further payments to growers, amounting to ¾d. per lb., have been made on the first payment on all grades.

The rate of payment to growers, per lb., was—

| Variety. | Grade. | Amount. |
|-----------------|--------|----------------------------------|
| Virginian Bunch | A | 3 ³ / ₈ d. |
| " | B | 3 ¹ / ₂ d. |
| " | C | 2 ⁷ / ₈ d. |
| " | D | 2 ⁵ / ₈ d. |
| " | E | 2 ³ / ₈ d. |
| " | F | 2 ¹ / ₂ d. |
| " | G | 1 ³ / ₈ d. |
| Spanish | A | 2 ³ / ₈ d. |
| Valencia | A | 3 ³ / ₈ d. |

The total payment to growers was £60,806 17s. 5d. From these payments ¼d. per lb. levy was deducted to pay for the construction of the silos. This applies to each season's crop.

1932 Season.—As forecasted in the last report, this crop was a disaster owing to several causes, the chief of which was the drought from December to April, which ruined the greater percentage of the crop. The total quantity received at the silos was 474 tons Virginian Bunch, 70 tons Spanish, and 9 tons Valencias. No peanuts were received from Central Queensland. The total first payment to growers was £6,403 12s. 8d. A final payment of $\frac{3}{4}$ d. per lb. will probably be made in August, which will represent a further £2,000 on this crop.

It was necessary to import 400 tons of Virginian Bunch in shell in order to meet the trade requirements of nuts in shell.

1933 Season.—This season was perhaps one of the most favourable for growing peanuts for many years past. The rain came at most suitable times, and then the continued dry weather in the Burnett areas during harvesting was most helpful and resulted in a well-filled kernel and a better average grade right throughout the crop. The plantings were a long way below the ordinary trade requirements, and this, on top of the disastrous 1932 crop, meant that when the season commenced the silos were empty for the first time since construction. Every endeavour was made to induce growers to plant peanuts, but the position seemed to be so insecure and the ruling price for maize so attractive that a number of farmers turned to the planting of maize instead of peanuts.

This year a departure was made from the practice of previous years, and a depot was established at Atherton as well as at Rockhampton, and the crop was graded at three centres—namely, Kingaroy for the Burnett, Rockhampton for Central Queensland, and Atherton for the far North. This meant that the crop would be shipped from the port nearest to which it was grown, and only those nuts that had to be deshelled were sent to Kingaroy, where the deshelling plant is installed. The total quantity received at all centres was—

| | |
|-------------------------|------------|
| Virginian Bunch | 932 tons |
| Spanish | 181 tons |
| Valencias | 5 tons |
| | 1,118 tons |

The value of this crop to growers by way of a first advance was £20,405 17s. 6d. Owing to the smallness of the crop, a quantity of Spanish kernels will have to be imported to meet the manufacturers' requirements. It will be noticed that in the 1932 season 70 tons of Spanish were produced, and in 1933 season 181 tons were produced, making a total of 251 tons, which was quite inadequate for the demand.

It is pleasing to be able to record that the strained relations that at one period existed between the Board and a section of the peanut-growers in the Central district have been removed. The Central district growers have reverted to the practice of marketing their peanuts through the pool, and the general attitude of the growers is to support the system of collective marketing rather than continue with the individual marketing of their crops.

It has been stated that the experience gained by those selling their product outside the pool organisation did not prove satisfactory, and

failed to yield returns equal to those to be obtained from the sale of the commodity by the Board.

WHEAT BOARD.

Personnel of the Board to 31st August, 1933.—E. A. Thomas (chairman), J. E. Nussey, T. W. McIntyre, B. C. C. Kirkegaard, W. J. Brimblecombe, and E. Graham (Director of Marketing).

At the election held on 25th August, 1932, Mr. E. A. Thomas defeated Mr. Aaron Hoskin, the former chairman.

At the first meeting of the new Board a deadlock was experienced in the matter of the appointment of chairman, and, on such being referred to the Minister, Mr. Thomas was appointed.

At a special meeting of the Board held on 19th September, 1932, a decision was arrived at that the manager's services be dispensed with, and Mr. Watson, the secretary, was appointed acting manager in his stead. This was given effect to on the votes of three members, including that of the chairman. Subsequently Mr. Binns was appointed manager.

After considerable discussion on the question of the future policy of the Board in respect to the sales of wheat, it was decided that an endeavour be made to conduct selling operations on the basis of a contract sales note rather than through the medium of an agreement between the millers and the Board, under which system the sale of the wheat crops of the three previous seasons had been effected. An intimation to the millers of this decision was given at a conference held on 15th and 16th November. The matter of price was one on which long discussion took place, and the Minister desired the Board to take due cognisance of the fact that the Government was prepared to support a price of 3s. 6 $\frac{1}{2}$ d. for milling wheat of No. 1 quality, at growers' stations, with the necessary dockages for that below Q1, and the following proviso: That (a) such basis was to include the Federal grant, estimated at that period to be 3d. per bushel on Queensland's production; (b) in the event of wheat values declining in Southern or overseas markets, the price of 3s. 6 $\frac{1}{2}$ d. to remain unaltered; (c) should there be any advance in Darling Harbour or New South Wales country station values, the price of wheat to Queensland millers was to be increased by a similar amount, provided that this increase did not exceed a maximum of 1s. per bushel.

The Minister also intimated that if the Board agreed to these terms the Government would be prepared to afford protection in safeguarding the price of flour. The majority of the Board were in favour of rejecting the above proposals, and informed the Minister of their desire to go on the open market. Following upon the harvest, an endeavour was made to locate a market that would give a return better than that outlined by the Government, but, although many avenues were explored, no improvement on the terms originally put forward by the Government was obtainable elsewhere. Subsequently the Board signified their willingness to confer with the millers, and a meeting of the millers and the Board took place on 3rd April of this year, when a sale of the millable wheat was finally agreed to on the price basis of 3s. 3 $\frac{1}{2}$ d.

exclusive of any Federal grant, but with dockages of 1½d. and 3d. per bushel on Q2 and Q2A grade wheat.

Deliveries were commenced on the 6th April and have continued on the quotas agreed to by the millers. The intake amounted to 2,154,471 bushels, 94 per cent. being classified as milling wheat. Arrangements were made with the Commonwealth Bank of Australia for the making of a first advance payment to growers of from 2s. 4d. to 2s. 6d. per bushel on No. 1 milling quality, with dockages on the other grades, and 3d. per bushel expenses.

To date of this report a second advance of 3d. per bushel has been made.

Severe hailstorms resulted in damage exceeding any previous experience since the inception of the pool. Compensation was paid to the amount of £22,978 16s. 1d. on 229,787 bushels.

The Board at its meetings has given considerable attention to the revision of the Hail Insurance scheme now operative. It has been found in practice that some of the conditions at present applicable have not proved satisfactory, and amendment of the regulations relative to hail insurance has been deemed advisable. It was also considered desirable by the Board that some alteration to the boundaries of districts connected with the election of Board members was necessary. In this connection it has been decided to abolish the ward system and reduce the number of growers' representatives on the Board from five to four.

GENERAL SUMMARY.

From the foregoing it will be seen that fourteen pools function at present under legislation that has been introduced for the purpose of providing orderly marketing of primary produce in this State.

Each pool has been established by the majority of the growers of the commodity concerned voting in favour of the constitution of the pool, and in each instance a board has been elected by growers who are engaged in the particular branch of primary production over which the pool is intended to operate. Since the inception of the pooling system in Queensland in no instance has a pool, when once established, ceased to function.

Owing to the period of time for which two pools were established having expired during the past twelve months, growers were given the opportunity of deciding whether or not these pools should be continued. The Canary Seed Pool was extended without a request for a ballot having been received, and the Atherton Tableland Maize Board was extended for a further period of ten years by a 56 per cent. majority.

Maize Industry.—The last Annual Report indicated that steps had been taken to constitute a Provisional Maize Board in order to place the maize-growing industry on a more satisfactory basis. The Board has, during the past twelve months, been watching the interests of growers, but owing to adverse weather conditions, and the resultant small crops of maize in Southern Queensland, no further action has been taken in connection with the application of complete control in the marketing of this product.

The operations of the Provisional Maize Board were extended on the 17th November, 1932, for a further period of twelve months, such Board to remain a non-marketing organisation.

Pig Industry.—Some attention has also been given to the matter of improving the pig industry in Queensland. In March, 1933, a conference of representatives of interested organisations was convened, the outcome of which was the constitution of a Queensland Pig Industry Council, which consists of the following:—

- 5 Trade representatives;
- 6 Producers' representatives;
- 5 Government representatives;
- 2 Transport representatives;
- 2 Research representatives;
-
- 20 representatives.

Various sub-committees were appointed to deal with different phases of the industry, and much should be achieved by the activities of the Council for the betterment of the pig industry in Queensland.

GOVERNMENT REPRESENTATION ON POOL BOARDS.

During the year the practice has again been followed whereby officers of the Department possessing special knowledge of the different commodities under the Acts, have acted as Government representatives on the various boards. This practice has proved to be of great benefit to this Department and the Pool Boards concerned.

I desire to record appreciation of the interest these officers have taken in this particular work and thank them for the services they have rendered in this connection.

E. GRAHAM,

Under Secretary for Agriculture and Stock and
Director of Marketing.

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DAIRYING.

Table No. I.—RETURN SHOWING THE PROGRESS OF THE DAIRYING INDUSTRY SINCE THE YEAR 1909.

| Year. | Dairying Establishments, Exclusive of Factories. | Dairy Cows. | | | | Production of Butter. | Production of Cheese. | |
|-------|--|-------------|---------|---|---------|-----------------------|-----------------------|------------|
| | | In Milk. | Dry. | Heifers within three months of milking. | Total. | | | |
| | | | | | | Lb. | Lb. | |
| | | | | | | 1890 .. | *2,000,000 | *170,240 |
| | | | | | | 1895 .. | 3,719,523 | 1,841,799 |
| | | | | | | 1900 .. | 8,680,389 | 1,984,705 |
| 1909 | 15,279 | 228,497 | 105,342 | .. | 333,839 | 1905 .. | 20,319,976 | 2,682,089 |
| 1910 | 16,079 | 262,788 | 102,656 | .. | 365,444 | 1910 .. | 31,258,333 | 4,146,661 |
| 1911 | 16,225 | 237,997 | 119,098 | .. | 357,095 | 1911 .. | 27,858,535 | 3,718,257 |
| 1912 | 16,579 | 267,847 | 107,813 | .. | 375,660 | 1912 .. | 30,307,339 | 3,947,615 |
| 1913 | 17,866 | 285,403 | 106,036 | .. | 391,439 | 1913 .. | 35,199,387 | 5,395,050 |
| 1914 | 18,029 | 288,334 | 98,977 | .. | 387,311 | 1914 .. | 37,230,240 | 7,931,869 |
| 1915 | 17,876 | 218,511 | 116,732 | .. | 335,243 | 1915 .. | 25,456,714 | 4,383,410 |
| 1916 | 18,410 | 247,855 | 95,456 | .. | 343,311 | 1916 .. | 28,967,279 | 8,495,825 |
| 1917 | 19,404 | 303,133 | 96,375 | .. | 399,508 | 1917 .. | 38,930,690 | 11,142,114 |
| 1918 | 19,313 | 255,039 | 126,466 | .. | 381,505 | 1918 .. | 32,371,575 | 8,636,700 |
| 1919 | 18,952 | 211,331 | 161,815 | .. | 373,146 | 1919 .. | 26,213,514 | 8,296,318 |
| 1920 | 20,457 | 335,026 | 113,608 | .. | 448,634 | 1920 .. | 40,751,373 | 11,512,262 |
| 1921 | 21,695 | 423,251 | 130,957 | .. | 554,208 | 1921 .. | 60,923,194 | 15,200,527 |
| 1922 | 21,931 | 418,351 | 145,332 | .. | 563,683 | 1922 .. | 53,785,599 | 10,560,316 |
| 1923 | 22,019 | 357,203 | 155,326 | .. | 512,529 | 1923 .. | 40,659,634 | 7,221,355 |
| 1924 | 22,599 | 433,531 | 151,355 | .. | 584,886 | 1924 .. | 58,187,954 | 11,093,886 |
| 1925 | 22,581 | 463,436 | 147,900 | .. | 611,426 | 1925 .. | 70,748,646 | 14,242,721 |
| 1926 | 22,451 | 397,606 | 157,913 | 55,708 | 611,227 | 1926 .. | 50,991,985 | 8,740,355 |
| 1927 | 22,547 | 436,337 | 139,970 | 69,009 | 645,316 | 1927 .. | 62,552,917 | 12,233,520 |
| 1928 | 22,457 | 492,405 | 144,562 | 33,838 | 670,805 | 1928 .. | 73,820,292 | 15,047,825 |
| 1929 | 22,763 | 507,100 | 142,477 | 31,000 | 680,577 | 1929 .. | 77,483,845 | 13,229,337 |
| 1930 | 23,270 | 546,643 | 147,385 | 30,295 | 724,323 | 1930 .. | 90,377,751 | 14,249,173 |
| 1931 | 24,016 | 590,656 | 152,668 | 31,977 | 775,301 | 1931 .. | 100,565,158 | 12,261,457 |
| 1932 | 24,591 | 586,995 | 173,557 | 32,391 | 792,943 | 1932 .. | 96,317,201 | 11,157,781 |

* Estimated.

Table No. II.—RETURN SHOWING DETAILS OF THE PRINCIPAL DAIRYING DIVISIONS FOR THE YEAR 1932.

| District. | Total Milk Obtained. | HOW UTILISED. | | | | | | |
|-----------------|--------------------------|----------------------|----------------------|------------------------------------|---------------------|-------------------------------|-----------------------------------|---------------------------|
| | | For Butter on Farms. | For Cheese on Farms. | For Domestic Purposes by Producer. | Separated for Sale. | Sold for Consumption as Milk. | Sold to Condensed Milk Factories. | Sold to Cheese Factories. |
| | Gallons. | Gallons. | Gallons. | Gallons. | Gallons. | Gallons. | Gallons. | Gallons. |
| Moreton | 69,107,844 | 2,080,676 | .. | 1,890,594 | 60,012,705 | 5,107,433 | .. | 16,436 |
| Wide Bay | 61,232,007 | 1,827,144 | 4,250 | 1,493,984 | 57,086,120 | 532,122 | .. | 287,387 |
| Port Curtis | 13,206,015 | 631,945 | .. | 364,878 | 11,694,374 | 515,418 | .. | .. |
| Rockingham | 9,834,521 | 217,262 | .. | 342,486 | 8,551,078 | 438,877 | .. | 284,818 |
| Maranoa | 2,383,437 | 72,007 | .. | 56,909 | 2,223,326 | 31,195 | .. | .. |
| Downs | 58,435,633 | 1,364,298 | .. | 1,240,166 | 44,913,768 | 398,699 | .. | 10,518,702 |
| Other Districts | 2,466,188 | 311,932 | .. | 489,969 | 1,106,090 | 558,197 | .. | .. |
| Total, 1932 | ^a 216,666,245 | 6,505,264 | 4,250 | 5,878,986 | 185,587,461 | 7,582,941 | .. | 11,107,343 |
| Total, 1931 | ^b 230,013,898 | 6,403,226 | 5,300 | 5,961,635 | 198,385,468 | 7,031,347 | .. | 12,226,922 |
| Increase, 1932 | .. | 102,038 | .. | .. | .. | 551,594 | .. | .. |
| Decrease, 1932 | 13,347,653 | .. | 1,050 | 82,649 | 12,798,007 | .. | .. | 1,119,579 |

| District. | ESTABLISHMENTS. | | | DAIRY CATTLE. | | BUTTER MADE. | | | CHEESE MADE. | | |
|--------------------|-----------------|-------------------|-------------------|---------------|---------|---------------|-------------|-------------|---------------|-------------|------------|
| | Dairying. | Butter Factories. | Cheese Factories. | In Milk. | Dry. | At Factories. | By Farmers. | Total. | At Factories. | By Farmers. | Total. |
| | No. | No. | No. | No. | No. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. |
| Moreton | 8,302 | 17 | 1 | 209,200 | 55,934 | 30,963,064 | 990,182 | 31,953,246 | 8,257 | .. | 8,257 |
| Wide Bay | 6,277 | 13 | 2 | 180,170 | 52,577 | 28,214,244 | 882,398 | 29,096,642 | 272,849 | 3,956 | 276,805 |
| Port Curtis | 1,643 | 5 | .. | 39,659 | 20,245 | 5,439,813 | 258,152 | 5,697,965 | .. | .. | .. |
| Rockingham | 1,301 | 6 | 3 | 19,997 | 7,849 | 4,353,565 | 105,191 | 4,458,756 | 263,902 | .. | 263,902 |
| Maranoa | 295 | 1 | .. | 7,174 | 2,407 | 1,097,401 | 30,805 | 1,128,206 | .. | .. | .. |
| Downs | 5,031 | 12 | 56 | 120,536 | 27,018 | 22,741,434 | 631,829 | 23,373,263 | 10,608,817 | .. | 10,608,817 |
| Other Districts... | 1,753 | 2 | .. | 10,259 | 7,527 | 502,800 | 106,323 | 609,123 | .. | .. | .. |
| Total, 1932 | 24,591 | 56 | 62 | †586,995 | 173,557 | 93,312,321 | 3,004,880 | 96,317,201 | 11,153,825 | 3,956 | 11,157,781 |
| Total, 1931 | 24,016 | 54 | 63 | *590,656 | 152,668 | 97,602,853 | 2,962,305 | 100,565,158 | 12,256,157 | 5,300 | 12,261,457 |
| Increase, 1932 | 575 | 2 | .. | .. | 20,889 | .. | 42,575 | .. | .. | .. | .. |
| Decrease, 1932 | .. | .. | 1 | 3,661 | .. | 4,290,532 | .. | 4,247,957 | 1,102,332 | 1,344 | 1,103,676 |

^a 324,198 gallons of this were sent from the Moreton Division to New South Wales.

^b 621,422 gallons of this were sent from the Moreton Division to New South Wales.

* Exclusive of 31,977 Heifers intended for milking.

† Exclusive of 32,391 Heifers intended for milking.

Table No. III.—RETURN SHOWING CLASSIFICATION OF DAIRY ESTABLISHMENTS (NOT FACTORIES) ACCORDING TO NUMBER OF DAIRY COWS (INCLUDING HEIFERS INTENDED FOR MILKING).

| District. | Under 5. | 5 to 9. | 10 to 14. | 15 to 19. | 20 to 29. | 30 to 49. | 50 to 99. | 100 & over. | Total. |
|-----------------|----------|---------|-----------|-----------|-----------|-----------|-----------|-------------|--------|
| Moreton | 980 | 356 | 583 | 791 | 1,726 | 2,160 | 1,470 | 236 | 8,302 |
| Wide Bay | 733 | 356 | 230 | 303 | 868 | 2,022 | 1,555 | 210 | 6,277 |
| Port Curtis | 111 | 87 | 104 | 136 | 312 | 467 | 336 | 90 | 1,643 |
| Edgecumbe | 871 | 355 | 130 | 67 | 65 | 51 | 53 | 10 | 1,602 |
| Rockingham | 576 | 89 | 45 | 32 | 102 | 233 | 210 | 14 | 1,301 |
| York Peninsula | 42 | 6 | .. | 2 | 2 | 11 | 10 | 4 | 77 |
| Carpentaria | .. | 2 | 2 | .. | 2 | 4 | 3 | .. | 13 |
| Central-Western | .. | .. | .. | 1 | .. | .. | 1 | .. | 2 |
| South-Western | .. | 2 | 5 | 2 | 1 | 6 | 2 | .. | 18 |
| Central | 2 | 7 | 12 | 4 | 4 | 8 | 3 | .. | 40 |
| Maranoa | 22 | 26 | 13 | 19 | 51 | 82 | 66 | 6 | 285 |
| Downs | 791 | 247 | 413 | 478 | 972 | 1,259 | 738 | 133 | 5,031 |
| Totals | 4,128 | 1,533 | 1,537 | 1,835 | 4,105 | 6,303 | 4,447 | 703 | 24,591 |

Table No. IV.—BUTTER, CHEESE, AND CONDENSED MILK.

RETURN SHOWING QUANTITY EXPORTED OVERSEA FOR FIVE YEARS (AUSTRALIAN PRODUCE ONLY).

| Year. | BUTTER. | | | CHEESE. | | | CONDENSED MILK. | | |
|------------|----------------------------|-----------|---------------|----------------------------|---------|---------------|----------------------------|--------|---------------|
| | Quantity Exported Oversea. | Value. | Value per lb. | Quantity Exported Oversea. | Value. | Value per lb. | Quantity Exported Oversea. | Value. | Value per lb. |
| | lb. | £ | s. d. | lb. | £ | s. d. | lb. | £ | s. d. |
| 1927-28 .. | 45,337,350 | 3,021,294 | 1 4 | 6,702,765 | 249,702 | 0 9 | 1,100 | 39 | 0 8½ |
| 1928-29 .. | 45,008,530 | 3,180,298 | 1 4½ | 7,925,026 | 311,051 | 0 9½ | 2,028 | 100 | 0 11½ |
| 1929-30 .. | 46,732,074 | 2,866,517 | 1 2½ | 2,897,481 | 112,877 | 0 9½ | 23,039 | 1,067 | 0 11 |
| 1930-31 .. | 67,532,918 | 3,326,099 | 0 11½ | 7,790,222 | 213,731 | 0 6½ | .. | .. | .. |
| 1931-32 .. | 72,307,146 | 3,385,342 | 0 11½ | 4,461,896 | 117,481 | 0 6½ | .. | .. | .. |

Table No. V.—CONDENSED MILK MANUFACTURED—RETURN FOR FIVE YEARS.

| Year. | Quantity Manufactured | Value | Value per lb. |
|---------|-----------------------|-------|---------------|
| | Lb. | £ | s. d. |
| 1928 .. | 5,877,384 | .. | .. |
| 1929 .. | 6,024,126 | .. | .. |
| 1930 .. | 776,652 | .. | .. |
| 1931 .. | Nil. | .. | .. |
| 1932 .. | Nil. | .. | .. |

POULTRY.

Table No. VI.—RETURN SHOWING THE NUMBERS OF POULTRY ON FARMS AND EGGS PRODUCED IN THE PRINCIPAL DISTRICTS OF THE STATE FOR THE YEAR 1932.

| Petty Sessions District. | Fowls. | Ducks. | Geese. | Turkeys. | Other. | Eggs. | Total Poultry Sold or Killed for Food. | | Value of Eggs Sold or Used. |
|--------------------------|-----------|---------|---------|----------|---------|-----------|--|--------|-----------------------------|
| | Number. | Number. | Number. | Number. | Number. | Dozen. | Number. | £ | £ |
| Allora .. | 8,882 | .. | .. | .. | .. | 39,742 | .. | .. | 1,379 |
| Atherton .. | 22,869 | 295 | 30 | 99 | 2 | 122,035 | 4,847 | 617 | 5,933 |
| Ayr .. | 10,151 | 227 | 21 | 122 | .. | 30,177 | 100 | 2 | 2,943 |
| Beaudesert .. | 16,277 | 659 | 115 | 294 | 17 | 97,339 | 6,350 | 620 | 3,600 |
| Brisbane (A) .. | 80,480 | 1,500 | 306 | 64 | 753 | 820,746 | 49,158 | 3,858 | 35,268 |
| Brisbane (B) .. | 57,219 | 622 | 16 | 3 | 1,179 | 473,255 | 29,329 | 2,649 | 22,579 |
| Bundaberg .. | 16,375 | 409 | 16 | 93 | .. | 79,902 | 1,524 | 156 | 3,979 |
| Caboolture .. | 13,413 | 139 | 6 | .. | .. | 107,335 | 8,540 | 520 | 5,327 |
| Cairns .. | 18,302 | 987 | 7 | 12 | 4 | 65,539 | 7,189 | 1,078 | 4,789 |
| Cardwell .. | 5,522 | 296 | 2 | 14 | 2 | 29,995 | 1,367 | 228 | 2,125 |
| Childers .. | 6,783 | 50 | 28 | 25 | .. | 28,711 | 18,559 | 694 | 1,321 |
| Cleveland .. | 10,123 | 193 | 31 | 25 | .. | 148,471 | 11,025 | 600 | 4,960 |
| Clifton .. | 16,670 | 373 | 11 | 127 | .. | 92,442 | 4,089 | 388 | 2,864 |
| Condamine .. | 6,357 | 99 | 24 | 246 | 17 | 29,785 | 717 | 92 | 1,344 |
| Cooyar .. | 4,468 | 110 | 114 | 143 | 11 | 25,944 | 1,621 | 162 | 1,166 |
| Crow's Nest .. | 14,310 | 298 | 45 | 60 | .. | 53,651 | 1,272 | 112 | 2,123 |
| Dalby .. | 16,782 | 554 | 63 | 577 | 54 | 65,231 | 7,442 | 533 | 2,305 |
| Dugandan .. | 26,020 | 2,368 | 273 | 154 | 371 | 135,903 | 8,957 | 834 | 5,037 |
| Gatton .. | 17,772 | 2,127 | 542 | 296 | 191 | 73,095 | 4,826 | 678 | 2,639 |
| Gayndah .. | 13,757 | 517 | 103 | 140 | 53 | 57,070 | 2,424 | 565 | 2,673 |
| Gladstone .. | 7,559 | 111 | 5 | 244 | 36 | 33,548 | 2,209 | 259 | 1,658 |
| Goombungee .. | 8,529 | 167 | 136 | 53 | 2 | 53,229 | 2,556 | 179 | 1,715 |
| Gympie .. | 34,215 | 1,292 | 38 | 172 | 14 | 102,756 | 22,726 | 1,950 | 5,177 |
| Harrisville .. | 17,147 | 788 | 66 | 154 | 30 | 109,651 | 4,555 | 542 | 3,349 |
| Ingham .. | 14,951 | 583 | 16 | 11 | .. | 71,431 | 2,704 | 404 | 6,513 |
| Innisfail .. | 18,440 | 486 | 33 | 1 | 7 | 42,911 | 2,650 | 657 | 3,531 |
| Ipswich .. | 6,253 | 137 | 38 | 28 | 2 | 41,761 | 1,761 | 174 | 1,755 |
| Killarney .. | 6,673 | 82 | 6 | 79 | .. | 27,775 | 705 | 70 | 1,036 |
| Laidley .. | 12,498 | 2,688 | 469 | 158 | 191 | 70,511 | 4,482 | 474 | 2,587 |
| Logan .. | 16,074 | 372 | 71 | 8 | 80 | 94,971 | 3,581 | 366 | 3,962 |
| Lowood .. | 10,530 | 1,508 | 450 | 75 | .. | 36,480 | 2,247 | 201 | 747 |
| Mackay .. | 34,570 | 1,481 | 56 | 456 | 48 | 151,215 | 8,806 | 1,214 | 9,032 |
| Marburg .. | 10,359 | 1,010 | 183 | 56 | .. | 65,053 | 2,895 | 300 | 1,391 |
| Marcochy .. | 49,497 | 855 | 15 | 111 | 163 | 247,728 | 13,214 | 1,175 | 13,346 |
| Maryborough .. | 12,766 | 205 | 3 | 35 | .. | 50,212 | 2,831 | 359 | 2,688 |
| Mount Morgan .. | 7,673 | 73 | 5 | 132 | .. | 28,417 | 610 | 74 | 1,466 |
| Nanango .. | 25,121 | 1,012 | 137 | 293 | 17 | 147,387 | 9,364 | 979 | 5,651 |
| Oakey .. | 13,355 | 199 | 95 | 208 | 1 | 58,664 | 1,642 | 178 | 2,140 |
| Pittsworth .. | 13,217 | 88 | 4 | 220 | 2 | 60,278 | 3,402 | 303 | 2,750 |
| Redcliffe .. | 10,525 | 198 | 7 | 18 | .. | 72,883 | 2,668 | 256 | 3,327 |
| Rockhampton .. | 29,119 | 344 | 34 | 370 | 101 | 164,471 | 27,663 | 1,781 | 8,109 |
| Rosewood .. | 15,427 | 840 | 127 | 171 | 3 | 91,332 | 8,343 | 716 | 3,793 |
| Southport .. | 9,587 | 839 | 179 | 110 | 4 | 32,126 | 2,194 | 264 | 1,610 |
| Stanthorpe .. | 14,202 | 44 | 10 | 82 | .. | 84,789 | 2,718 | 269 | 3,695 |
| Tiaro .. | 7,488 | 8 | .. | .. | 5 | 25,387 | 628 | 56 | 1,273 |
| Toogoolawah .. | 8,387 | 252 | 85 | 88 | 8 | 31,637 | 2,019 | 279 | 1,305 |
| Toowoomba .. | 15,974 | 311 | 16 | 46 | .. | 83,941 | 4,720 | 497 | 3,299 |
| Townsville .. | 6,590 | 236 | .. | 113 | .. | 43,592 | 4,160 | 324 | 1,678 |
| Warwick .. | 20,894 | 161 | 40 | 473 | .. | 75,662 | 3,388 | 331 | 4,247 |
| Wienholt .. | 28,885 | 1,462 | 87 | 159 | 5 | 167,931 | 2,375 | 127 | 8,380 |
| Wynnum .. | 24,875 | 831 | .. | .. | .. | 209,990 | 34,970 | 2,250 | 9,199 |
| All Other Districts .. | 92,892 | 2,739 | 380 | 1,795 | 66 | 361,894 | 26,255 | 3,131 | 17,094 |
| Totals, 1932 .. | 987,164 | 33,225 | 4,544 | 8,413 | 3,439 | 5,515,981 | 384,377 | 34,525 | 251,857 |
| Totals, 1931 .. | 1,008,856 | 36,945 | 4,586 | 10,258 | 1,636 | 5,789,529 | 353,050 | 35,912 | 250,166 |
| Increase, 1932 .. | .. | .. | .. | .. | 1,803 | .. | 31,327 | .. | 1,691 |
| Decrease, 1932 .. | 21,692 | 3,720 | 42 | 1,845 | .. | 273,548 | .. | 1,387 | .. |

NOTE.—Total value of production of poultry and eggs—1931, £521,425; 1932, £544,811.

N.B.—Brisbane (B) refers to South Brisbane.

APIARIES.

Table No. VII.

RETURN SHOWING THE PARTICULARS OF THE BEE INDUSTRY FOR THE YEAR 1932.

| Petty Sessions District. | Number of Owners. | Number of Hives. | | Honey. | Average per Productive Hive. | Wax. |
|-----------------------------|-------------------|------------------|-----------------|---------|------------------------------|-------|
| | | Productive. | Non-Productive. | | | |
| | | | | Lb. | Lb. | Lb. |
| Brisbane (A) | 23 | 341 | 63 | 27,405 | 80 | 415 |
| Caboolture | 14 | 1,201 | 238 | 59,610 | 50 | 748 |
| Cleveland | 15 | 299 | 155 | 10,730 | 36 | 115 |
| Cook | 3 | 40 | 7 | 6,936 | 73 | 524 |
| Dalby | 6 | 483 | 67 | 44,580 | 92 | 250 |
| Dugandan | 12 | 233 | 46 | 10,635 | 46 | 128 |
| Gatton | 17 | 249 | 39 | 9,962 | 40 | 226 |
| Gayndah | 1 | 120 | .. | 6,600 | 55 | 150 |
| Gympie | 18 | 652 | 76 | 23,610 | 36 | 386 |
| Inglewood | 4 | 150 | 4 | 9,020 | 60 | 120 |
| Killarney | 10 | 694 | 224 | 51,122 | 74 | 644 |
| Logan | 30 | 414 | 124 | 13,254 | 32 | 571 |
| Maroochy | 39 | 805 | 79 | 37,230 | 46 | 2,333 |
| Maryborough | 34 | 253 | 337 | 9,106 | 36 | 220 |
| Redcliffe | 14 | 180 | 25 | 9,387 | 52 | 115 |
| Rockhampton | 37 | 1,342 | 240 | 67,242 | 50 | 1,133 |
| Rosewood | 15 | 172 | 40 | 10,251 | 60 | 55 |
| Southport | 11 | 252 | 106 | 17,977 | 71 | 150 |
| Warwick | 21 | 760 | 185 | 49,922 | 66 | 451 |
| Woodford | 23 | 320 | 32 | 8,375 | 26 | 130 |
| All Other Districts | 181 | 1,455 | 532 | 48,121 | 33 | 1,084 |
| Totals, 1932 | 528 | 10,415 | 2,619 | 531,075 | 51 | 9,948 |
| Totals, 1931 | 551 | 8,544 | 4,539 | 283,022 | 33 | 6,082 |
| Increase, 1932 | .. | 1,871 | .. | 248,053 | 18 | 3,866 |
| Decrease, 1932 | 23 | .. | 1,920 | .. | .. | .. |

NOTE.—Total value of honey and wax—1931, £5,531; 1932, £9,830.

Table No. VIII.

RETURN SHOWING PROGRESS OF HOLDINGS AND AREA CULTIVATED.—RETURN FOR 10 YEARS.

| Year. | Number of Holdings Returned. | Increase per cent. on Previous Year. | Increase per cent. on Figures of 1904. | Area under Cultivation. | Increase per cent. on Previous Year. | Increase per cent. on Figures for 1904. |
|----------|------------------------------|--------------------------------------|--|-------------------------|--------------------------------------|---|
| 1904 ... | 17,854 | ... | ... | 577,896 | ... | ... |
| 1923 ... | 31,464 | 7·06 | 76·23 | 1,198,166 | 9·84 | 107·33 |
| 1924 ... | 32,359 | 2·84 | 81·24 | 1,275,039 | 6·42 | 120·63 |
| 1925 ... | 33,533 | 3·63 | 87·82 | 1,241,118 | —2·66 | 114·76 |
| 1926 ... | 32,051 | —4·42 | 79·52 | 1,288,518 | 3·82 | 122·97 |
| 1927 ... | 30,414 | —5·11 | 70·35 | 1,295,992 | 0·58 | 124·26 |
| 1928 ... | 30,586 | 0·57 | 71·31 | 1,268,475 | —2·12 | 119·51 |
| 1929 ... | 30,701 | 0·38 | 71·95 | 1,269,242 | 0·06 | 119·63 |
| 1930 ... | 30,790 | 0·29 | 72·45 | 1,331,513 | 4·91 | 130·41 |
| 1931 ... | 31,450 | 2·14 | 76·15 | 1,401,932 | 5·29 | 142·59 |
| 1932 ... | 31,996 | 1·74 | 79·21 | 1,426,648 | 1·76 | 146·87 |

The minus sign (—) implies a decrease.

Table No. IX.—RETURN SHOWING LABOUR EMPLOYED, INCLUDING OWNERS OR OCCUPIERS WORKING ON HOLDINGS, AND THE CAPITAL INVESTED IN FARMING MACHINERY, ETC., 1932.

| PETTY SESSIONS DISTRICT. | LABOUR. | | | | VALUE OF MACHINERY AND IMPLEMENTS. | | | | |
|---------------------------|----------------------|----------|-----------------------|----------|------------------------------------|-----------|-------------|-----------------------|-----------|
| | Farming Principally. | | Dairying Principally. | | Farming. | Dairying. | Irrigation. | Travelling Machinery. | Total. |
| | Males. | Females. | Males. | Females. | £ | £ | £ | £ | £ |
| Allora | 374 | 11 | 217 | 315 | 124,908 | 10,230 | .. | 700 | 135,838 |
| Atherton | 1,094 | 30 | 683 | 333 | 63,576 | 35,773 | 4,625 | 14,754 | 118,728 |
| Ayr | 1,764 | .. | 2 | 1 | 165,522 | 97 | 369,138 | 115,660 | 650,417 |
| Beaudesert | 505 | 4 | 650 | 578 | 48,471 | 53,497 | 1,105 | 2,480 | 105,553 |
| Brisbane (A) | 1,077 | 124 | 679 | 251 | 28,375 | 10,036 | 8,018 | 18,477 | 64,906 |
| Bundaberg | 1,627 | 24 | 487 | 327 | 134,110 | 13,153 | 16,050 | 36,718 | 200,031 |
| Cairns | 2,203 | 20 | 16 | 9 | 200,813 | 1,765 | 60 | 108,123 | 310,761 |
| Cardwell | 633 | 1 | .. | .. | 23,493 | .. | 340 | 29,993 | 53,826 |
| Childers | 509 | 5 | 78 | 37 | 45,559 | 2,367 | 315 | 24,390 | 72,631 |
| Cleveland | 482 | 49 | 22 | 5 | 10,594 | 524 | 34,932 | 8,148 | 54,198 |
| Clifton | 723 | 9 | 379 | 381 | 205,559 | 18,242 | .. | 52,731 | 276,532 |
| Crow's Nest | 440 | 8 | 344 | 465 | 35,277 | 26,863 | .. | 750 | 62,890 |
| Dalby | 708 | 27 | 1,035 | 544 | 60,345 | 48,396 | 320 | 9,938 | 118,999 |
| Douglas | 348 | .. | 49 | 29 | 53,511 | 1,157 | .. | .. | 54,668 |
| Dugandan | 971 | 4 | 638 | 654 | 82,894 | 22,092 | 3,367 | 7,380 | 115,733 |
| Gatton | 841 | 20 | 672 | 517 | 72,922 | 18,412 | 7,769 | 2,175 | 101,278 |
| Gayndah | 823 | 101 | 922 | 490 | 47,369 | 33,224 | 1,840 | 645 | 83,078 |
| Gin Gin | 412 | 2 | 82 | 114 | 33,884 | 4,387 | 200 | 11,760 | 50,231 |
| Gladstone | 487 | 8 | 590 | 332 | 20,798 | 29,713 | 816 | 4,155 | 55,482 |
| Goombungee | 247 | .. | 180 | 298 | 38,279 | 14,755 | .. | 9,615 | 62,649 |
| Gympie | 1,349 | 24 | 2,090 | 1,639 | 57,009 | 87,040 | 1,190 | 5,506 | 150,745 |
| Harrisville | 519 | 7 | 454 | 308 | 56,196 | 15,211 | 2,759 | 2,425 | 76,591 |
| Ingham | 1,442 | 26 | 20 | 7 | 136,416 | 613 | 560 | 85,933 | 223,522 |
| Innisfail | 1,579 | .. | .. | .. | 275,426 | 309 | .. | 3,400 | 279,135 |
| Jondaryan | 185 | 6 | 183 | 120 | 35,100 | 8,065 | .. | 670 | 43,835 |
| Killarney | 393 | 7 | 375 | 93 | 52,630 | 9,862 | 970 | 5,875 | 69,337 |
| Laidley | 796 | 25 | 512 | 419 | 69,179 | 11,210 | 1,660 | 450 | 82,499 |
| Lowood | 420 | 4 | 92 | 350 | 36,885 | 9,526 | 600 | 2,537 | 49,548 |
| Mackay | 3,216 | 226 | 129 | 48 | 297,556 | 5,549 | 1,300 | 65,370 | 369,775 |
| Maroochy | 1,663 | 124 | 918 | 514 | 39,316 | 26,034 | 881 | 11,772 | 78,003 |
| Maryborough | 719 | 26 | 313 | 277 | 39,107 | 8,902 | 130 | 16,344 | 64,483 |
| Mount Morgan | 564 | 48 | 320 | 180 | 35,704 | 11,235 | 36,640 | 3,265 | 86,844 |
| Nanango | 1,461 | 8 | 1,530 | 495 | 123,836 | 86,123 | .. | 4,510 | 214,469 |
| Oakey | 793 | 134 | 788 | 563 | 168,493 | 44,367 | 140 | 6,334 | 219,334 |
| Pittsworth | 928 | 29 | 814 | 338 | 208,484 | 35,164 | .. | 16,111 | 259,759 |
| Proserpine | 542 | 1 | 2 | 25 | 64,419 | 1,525 | 210 | 20,167 | 86,321 |
| Redcliffe | 397 | 15 | 512 | 301 | 20,907 | 15,637 | 2,496 | 8,213 | 47,253 |
| Rockhampton | 747 | 42 | 832 | 368 | 33,744 | 23,453 | 14,451 | 14,615 | 86,263 |
| Rosewood | 458 | 17 | 468 | 418 | 33,600 | 10,584 | 500 | 4,122 | 48,806 |
| Roma | 337 | 50 | 340 | 175 | 39,685 | 10,872 | 430 | 1,451 | 52,438 |
| Southport | 214 | 11 | 757 | 406 | 18,571 | 27,299 | 2,092 | 5,641 | 53,603 |
| Stanthorpe | 1,193 | 105 | 63 | 7 | 48,407 | 201 | 1,832 | 467 | 50,907 |
| St. Lawrence | 234 | 3 | 6 | 2 | 21,684 | 512 | 1,513 | 21,405 | 45,114 |
| Toogoolawah | 433 | 23 | 286 | 300 | 32,462 | 16,761 | 300 | 825 | 50,348 |
| Toowoomba | 560 | 28 | 455 | 304 | 56,908 | 16,525 | 570 | 14,047 | 88,050 |
| Warwick | 743 | 11 | 662 | 323 | 107,682 | 21,731 | 840 | 10,912 | 141,165 |
| Wienholt | 1,579 | 9 | 1,880 | 1,135 | 129,813 | 76,415 | 610 | 11,041 | 217,879 |
| All Other Districts | 6,470 | 543 | 6,076 | 3,792 | 298,600 | 183,611 | 63,597 | 58,890 | 604,698 |
| Totals, 1932 | 46,203 | 1,999 | 28,602 | 18,587 | 4,034,078 | 1,109,019 | 585,166 | 860,890 | 6,589,153 |
| Totals, 1931 | 45,496 | 1,634 | 27,349 | 18,123 | 4,121,577 | 1,148,948 | 566,868 | 791,011 | 6,628,404 |
| Increase, 1932 | 707 | 365 | 1,253 | 464 | .. | .. | 18,298 | 69,879 | .. |
| Decrease, 1932 | .. | .. | .. | .. | 87,499 | 39,929 | .. | .. | 39,251 |

Table No. X.—RETURN SHOWING LAND TREATED FOR CULTIVATION, ETC., FOR THE YEARS 1931 AND 1932.

| | 1931. | 1932. |
|--|-----------|------------|
| | Acres. | Acres. |
| Under crop | 1,216,402 | 1,245,638 |
| In fallow | 77,368 | 70,629 |
| Previously cropped but not during 1931 and 1932 respectively | 108,162 | 110,381 |
| Under cultivation | 1,401,932 | *1,426,648 |
| Under permanent artificially sown grasses | 718,700 | 732,095 |
| New ground cleared during the year but not ploughed | 10,140 | 11,546 |
| Grand total | 2,130,772 | 2,170,289 |

* See Table No. XII. for details of areas and owners.

Table No. XI.—RETURN SHOWING THE ACREAGE AND VALUE OF AGRICULTURAL CROPS FOR THE YEARS 1931 AND 1932.

| | 1931. | | 1932. | |
|---------------------|-----------|------------|-----------|------------|
| | Acres. | Value. | Acres. | Value. |
| Grain crops | 400,046 | 1,278,788 | 357,077 | 862,143 |
| Green forage | 309,957 | 619,914 | 392,762 | 981,905 |
| Hay and straw | 59,601 | 402,219 | 64,076 | 415,821 |
| Root crops | 13,815 | 183,914 | 13,552 | 191,531 |
| Sugar-cane | 309,818 | 7,326,233 | 291,136 | 6,852,717 |
| Fruit | 36,331 | 1,325,411 | 32,305 | 1,097,456 |
| All other | 86,834 | 1,054,315 | 94,730 | 904,158 |
| Total | 1,216,402 | 12,190,794 | 1,245,638 | 11,305,731 |

Table No. XII.

RETURN SHOWING NUMBER OF FARMS GROUPED ACCORDING TO AREA UNDER CULTIVATION FOR THE YEAR 1932.

| Petty Sessions District. | Under 5 Acres. | | 5 and under 20 Acres. | | 20 and under 50 Acres. | | 50 Acres and Over. | | Totals. | |
|--------------------------|----------------|--------|-----------------------|--------|------------------------|---------|--------------------|-----------|--------------|-----------|
| | No of Farms. | Acres. | No of Farms. | Acres. | No of Farms. | Acres. | No of Farms. | Acres. | No of Farms. | Acres. |
| Allora | .. | .. | 2 | 15 | 10 | 336 | 309 | 48,536 | 321 | 48,887 |
| Atherton | 53 | 128 | 236 | 2,658 | 144 | 4,267 | 155 | 14,581 | 588 | 21,634 |
| Ayr | 5 | 15 | 27 | 325 | 118 | 4,290 | 388 | 39,453 | 538 | 44,083 |
| Banana | .. | .. | 16 | 219 | 37 | 1,158 | 29 | 2,816 | 82 | 4,193 |
| Beaudesert | 39 | 116 | 205 | 2,451 | 206 | 6,240 | 55 | 3,792 | 505 | 12,599 |
| Bowen | 18 | 54 | 148 | 1,611 | 43 | 1,258 | 6 | 377 | 215 | 3,300 |
| Brisbane (A) | 201 | 524 | 433 | 4,592 | 78 | 2,145 | 3 | 175 | 715 | 7,436 |
| Bundaberg | 86 | 217 | 294 | 3,559 | 429 | 13,552 | 130 | 17,134 | 939 | 34,462 |
| Cairns | 39 | 103 | 94 | 1,108 | 182 | 6,336 | 351 | 35,193 | 666 | 42,740 |
| Cardwell | 7 | 21 | 32 | 339 | 184 | 6,643 | 37 | 2,513 | 260 | 9,516 |
| Cleveland | 51 | 158 | 231 | 2,338 | 28 | 737 | .. | .. | 310 | 3,233 |
| Childers | 9 | 26 | 66 | 760 | 90 | 3,081 | 108 | 12,393 | 273 | 16,260 |
| Chinchilla | 6 | 15 | 19 | 213 | 27 | 833 | 24 | 2,127 | 76 | 3,188 |
| Clifton | 1 | 4 | 5 | 51 | 20 | 682 | 513 | 96,884 | 539 | 97,621 |
| Condamine | 15 | 42 | 39 | 390 | 38 | 1,159 | 41 | 4,963 | 133 | 6,554 |
| Cooyar | 4 | 11 | 18 | 233 | 50 | 1,608 | 45 | 3,220 | 117 | 5,072 |
| Crow's Nest | 5 | 16 | 61 | 830 | 163 | 5,492 | 150 | 13,130 | 379 | 19,468 |
| Dalby | 2 | 7 | 55 | 659 | 132 | 4,262 | 206 | 25,634 | 395 | 30,562 |
| Douglas | 7 | 20 | 43 | 504 | 68 | 2,119 | 73 | 7,298 | 191 | 9,941 |
| Dugandan | 16 | 40 | 100 | 1,325 | 379 | 13,025 | 135 | 9,779 | 630 | 24,169 |
| Eidsvold | 5 | 16 | 33 | 400 | 61 | 1,906 | 50 | 4,205 | 149 | 6,527 |
| Esk | 6 | 16 | 54 | 697 | 52 | 1,609 | 28 | 1,989 | 140 | 4,311 |
| Gatton | 2 | 3 | 51 | 680 | 302 | 10,418 | 171 | 12,276 | 526 | 23,377 |
| Gayndah | 14 | 46 | 138 | 1,625 | 234 | 7,717 | 141 | 12,406 | 527 | 21,794 |
| Gin Gin | 13 | 33 | 60 | 662 | 123 | 4,246 | 72 | 5,659 | 268 | 10,600 |
| Gladstone | 111 | 240 | 193 | 2,017 | 67 | 1,884 | 15 | 1,318 | 386 | 5,459 |
| Goombungee | .. | .. | 12 | 138 | 55 | 1,875 | 131 | 15,135 | 198 | 17,148 |
| Gympie | 186 | 1,213 | 553 | 5,102 | 133 | 3,387 | 11 | 804 | 883 | 10,506 |
| Harrisville | 3 | 9 | 68 | 923 | 190 | 6,507 | 123 | 9,928 | 384 | 17,367 |
| Helidon | 10 | 34 | 52 | 685 | 89 | 2,906 | 29 | 1,891 | 180 | 5,516 |
| Highfields | 1 | 1 | 26 | 336 | 79 | 2,721 | 141 | 12,594 | 247 | 15,652 |
| Ingham | 11 | 31 | 56 | 721 | 133 | 4,510 | 390 | 38,217 | 590 | 43,479 |
| Inglewood | 10 | 29 | 15 | 179 | 39 | 1,314 | 65 | 6,955 | 129 | 8,477 |
| Innisfail | 1 | 3 | 43 | 593 | 326 | 11,325 | 263 | 20,729 | 633 | 32,650 |
| Ipswich | 7 | 26 | 86 | 905 | 60 | 1,746 | 14 | 879 | 167 | 3,556 |
| Jondaryan | 1 | 4 | 1 | 14 | 15 | 488 | 85 | 14,163 | 102 | 14,669 |
| Killarney | 7 | 22 | 18 | 205 | 31 | 1,105 | 128 | 16,420 | 184 | 17,752 |
| Laidley | 3 | 9 | 70 | 953 | 207 | 7,004 | 155 | 11,278 | 435 | 19,244 |
| Logan | 56 | 180 | 300 | 3,780 | 84 | 2,177 | 3 | 210 | 443 | 6,347 |
| Lowood | 2 | 7 | 13 | 206 | 170 | 6,031 | 105 | 7,224 | 290 | 13,468 |
| Mackay | 58 | 165 | 181 | 2,160 | 579 | 20,108 | 733 | 65,136 | 1,551 | 87,569 |
| Marburg | 1 | 4 | 28 | 355 | 155 | 5,009 | 56 | 3,656 | 240 | 9,024 |
| Maroochy | 287 | 797 | 751 | 7,233 | 151 | 4,321 | 23 | 1,616 | 1,212 | 13,967 |
| Maryborough | 67 | 203 | 292 | 3,326 | 151 | 3,937 | 14 | 932 | 524 | 8,398 |
| Monto | 6 | 14 | 52 | 618 | 97 | 3,085 | 115 | 11,795 | 270 | 15,512 |
| Moung Morgan | 12 | 35 | 36 | 417 | 71 | 2,347 | 208 | 26,966 | 327 | 29,765 |
| Nanango | 20 | 65 | 111 | 1,346 | 262 | 9,003 | 462 | 44,712 | 855 | 55,126 |
| Oakey | 7 | 12 | 21 | 247 | 76 | 2,658 | 410 | 69,898 | 514 | 72,815 |
| Pittsworth | 3 | 7 | 7 | 96 | 59 | 2,077 | 471 | 96,915 | 540 | 99,095 |
| Proserpine | 7 | 24 | 71 | 930 | 160 | 5,189 | 115 | 8,929 | 353 | 15,072 |
| Redcliffe | 54 | 175 | 212 | 2,352 | 63 | 1,762 | 3 | 165 | 332 | 4,454 |
| Rockhampton | 189 | 435 | 253 | 2,615 | 102 | 2,934 | 33 | 2,688 | 577 | 8,672 |
| Roma | 13 | 38 | 40 | 456 | 56 | 1,868 | 164 | 26,276 | 273 | 28,638 |
| Rosewood | 6 | 18 | 79 | 1,077 | 167 | 5,500 | 78 | 5,356 | 330 | 11,951 |
| Southport | 135 | 365 | 205 | 2,020 | 36 | 1,000 | 5 | 373 | 381 | 3,758 |
| Stanthorpe | 61 | 189 | 477 | 5,858 | 218 | 5,903 | 11 | 820 | 767 | 12,770 |
| St. Lawrence | 1 | 4 | 18 | 216 | 47 | 1,503 | 42 | 3,241 | 108 | 4,964 |
| Texas | 8 | 23 | 27 | 300 | 19 | 630 | 22 | 2,690 | 76 | 3,643 |
| Tiaro | 40 | 120 | 125 | 1,335 | 61 | 1,772 | 12 | 855 | 238 | 4,082 |
| Toogoolawah | 9 | 30 | 56 | 731 | 113 | 3,790 | 77 | 6,127 | 255 | 10,678 |
| Toowoomba | 49 | 134 | 91 | 994 | 72 | 2,388 | 172 | 28,520 | 384 | 32,036 |
| Warwick | 17 | 42 | 83 | 991 | 100 | 3,336 | 470 | 69,763 | 670 | 74,132 |
| Wienholt | 17 | 43 | 126 | 1,640 | 410 | 14,219 | 489 | 39,330 | 1,042 | 55,232 |
| All Other Districts | 522 | 1,293 | 870 | 8,717 | 233 | 6,817 | 65 | 5,651 | 1,690 | 22,478 |
| Totals, 1932 | 2,602 | 7,674 | 8,178 | 91,031 | 8,334 | 271,255 | 9,128 | 1,056,688 | 28,242 | 1,426,648 |
| Totals, 1931 | 2,569 | 6,920 | 8,272 | 92,068 | 7,988 | 260,028 | 9,122 | 1,042,916 | 27,951 | 1,401,932 |
| Increase, 1932 | 33 | 754 | .. | .. | 346 | 11,227 | 6 | 13,772 | 291 | 24,716 |
| Decrease, 1932 | .. | .. | 94 | 1,037 | .. | .. | .. | .. | .. | .. |

Note:—The number of Farms shown above does not agree with number of Holdings in Table VIII, as there are some Holdings devoted only to Dairying with no cultivation on them.

Table No. XIII.

IRRIGATION.—RETURN FOR 10 YEARS.

| Year. | Acres Irrigated. | Year. | Acres Irrigated. |
|------------|------------------|------------|------------------|
| 1923 | 18,417 | 1928 | 25,344 |
| 1924 | 18,235 | 1929 | 26,282 |
| 1925 | 21,669 | 1930 | 26,947 |
| 1926 | 24,250 | 1931 | 28,414 |
| 1927 | 21,411 | 1932 | 31,409 |

Table No. XIV.

RETURN SHOWING THE AREA IRRIGATED AND THE PRINCIPAL CROPS TREATED FOR THE YEAR 1932.

| Petty Sessions District. | Number of Irrigators. | Acres Irrigated. | *Cost of Power, Water, &c., Used. | Original Source of Water Supply. | Means Employed for Procurement and Utilisation. | Principal Crops Treated. |
|--------------------------|-----------------------|------------------|-----------------------------------|----------------------------------|--|-----------------------------|
| | | | £ | | | |
| Ayr | 552 | 21,011 | 89,683 | Spears and wells .. | Drains and fluming | Cane |
| Banana | 74 | 1,837 | 2,686 | River | Graviation canal system .. | Cotton |
| Brisbane (A) .. | 69 | 304 | 4,243 | Rivers, wells, and creeks | Oil and petrol engines, pipes, and sprays | Vegetables and lucerne |
| Brisbane (B) .. | 30 | 159 | 2,167 | Springs and bores .. | Oil engines, flooding, and sprays | Fruit and vegetables |
| Bundaberg | 6 | 1,633 | 5,365 | Wells and rivers .. | Oil engines | Cane |
| Bowen | 105 | 848 | 2,138 | Wells and creeks .. | Oil and petrol engines, drains .. | Vegetables |
| Cleveland | 143 | 619 | 3,394 | Creeks and wells .. | Oil engines, pipes, and sprays .. | Vegetables |
| Dugandan | 36 | 224 | 1,932 | Creeks | Flooding | Vegetables |
| Gatton | 34 | 368 | 2,601 | Creeks and wells .. | Oil engines, tractor, flooding, sprays, and flooding | Vegetables |
| Mackay | 6 | 210 | 14,550 | Creeks | Oil engines | Cane |
| Proserpine | 4 | 265 | 6,511 | River | Flooding | Cane |
| Rockhampton .. | 96 | 688 | 2,005 | Creek, wells, river, and bores | Oil engines, windmill, drains, and furrows | Vegetables |
| Texas | 37 | 977 | 1,586 | River | Oil engine | Tobacco |
| Stanthorpe | 11 | 150 | 102 | Creeks and wells .. | Oil engines and pipes | Tobacco and eggs |
| Townsville | 35 | 246 | 1,659 | River and wells .. | Oil engine, windmill, drains, and furrows | Cane, fruit, and vegetables |
| All Other Districts | 334 | 1,870 | 216,183 | .. | .. | .. |
| Total | 1,572 | 31,409 | 356,805 | | | |

Sugar-cane, 23,112 acres ; Cotton, 1,310 acres ; Tobacco, 1,328 acres ; Green Fodder, 934 acres ; Fruit and Vegetables, 2,497 acres ; Miscellaneous Crops, 2,228 acres. N.B.—Brisbane (B) refers to South Brisbane. * Exclusive of value of machinery, shown in Table IX.

Table No. XV.

WHEAT (GRAIN).

RETURN FOR TEN YEARS SHOWING THE AREA AND PRODUCE OF WHEAT FOR GRAIN.

| Year. | Area. | Produce. | Average per Acre. | INCREASE OR — DECREASE ON THE PREVIOUS YEAR. | | |
|----------------------|---------|-----------|-------------------|--|-------------|-------------------|
| | | | | Area. | Produce. | Average per Acre. |
| | Acres. | Bushels. | Bushels. | Acres. | Bushels. | Bushels. |
| 1923 | 51,149 | 243,713 | 4.76 | - 94,345 | - 1,634,123 | - 8.15 |
| 1924 | 189,145 | 2,779,829 | 14.70 | 137,996 | 2,536,116 | 9.94 |
| 1925 | 165,999 | 1,973,477 | 11.89 | - 23,146 | - 806,352 | - 2.81 |
| 1926 | 57,084 | 379,339 | 6.65 | - 108,915 | - 1,594,138 | - 5.24 |
| 1927 | 215,073 | 3,783,584 | 17.59 | 157,989 | 3,404,245 | 10.94 |
| 1928 | 218,069 | 2,515,561 | 11.54 | 2,996 | - 1,268,023 | - 6.05 |
| 1929 | 204,116 | 4,235,172 | 20.75 | - 13,953 | 1,719,611 | 9.21 |
| 1930 | 272,316 | 5,107,561 | 18.76 | 68,200 | 872,389 | - 1.99 |
| 1931 | 248,783 | 3,863,894 | 15.53 | - 23,533 | - 1,243,667 | - 3.23 |
| 1932 | 250,049 | 2,493,902 | 9.97 | 1,306 | - 1,369,992 | - 5.56 |
| Average of Ten Years | 187,178 | 2,737,603 | 14.63 | ... | ... | ... |

Table No. XVI.

WHEAT.

RETURN FOR TEN YEARS SHOWING AVERAGE YIELD PER ACRE IN EACH STATE.

| States. | Average Produce per Acre—Bushels. | | | | | | | | | | Mean for 10 Years ending 1932. |
|-------------------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------------------|
| | 1923. | 1924. | 1925. | 1926. | 1927. | 1928. | 1929. | 1930. | 1931. | 1932. | |
| Queensland | 4.76 | 14.70 | 11.89 | 6.65 | 17.59 | 11.54 | 20.75 | 18.76 | 15.53 | 9.97 | 14.63 |
| New South Wales | 11.26 | 16.83 | 11.56 | 14.13 | 8.92 | 12.04 | 8.66 | 12.83 | 14.92 | 17.55 | 12.87 |
| Victoria | 15.40 | 17.51 | 11.64 | 16.08 | 8.54 | 12.59 | 7.13 | 11.70 | 11.77 | 14.81 | 12.72 |
| South Australia | 14.29 | 12.21 | 11.60 | 12.84 | 8.18 | 7.79 | 6.40 | 8.34 | 11.81 | 10.43 | 10.39 |
| Western Australia | 11.42 | 12.79 | 9.69 | 11.68 | 12.13 | 10.10 | 10.95 | 13.53 | 13.14 | 12.30 | 11.77 |
| Tasmania | 21.07 | 17.86 | 20.72 | 23.15 | 26.25 | 20.17 | 22.37 | 20.49 | 15.61 | 22.00 | 20.97 |

Table No. XVII.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCE OF WHEAT FOR GRAIN IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE.

| Divisions and Petty Sessions Districts. | 1931. | | | 1932. | | | INCREASE OR — DECREASE | | |
|---|----------|-----------|-------------------|----------|-----------|-------------------|------------------------|-----------|-------------------|
| | Area. | Produce. | Average per Acre. | Area. | Produce. | Average per Acre. | Area. | Produce. | Average per Acre. |
| MORETON. | | | | | | | | | |
| Cooyar ... | ... | ... | ... | 51 | 583 | 11.45 | 51 | 583 | 11.45 |
| Crow's Nest ... | 56 | 606 | 10.82 | 196 | 3,820 | 19.49 | 140 | 3,214 | 8.67 |
| Dugandan ... | 40 | 300 | 7.50 | 3 | 180 | 60.00 | 37 | 120 | 52.50 |
| Gatton ... | ... | ... | ... | 85 | 750 | 8.82 | 85 | 750 | 8.82 |
| Harrisville ... | 5 | 100 | 20.00 | ... | ... | ... | 5 | 100 | 20.00 |
| Total, Moreton ... | 101 | 1,006 | 9.96 | 335 | 5,333 | 15.92 | 234 | 4,327 | 5.96 |
| WIDE BAY. | | | | | | | | | |
| Nanango ... | 423 | 4,347 | 10.28 | 70 | 738 | 10.54 | 353 | 3,609 | 0.26 |
| Wienholt ... | 73 | 1,070 | 14.66 | 50 | 450 | 9.00 | 23 | 620 | 5.66 |
| Total, Wide Bay ... | 496 | 5,417 | 10.92 | 120 | 1,188 | 9.90 | 376 | 4,229 | 1.02 |
| PORT CURTIS. | | | | | | | | | |
| Banana ... | ... | ... | ... | 266 | 1,200 | 4.51 | 266 | 1,200 | 4.51 |
| Mount Morgan ... | 360 | 3,360 | 9.33 | ... | ... | ... | 360 | 3,360 | 9.33 |
| Total, Port Curtis ... | 360 | 3,360 | 9.33 | 266 | 1,200 | 4.51 | 94 | 2,160 | 4.82 |
| MARANOVA. | | | | | | | | | |
| Mitchell ... | 588 | 1,368 | 2.33 | 1,496 | 2,615 | 1.75 | 908 | 1,247 | 0.58 |
| Roma ... | 17,490 | 18,473 | 1.06 | 19,381 | 54,152 | 2.79 | 1,891 | 35,679 | 1.73 |
| Total, Maranoa ... | 18,078 | 19,841 | 1.10 | 20,877 | 56,767 | 2.72 | 2,799 | 36,926 | 1.62 |
| DOWNS. | | | | | | | | | |
| Allora ... | 25,440 | 476,844 | 18.74 | 23,260 | 394,998 | 16.98 | 2,180 | 81,846 | 1.76 |
| Chinchilla ... | 174 | 1,630 | 9.37 | 145 | 520 | 3.59 | 29 | 1,110 | 5.78 |
| Clifton ... | 48,191 | 845,511 | 17.54 | 46,431 | 576,897 | 12.42 | 1,760 | 268,614 | 5.12 |
| Condamine ... | 1,200 | 12,345 | 10.29 | 649 | 1,221 | 1.88 | 551 | 11,124 | 8.41 |
| Dalby ... | 5,463 | 76,262 | 13.96 | 7,593 | 91,859 | 12.10 | 2,130 | 15,597 | 1.86 |
| Goombungee ... | 1,719 | 17,244 | 10.03 | 2,230 | 44,984 | 20.17 | 511 | 27,740 | 10.14 |
| Goondiwindi ... | 223 | 1,237 | 5.55 | 70 | 270 | 3.86 | 153 | 967 | 1.69 |
| Highfields ... | 713 | 14,593 | 20.47 | 598 | 8,797 | 14.71 | 115 | 5,796 | 5.76 |
| Inglewood ... | 2,031 | 25,024 | 12.32 | 752 | 3,918 | 5.21 | 1,279 | 21,106 | 7.11 |
| Jondaryan ... | 2,527 | 17,386 | 6.88 | 6,538 | 73,357 | 11.22 | 4,011 | 55,971 | 4.34 |
| Killarney ... | 9,851 | 169,741 | 17.23 | 7,462 | 95,175 | 12.75 | 2,389 | 74,566 | 4.48 |
| Oakey ... | 30,330 | 507,782 | 16.74 | 31,356 | 182,191 | 5.81 | 1,026 | 325,591 | 10.93 |
| Pittsworth ... | 59,059 | 942,233 | 15.95 | 61,918 | 555,901 | 8.98 | 2,859 | 386,332 | 6.97 |
| Texas ... | 183 | 3,466 | 18.94 | 170 | 885 | 5.21 | 13 | 2,581 | 13.73 |
| Toowoomba ... | 10,837 | 160,515 | 14.81 | 9,689 | 87,146 | 8.99 | 1,148 | 73,369 | 5.82 |
| Warwick ... | 31,807 | 562,457 | 17.68 | 29,590 | 311,295 | 10.52 | 2,217 | 251,162 | 7.16 |
| Total, Downs ... | 229,748 | 3,834,270 | 16.69 | 228,451 | 2,429,414 | 10.63 | 1,297 | 1,404,856 | 6.06 |
| Total, State ... | *248,743 | 3,863,894 | 15.53 | †250,049 | 2,493,902 | 9.97 | 1,306 | 1,369,992 | 5.56 |

* Including 27,019 acres which failed to bear a crop.

† Including 78,851 acres which failed to bear a crop.

NOTE.—Number of wheat farms on which grain was harvested during 1932 was 1,927.

Table No. XVIII.

RETURN SHOWING THE QUANTITY OF WHEAT TREATED IN QUEENSLAND DURING THE YEAR 1931-32.

| District. | Number of Establishments. | Number of Hands Employed. | Pairs of Stones. | Sets of Rollers. | Wheat Treated. | FLOUR MADE. | | MEAL MADE. | | BRAN AND POLLARD. | |
|------------------------|---------------------------|---------------------------|------------------|------------------|----------------|-------------|---------|------------|--------|-------------------|---------|
| | | | | | | Tons. | Value. | Tons. | Value. | Bushels. | Value. |
| Metropolitan } 1931-32 | 10 | 447 | 5 | 125 | 3,780,797 | 77,376 | 930,659 | 1,481 | 18,058 | 3,225,135 | 161,174 |
| Elsewhere } 1931-32 | 10 | 395 | 5 | 124 | 3,626,313 | 71,994 | 811,438 | 1,402 | 15,907 | 3,104,482 | 156,597 |
| Total, 1930-31 ... | 10 | 395 | 5 | 124 | 3,626,313 | 71,994 | 811,438 | 1,402 | 15,907 | 3,104,482 | 156,597 |

Table No. XIX.

BARLEY.

RETURN FOR TWO YEARS SHOWING THE RESULT OF THE CROP.

| Barley. | | | | | | 1931. | 1932. |
|-------------------------|-----|-----|-----|-----|-----|--------|--------|
| | | | | | | Acres. | Acres. |
| Reaped for grain ... | ... | ... | ... | ... | ... | 2,223 | 4,790 |
| Mown for hay ... | ... | ... | ... | ... | ... | 82 | 59 |
| Used for green food ... | ... | ... | ... | ... | ... | 13,100 | 12,884 |
| Totals ... | ... | ... | ... | ... | ... | 15,405 | 17,733 |

Table No. XX.

BARLEY.

RETURN FOR TWO YEARS SHOWING RESULT OF GRAIN CROP

| Year. | Area for Grain. | | Produce. | Average Produce per Acre. |
|-----------------------|-----------------|--|----------|---------------------------|
| | Acres. | | Bushels. | Bushels. |
| 1931 | 2,223 | | 36,397 | 16.37 |
| 1932 | 4,790 | | 101,033 | 21.09 |
| Increase, 1932 | 2,567 | | 64,636 | 4.72 |

Table No. XXI.

BARLEY.

RETURN SHOWING RESULT OF CROP, DISTINGUISHING BETWEEN MALTING AND OTHER VARIETIES, FOR THE YEAR 1932.

| Petty Sessions District. | Malting Grain. | | | Other Varieties Grain. | | |
|--------------------------|----------------|----------|----------------------------|------------------------|----------|----------------------------|
| | Acres. | Bushels. | Average per Acre, Bushels. | Acres. | Bushels. | Average per Acre, Bushels. |
| Allora | 328 | 6,830 | 20.82 | 49 | 1,650 | 33.67 |
| Clifton | 1,751 | 39,742 | 22.70 | 601 | 17,647 | 29.36 |
| Cooyar | ... | ... | ... | 14 | 144 | 10.29 |
| Crow's Nest | 31 | 798 | 25.74 | 24 | 522 | 21.75 |
| Dalby | ... | ... | ... | 24 | 117 | 4.88 |
| Dugandan | ... | ... | ... | 1 | 20 | 20.00 |
| Gatton | ... | ... | ... | 1 | 15 | 15.00 |
| Goombungee | 16 | 186 | 11.63 | 22 | 495 | 22.50 |
| Highfields | 6 | 84 | 14.00 | 3 | 105 | 35.00 |
| Inglewood | ... | ... | ... | 6 | 135 | 22.50 |
| Jondaryan | 20 | 60 | 3.00 | 5 | 180 | 36.00 |
| Killarney | 44 | 445 | 10.11 | 36 | 860 | 23.89 |
| Maryborough | ... | ... | ... | 1 | 10 | 10.00 |
| Nanango | ... | ... | ... | 12 | 110 | 9.17 |
| Oakey | 47 | 598 | 12.72 | 20 | 540 | 27.00 |
| Pittsworth | 107 | 1,632 | 15.25 | 7 | 36 | 5.14 |
| Toowoomba | 768 | 13,796 | 17.96 | 414 | 6,440 | 15.56 |
| Warwick | 157 | 3,621 | 23.06 | 275 | 4,215 | 15.33 |
| Total | 3,275 | 67,792 | 20.70 | 1,515 | 33,241 | 21.94 |

Table No. XXII.

MALT.

RETURN FOR TEN YEARS SHOWING QUANTITY OF MALT MADE AND HOW DEALT WITH.

| Year. | Made from Imported Barley. | Made from Queensland Barley. | Total Malt Made. | Beer (including Waste). | Malt used in Breweries as returned to Excise. |
|----------------|----------------------------|------------------------------|------------------|-------------------------|---|
| | Bushels. | Bushels. | Bushels. | Gallons. | Bushels. |
| 1922 | ... | 58,958 | 58,958 | 6,887,772 | 201,436 |
| 1923 | ... | 42,974 | 42,974 | 6,843,125 | 211,136 |
| 1924-25 | ... | 38,333 | 38,333 | 6,488,405 | 209,995 |
| 1925-26 | ... | 25,413 | 25,413 | 7,045,713 | 227,617 |
| 1926-27 | ... | 13,919 | 13,919 | 6,675,966 | 215,818 |
| 1927-28 | ... | 29,029 | 29,029 | 6,361,144 | 206,637 |
| 1928-29 | ... | 46,342 | 46,342 | 6,541,534 | 199,925 |
| 1929-30 | ... | 44,740 | 44,740 | 6,124,413 | 190,326 |
| 1930-31 | ... | 49,461 | 49,461 | 5,302,433 | 171,603 |
| 1931-32 | ... | ... | ... | 5,282,022 | 181,896 |

Table No. XXIII.

MAIZE.

RETURN FOR FIVE YEARS SHOWING THE AREA AND PRODUCE OF MAIZE.

| Year. | Grain. | | Average per Acre. |
|-------------|---------|-----------|-------------------|
| | Acres. | Bushels. | Bushels. |
| 1928 | 192,173 | 5,135,607 | 26.72 |
| 1929 | 171,614 | 4,376,412 | 25.50 |
| 1930 | 172,176 | 4,565,850 | 26.52 |
| 1931 | 147,669 | 3,780,597 | 25.60 |
| 1932 | 98,487 | 1,653,853 | 16.79 |

Table No. XXIV.
MAIZE (GRAIN).

RETURN SHOWING THE AREA AND PRODUCTION IN EACH DIVISION OF THE STATE FOR THE YEAR 1932.

| Division or Group. | Acres. | Produce. | Average. | Proportion of Division Area to Total Area Maize for Grain. |
|------------------------|---------------|------------------|--------------|--|
| | | | | Per cent. |
| Moreton | 40,180 | 554,552 | 13·80 | 40·80 |
| Wide Bay | 23,533 | 226,667 | 9·63 | 23·89 |
| Port Curtis | 1,789 | 18,103 | 10·12 | 1·82 |
| Edgecumbe | 45 | 675 | 15·00 | 0·04 |
| Rockingham | 16,614 | 696,558 | 41·93 | 16·87 |
| York Peninsula | 51 | 1,334 | 26·16 | 0·05 |
| Carpentaria | ... | ... | ... | ... |
| Central Western | ... | ... | ... | ... |
| South Western | ... | ... | ... | ... |
| Central | ... | ... | ... | ... |
| Maranoa | 36 | 302 | 8·39 | 0·04 |
| Downs | 16,239 | 155,662 | 9·59 | 16·49 |
| Total | 98,487 | 1,653,853 | 16·79 | 100·00 |

Number of farmers producing maize, 6,639.

Table No. XXV.
MAIZE.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCE IN EACH PRINCIPAL DISTRICT OF THE STATE.

| Petty Sessions District. | Area for Grain. | | | Produce. | | | Average per Acre. | | |
|----------------------------|-----------------|---------------|-----------------------------|------------------|------------------|-----------------------------|-------------------|--------------|-----------------------------|
| | 1931. | 1932. | Increase or Decrease. | 1931. | 1932. | Increase or Decrease. | 1931. | 1932. | Increase or Decrease. |
| | Acres. | Acres. | Acres. | Bushels. | Bushels. | Bushels. | Bushels. | Bushels. | Bushels. |
| Allora | 1,751 | 856 | -895 | 37,910 | 17,621 | -20,289 | 21·65 | 20·59 | -1·06 |
| Atherton | 16,885 | 16,204 | -681 | 596,604 | 687,603 | 90,999 | 35·33 | 42·43 | 7·10 |
| Blaufdesert | 3,561 | 2,702 | -859 | 106,339 | 65,891 | -40,448 | 29·86 | 24·39 | -5·47 |
| Clifton | 2,974 | 2,616 | -358 | 41,347 | 24,696 | -16,651 | 13·90 | 9·44 | -4·46 |
| Cooyar | 1,196 | 887 | -309 | 29,269 | 7,120 | -22,149 | 24·47 | 8·08 | -16·39 |
| Crow's Nest | 6,089 | 5,291 | -798 | 155,630 | 39,447 | -116,183 | 25·56 | 7·47 | -18·09 |
| Dugandan | 7,920 | 7,026 | -894 | 168,826 | 81,400 | -87,426 | 21·32 | 11·59 | -9·73 |
| Gatton | 6,300 | 5,190 | -1,110 | 172,500 | 68,326 | -104,174 | 27·38 | 13·16 | -14·22 |
| Gayndah | 2,332 | 948 | -1,384 | 50,932 | 3,024 | -47,908 | 21·84 | 3·26 | -18·58 |
| Gladstone | 1,273 | 481 | -792 | 26,819 | 6,612 | -20,207 | 21·07 | 13·75 | -9·32 |
| Goombungee | 2,700 | 612 | -2,088 | 60,322 | 7,829 | -52,493 | 22·34 | 12·79 | -9·55 |
| Gympie | 1,547 | 1,125 | -422 | 52,532 | 34,613 | -17,919 | 33·06 | 30·77 | -2·29 |
| Harrisville | 3,899 | 2,622 | -1,277 | 82,183 | 22,157 | -60,026 | 21·08 | 8·45 | -13·63 |
| Helidon | 1,277 | 986 | -291 | 27,786 | 11,717 | -16,069 | 21·76 | 11·88 | -9·88 |
| Highfields | 2,610 | 1,158 | -1,452 | 65,754 | 12,753 | -53,001 | 25·19 | 10·86 | -14·33 |
| Killarney | 2,636 | 1,661 | -975 | 46,051 | 18,484 | -27,567 | 17·47 | 11·13 | -6·34 |
| Laidley | 7,586 | 4,748 | -2,838 | 219,810 | 84,828 | -134,982 | 28·98 | 17·87 | -11·11 |
| Lowood | 4,545 | 3,846 | -699 | 87,604 | 55,834 | -31,770 | 19·27 | 14·52 | -4·75 |
| Marburg | 2,292 | 655 | -1,637 | 44,437 | 7,803 | -36,634 | 19·39 | 11·91 | -7·48 |
| Nanango | 18,787 | 9,071 | -9,716 | 536,919 | 80,351 | -456,568 | 28·58 | 8·86 | -19·72 |
| Oakey | 4,386 | 1,689 | -2,697 | 79,386 | 21,222 | -58,164 | 18·10 | 12·56 | -5·54 |
| Rosewood | 2,495 | 1,228 | -1,267 | 41,960 | 12,126 | -29,834 | 16·82 | 9·87 | -6·95 |
| Toogoolawah | 2,793 | 1,695 | -1,098 | 59,855 | 29,860 | -29,995 | 21·43 | 17·62 | -3·81 |
| Toowoomba | 1,791 | 1,031 | -760 | 41,218 | 9,838 | -31,380 | 23·01 | 9·54 | -13·47 |
| Tarwick | 6,950 | 5,525 | -1,425 | 92,882 | 35,104 | -57,778 | 13·36 | 6·35 | -7·01 |
| Wienholt | 21,581 | 11,376 | -10,205 | 681,207 | 94,759 | -586,448 | 31·57 | 8·33 | -23·24 |
| All other Districts | 9,513 | 7,258 | -2,255 | 174,515 | 112,835 | -61,680 | 18·34 | 15·55 | -2·79 |
| Totals | 147,669 | 98,487 | -49,182 | 3,780,597 | 1,653,853 | -2,126,744 | 25·60 | 16·79 | -8·81 |

Table No. XXVI.
OATS.

RETURN FOR FIVE YEARS SHOWING THE AREA UNDER CROP.

| Oats. | 1928. | 1929. | 1930. | 1931. | 1932. |
|-----------------------------|---------------|---------------|---------------|---------------|----------------|
| | Acres. | Acres. | Acres. | Acres. | Acres. |
| Reaped for grain | 916 | 2,003 | 5,132 | 1,364 | 3,733 |
| Mown for hay | 2,192 | 2,608 | 4,280 | 1,617 | 2,724 |
| Cut for green fodder | 49,588 | 55,896 | 67,330 | 96,086 | 107,619 |
| Totals | 52,696 | 60,507 | 76,742 | 99,067 | 114,076 |

Table No. XXVII.

OATS.

RETURN FOR TWO YEARS SHOWING THE RESULT OF THE GRAIN CROP

| Year. | Area for Grain. | | Produce. | Average per Acre. |
|----------------|-----------------|--|----------|-------------------|
| | Acres. | | Bushels. | Bushels. |
| 1931 | 1,364 | | 20,352 | 14.92 |
| 1932 | 3,733 | | 58,729 | 15.73 |
| Increase, 1932 | 2,369 | | 38,377 | 0.61 |

Table No. XXVIII.

RYE.

RETURN FOR FIVE YEARS SHOWING THE AREA AND PRODUCE OF THE GRAIN CROP.

| Year. | Area. | | Produce | Average per Acre. |
|-------|--------|--|----------|-------------------|
| | Acres. | | Bushels. | Bushels. |
| 1928 | 70 | | 1,092 | 15.60 |
| 1929 | 27 | | 364 | 13.48 |
| 1930 | 29 | | 330 | 11.38 |
| 1931 | 7 | | 54 | 7.71 |
| 1932 | 18 | | 239 | 13.28 |

Table No. XXIX.

POTATOES.

RETURN FOR FIVE YEARS SHOWING THE AREA, PRODUCTION, AND VALUE OF THE ENGLISH POTATO CROP

| | Acres. | Tons. | Value. |
|------|--------|--------|----------|
| 1928 | 8,154 | 9,687 | £80,322 |
| 1929 | 8,116 | 13,214 | £225,739 |
| 1930 | 10,277 | 18,489 | £165,245 |
| 1931 | 10,374 | 17,189 | £132,499 |
| 1932 | 9,743 | 14,017 | £108,630 |

Table No. XXX.

COTTON.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCE OF COTTON.

| Petty Sessions District. | TOTAL AREA. | | Increase or Decrease—1932. | Bearing, 1932. | Not Bearing, 1932. | PRODUCE (UNGINNED). | |
|--------------------------|-------------|--------|----------------------------|----------------|--------------------|---------------------|-----------|
| | 1931. | 1932. | | | | 1931. | 1932. |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Lbs. | Lbs. |
| Banana | 3,633 | 2,456 | — 1,177 | 1,574 | 882 | 1,553,447 | 565,087 |
| Dugandan | 181 | 270 | 89 | 196 | 74 | 63,586 | 80,814 |
| Eidsvold | 4,690 | 3,617 | — 1,073 | 1,835 | 1,782 | 1,760,491 | 136,757 |
| Gatton | 180 | 380 | 200 | 317 | 63 | 150,355 | 107,143 |
| Gaydah | 4,602 | 5,896 | 1,294 | 2,874 | 3,022 | 1,665,689 | 284,119 |
| Gin Gin | 285 | 441 | 156 | 113 | 328 | 58,844 | 29,998 |
| Gladstone | 1,453 | 909 | — 544 | 391 | 518 | 295,967 | 99,086 |
| Harrisville | 102 | 271 | 169 | 168 | 103 | 71,027 | 62,162 |
| Laidley | 326 | 283 | — 43 | 209 | 74 | 91,706 | 41,578 |
| Lowood | 573 | 390 | — 183 | 290 | 100 | 162,567 | 59,248 |
| Mackay | 2 | 43 | 41 | 27 | 16 | 367 | 22,301 |
| Monto | 5,331 | 10,814 | 5,483 | 5,272 | 5,542 | 1,258,530 | 1,498,257 |
| Marburg | 279 | 123 | — 156 | 112 | 11 | 58,943 | 25,510 |
| Mount Morgan | 23,253 | 24,681 | 1,428 | 12,777 | 11,904 | 5,925,101 | 2,617,528 |
| Rockhampton | 1,569 | 1,753 | 184 | 1,209 | 544 | 157,566 | 323,495 |
| Roma | 939 | 963 | 24 | 584 | 379 | 81,117 | 49,805 |
| Toogoolawah | 196 | 134 | — 62 | 131 | 3 | 55,969 | 42,194 |
| Wienholt | 763 | 986 | 223 | 894 | 92 | 366,835 | 73,260 |
| All other Districts | 2,000 | 1,698 | — 302 | 1,022 | 676 | 1,466,537 | 151,774 |
| Total State | 50,357 | 56,108 | 5,751 | *29,995 | 26,113 | 15,244,644 | 6,270,116 |

* Of this area 1,872 acres were returned as ratooned for 1932.

Note: The number of Farmers growing Cotton in 1932 was 1,989.

Table No. XXXI.
SUGAR.

RETURN SHOWING THE NUMBER OF PLANTATIONS, AREA OF AND AVERAGE AREA FOR THE YEAR 1932.

| | Number of Plantations under 5 acres. | Number of Plantations 5 acres and over. | Area under Cane. | |
|----------------------------------|---|--|------------------|------------------------------------|
| | | | Acres. | Average to each Planter. Acres. |
| Rockingham and York Peninsula | 19 | 2,173 | 118,318 | 54 |
| Edgecumbe and Port Curtis ... | 66 | 2,515 | 116,533 | 45 |
| Wide Bay | 277 | 1,595 | 49,750 | 27 |
| Moreton | 191 | 395 | 6,535 | 11 |
| Total | 553 | 6,678 | 291,136 | 40 |

Table No. XXXII.

RETURN FOR FIVE YEARS SHOWING THE NUMBER OF PLANTATIONS, AREA, AND PRODUCE OF SUGAR-CANE.

| Year. | Number of Plantations under 5 acres. | Number of Plantations 5 acres and over. | Average to each Planter. | Acres Cultivated. | Acres Crushed. | PRODUCE. | |
|----------|--|--|--------------------------------|----------------------|-------------------|------------|--|
| | | | | | | Tons Cane. | Tons Sugar, at 94 per cent. Net Titre. |
| 1928 ... | 617 | 6,502 | 40 | 283,476 | 215,674 | 3,736,311 | 520,620 |
| 1929 ... | 1,064 | 6,247 | 40 | 291,660 | 214,880 | 3,581,265 | 518,516 |
| 1930 ... | 543 | 6,685 | 41 | 296,070 | 222,044 | 3,528,660 | 516,783 |
| 1931 ... | 541 | 6,851 | 42 | 309,818 | 233,304 | 4,034,300 | 581,276 |
| 1932 ... | 553 | 6,678 | 40 | 291,136 | 205,046 | 3,546,370 | 514,027 |

Table No. XXXIII.

RETURN FOR FIVE YEARS SHOWING PERCENTAGES OF YIELDS.

| Year. | TO EACH ACRE CRUSHED. | | | | | | Tons of Cane to One Ton of Sugar. |
|-------|-----------------------|-----|----------------|-----|-----|-----|--------------------------------------|
| | Tons of Cane. | | Tons of Sugar. | | | | |
| 1928 | ... | ... | ... | ... | ... | ... | 7.18 |
| 1929 | ... | ... | ... | ... | ... | ... | 6.91 |
| 1930 | ... | ... | ... | ... | ... | ... | 6.83 |
| 1931 | ... | ... | ... | ... | ... | ... | 6.94 |
| 1932 | ... | ... | ... | ... | ... | ... | 6.90 |

Table No. XXXIV.

RETURN SHOWING AREA, PRODUCE, &C., IN EACH DIVISION OF THE STATE FOR THE YEAR 1932.

| Division and District. | Area for Plants. | Area Stand-over or Un- productive. | Area Crushed for Sugar. | Total Area for Sugar. | Weight of Cane. | Sugar 94 N.T. | Molasses Returned. |
|--|---------------------|---|-------------------------------|-----------------------------|--------------------|------------------|-----------------------|
| | Acres. | Acres. | Acres. | Acres. | Tons. | Tons. | Gallons. |
| <i>Rockingham and York Peninsula</i> | | | | | | | |
| Cairns and Douglas | 1,428 | 6,005 | 36,924 | 44,357 | 730,513 | 107,042 | 3,034,440 |
| Ingham and Innisfail, &c. .. | 1,956 | 10,831 | 61,174 | 73,961 | 1,366,611 | 192,063 | 5,136,319 |
| Total | 3,384 | 16,836 | 98,098 | 118,318 | 2,097,124 | 299,105 | 8,170,759 |
| <i>Edgecumbe</i> | | | | | | | |
| Ayr and Townsville | 1,059 | 10,854 | 21,233 | 33,146 | 502,453 | 84,278 | 2,204,922 |
| Proserpine and Bowen | 17 | 4,297 | 8,637 | 12,951 | 103,570 | 17,938 | 544,300 |
| Mackay | 2,435 | 14,302 | 49,625 | 66,362 | 600,773 | 88,950 | 2,730,766 |
| Total | 3,511 | 29,453 | 79,495 | 112,459 | 1,206,796 | 191,166 | 5,479,988 |
| <i>Wide Bay</i> | | | | | | | |
| Bundaberg, Gin Gin, &c. .. | 717 | 16,417 | 13,909 | 31,043 | 103,441 | 12,084 | 832,334 |
| Biggenden, Childers, Mary- borough, Tiaro, &c. .. | 295 | 11,708 | 6,516 | 18,519 | 43,455 | 3,812 | 250,884 |
| Gympie | 5 | 133 | 50 | 188 | 540 | * | .. |
| Total | 1,017 | 28,258 | 20,475 | 49,750 | 147,436 | 15,896 | 1,083,218 |
| <i>Port Curtis</i> | | | | | | | |
| St. Lawrence | 138 | 1,066 | 2,870 | 4,074 | 33,893 | † | .. |
| <i>Morteon</i> | | | | | | | |
| Logan and Southport | 23 | 457 | 716 | 1,196 | 9,870 | 1,036 | 18,000 |
| Maroochy, &c. | 27 | 1,920 | 3,392 | 5,339 | 51,251 | 6,824 | 232,684 |
| Total | 50 | 2,377 | 4,108 | 6,535 | 61,121 | 7,860 | 250,684 |
| TOTAL STATE | 8,100 | 77,990 | 205,046 | ††291,136 | 3,546,370 | 514,027 | 14,984,649 |

* Cane crushed at Maroochy and Tiaro. † Cane crushed at Mackay. †† Exclusive of 6,024 Acres Green Fodder.

Table No. XXXV.

RETURN SHOWING THE SUGAR AVERAGES IN EACH DIVISION OF THE STATE FOR THE YEAR 1932.

| Divisions or Groups and Districts. | Tons of Cane per Acre Crushed. | Tons of Sugar per Acre Crushed. | Tons of Cane per Ton of Sugar. |
|--|--------------------------------|---------------------------------|--------------------------------|
| <i>Rockingham and York Peninsula—</i> | | | |
| Cairns and Douglas, &c. | 19.78 | 2.89 | 6.83 |
| Ingham and Innisfail, &c. | 22.34 | 3.24 | 6.89 |
| Total | 21.38 | 3.11 | 6.87 |
| <i>Edgumbe—</i> | | | |
| Ayr and Townsville | 23.66 | 3.68 | 6.43 |
| Bowen and Proserpine | 11.99 | 1.68 | 7.14 |
| Mackay | 12.11 | 1.76 | 6.87 |
| Total | 15.18 | 2.25 | 6.70 |
| <i>Wide Bay—</i> | | | |
| Bundaberg, Gin Gin, &c. | 7.44 | 0.79 | 9.40 |
| Biggenden, Childers, Maryborough, Tiara | 6.67 | 0.75 | 8.88 |
| Gympie* | 10.80 | * | * |
| Total | 7.20 | 0.78 | 9.24 |
| <i>Port Curtis—</i> | | | |
| St. Lawrence† | 11.81 | † | † |
| <i>Moreton—</i> | | | |
| Logan and Southport | 13.78 | 1.48 | 9.32 |
| Maroochy, &c. | 15.11 | 1.98 | 7.61 |
| Total | 14.88 | 1.89 | 7.84 |
| TOTAL STATE | 17.30 | 2.51 | 6.90 |

* Cane crushed in Maroochy and Tiara.

† Cane crushed in Mackay.

Table No. XXXVI.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCE IN EACH DIVISION OF THE STATE.

| Division. | AREA UNDER CULTIVATION. | | | PRODUCTION. | | | | | |
|-------------------------------|-------------------------|---------|-----------------------|---------------|----------|---------------|----------|--------------------------------|----------|
| | 1931. | 1932. | Increase or —Decrease | 1931. | | 1932. | | Increase or —Decrease in 1932. | |
| | | | | Area Crushed. | Sugar. | Area Crushed. | Sugar. | Area Crushed. | Sugar. |
| | Acres. | Acres. | Acres. | Acres. | Tons. | Acres. | Tons. | Acres. | Tons. |
| Rockingham and York Peninsula | 118,012 | 118,318 | 306 | 98,284 | 300,185 | 98,098 | 299,105 | — 186 | — 1,080 |
| Edgumbe | 119,156 | 112,459 | — 6,697 | 81,916 | 188,403 | 79,495 | 191,166 | — 2,421 | 2,763 |
| Port Curtis | 4,233 | 4,074 | — 159 | 2,991 | * | 2,870 | * | — 121 | * |
| Wide Bay | 62,064 | 49,750 | — 12,314 | 45,841 | † 84,573 | 20,475 | † 15,896 | — 25,366 | — 68,677 |
| Moreton | 6,353 | 6,535 | 182 | 4,272 | 8,115 | 4,108 | 7,860 | — 164 | — 255 |
| Total | 309,818 | 291,136 | — 18,682 | 233,304 | 581,276 | 205,046 | 514,027 | — 28,258 | — 67,249 |

* Cane Crushed in Edgumbe.

† Gympie Cane part crushed in Moreton Division.

Table No. XXXVII.

RETURN FOR TWO YEARS SHOWING PERCENTAGES IN EACH DIVISION OF THE STATE.

| Division. | TO EACH ACRE CRUSHED. | | | | TONS CANE TO EACH TON SUGAR. | |
|-------------------------------|-----------------------|-------|----------------|-------|------------------------------|-------|
| | Tons of Cane. | | Tons of Sugar. | | 1931. | 1932. |
| | 1931. | 1932. | 1931. | 1932. | | |
| Rockingham and York Peninsula | 21.46 | 21.38 | 3.10 | 3.11 | 6.92 | 6.87 |
| Edgumbe | 14.52 | 15.18 | 2.16 | 2.25 | 6.72 | 6.70 |
| Port Curtis | 14.83 | 11.81 | * | * | * | * |
| Wide Bay | 13.74 | 7.20 | 1.85 | 0.78 | 7.44 | 9.24 |
| Moreton | 14.36 | 14.88 | 1.87 | 1.89 | 7.60 | 7.84 |
| Total | 17.29 | 17.30 | 2.49 | 2.51 | 6.94 | 6.90 |

* Included in Edgumbe and Wide Bay.

Table No. XXXVIII.

RETURN SHOWING THE AREA AND PRODUCTION OF SUGAR-CANE AND SUGAR BEET IN AUSTRALIA FOR THE YEAR 1932.

| | Area under Cultivation. | Area Cut or Dug for Manufacture. | Yield of Cane, &c. | Sugar Obtained. |
|------------------------|-------------------------|----------------------------------|--------------------|-----------------|
| | Acres. | Acres. | Tons. | Tons. |
| Queensland | 291,136 | 205,046 | 3,546,370 | 514,027 |
| New South Wales | 16,000 | 7,796 | 156,700 | 17,840 |
| Victoria (beet) | 3,173 | 3,173 | 41,985 | 5,428 |

Table No. XXXIX.

RETURN SHOWING NUMBER OF SUGAR MILLS IN QUEENSLAND DURING THE YEAR 1931-32.

| Manufactories. | Works. | Hands Employed. | VALUE. | | |
|-------------------------------|------------------------------------|-----------------|------------|--------------------|------------|
| | | | Machinery. | Land and Premises. | Output. |
| | No. | No. | £ | £ | £ |
| Refineries } Sugar Mills } | In operation, 1931-32 { 2 35 | } 5,997 | 6,841,212 | 941,177 | 12,030,145 |
| Total | 37 |  |  |  |  | 5,997 | 6,841,212 | 941,177 | 12,030,145 |

Table No. XL.
SUGAR MILLS.

1. Number of Sugar Mill Companies to which advances have been made under—

| | |
|---|----|
| The Sugar Works Guarantee Acts | 13 |
| "The Sugar Works Act of 1911" (Babinda and South Johnstone) | 2 |
| "The Sugar Works Act of 1922" (Tully River Mill) | 1 |
| From Consolidated Revenue (North Eton and Racecourse) | 2 |
| From General Loan Fund | 6 |
| From Trust Funds (Proserpine) | 1 |

2. Number of Tramway Companies to which advances have been made under—

| | |
|--|---|
| The Sugar Works Guarantee Acts (Double Peak) | 1 |
|--|---|

3. Under other conditions None.

4. Total amount of advances made to 31st December, 1932, under the Sugar Works Guarantee Acts—

| | £ | s. | d. | £ | s. | d. |
|---------------------------|--------|----|----|---------|----|----|
| Marian Mill | 39,000 | 0 | 0 | | | |
| Mount Bauple Mill | 32,480 | 16 | 1 | | | |
| Pleystowe Mill | 35,472 | 1 | 3 | | | |
| Nerang River Mill | 19,998 | 18 | 10 | | | |
| Gin Gin Mill | 50,000 | 0 | 0 | | | |
| Plane Creek Mill | 65,000 | 0 | 0 | | | |
| North Eton Mill | 18,200 | 0 | 0 | | | |
| Proserpine Mill | 54,000 | 0 | 0 | | | |
| Moreton Mill | 32,864 | 15 | 0 | | | |
| Mulgrave Mill | 46,000 | 0 | 0 | | | |
| Isis Mill | 38,636 | 0 | 0 | | | |
| Mossman Mill | 66,300 | 0 | 0 | | | |
| Johnstone Mill | 847 | 17 | 8 | | | |
| | | | | 498,800 | 8 | 10 |

5. Under "The Sugar Works Act of 1911"—

| | | | | | | |
|------------------------------|---------|----|---|-----------|---|---|
| Babinda Mill | 405,429 | 18 | 8 | | | |
| South Johnstone Mill | 648,009 | 7 | 8 | | | |
| | | | | 1,053,439 | 6 | 4 |

Under "The Sugar Works Act of 1922"—

| | | | | | | |
|--------------------------|--|--|--|---------|---|---|
| Tully River Mill | | | | 795,221 | 0 | 0 |
|--------------------------|--|--|--|---------|---|---|

From Consolidated Revenue—

| | | | | | | |
|-------------------------|--------|---|---|--------|---|---|
| North Eton Mill | 26,000 | 0 | 0 | | | |
| Racecourse Mill | 21,000 | 0 | 0 | | | |
| | | | | 47,000 | 0 | 0 |

From General Loan Fund—

| | | | | | | |
|---------------------------|--------|----|---|---------|---|---|
| North Eton Mill | 62,965 | 18 | 4 | | | |
| Mount Bauple Mill | 8,500 | 0 | 0 | | | |
| Gin Gin Mill | 2,000 | 0 | 0 | | | |
| Proserpine Mill | 17,765 | 9 | 4 | | | |
| Moreton Mill | 14,350 | 0 | 0 | | | |
| Mossman Mill | 14,071 | 14 | 0 | | | |
| | | | | 119,653 | 1 | 8 |

From Trust Funds—

| | | | | | | |
|--------------------|--|--|--|---------|---|---|
| Proserpine | | | | 110,500 | 0 | 0 |
|--------------------|--|--|--|---------|---|---|

Indebtedness at 31st December, 1932—

6. Under "The Sugar Works Act of 1911"—

| | | | | | | |
|----------------------|--|--|--|-------|----|---|
| Babinda Mill | | | | 4,821 | 14 | 1 |
|----------------------|--|--|--|-------|----|---|

Under "The Sugar Works Act of 1922"—

| | | | | | | |
|--------------------------|--|--|--|---------|---|----|
| Tully River Mill | | | | 493,460 | 8 | 10 |
|--------------------------|--|--|--|---------|---|----|

Under "The South Johnstone, Gin Gin, North Eton, and Mount Bauple Sugar Works Act of 1927"—

| | | | | | | |
|------------------------------|---------|----|---|---------|---|---|
| Gin Gin Mill | 21,406 | 0 | 0 | | | |
| Mount Bauple Mill | 20,000 | 0 | 0 | | | |
| North Eton Mill | 46,278 | 14 | 5 | | | |
| Proserpine Mill | 97,101 | 7 | 2 | | | |
| South Johnstone Mill | 328,030 | 8 | 1 | | | |
| | | | | 512,816 | 9 | 8 |

Table No. XLI.
ARROWROOT.

RETURN FOR TWO YEARS SHOWING AREA AND PRODUCE, &C., OF ARROWROOT TUBERS IN PETTY SESSIONS DISTRICTS.

| Petty Sessions District. | 1931. | | 1932. | | Increase or Decrease— 1932. | |
|--------------------------|--------|----------|--------|----------|--------------------------------|----------|
| | Area. | Produce. | Area. | Produce. | Area. | Produce. |
| | Acres. | Tons. | Acres. | Tons. | Acres. | Tons. |
| Beaudesert | 10 | 161 | 10 | 95 | .. | — 66 |
| Bundaberg | 14 | 102 | 3 | 13 | — 11 | — 89 |
| Dugandan | 1 | 2 | .. | .. | — 1 | — 2 |
| Esk | 1 | 1 | 5 | 8 | 4 | 7 |
| Gayndah | .. | .. | 1 | 1 | 1 | 1 |
| Gympie | 58 | 500 | 8 | 76 | — 50 | — 424 |
| Helidon | .. | .. | 1 | 6 | 1 | 6 |
| Kilcoy | 4 | 45 | 19 | 154 | 15 | 109 |
| Logan | 315 | 2,883 | 262 | 2,480 | — 53 | — 403 |
| Lowood | 4 | 10 | 2 | 7 | — 2 | — 3 |
| Maroochy | 39 | 454 | 24 | 139 | — 15 | — 315 |
| Marburg | .. | .. | 2 | 4 | 2 | 4 |
| Nanango | 3 | 22 | 4 | 53 | 1 | 31 |
| Redcliffe | 1 | 12 | .. | .. | — 1 | — 12 |
| Rosewood | .. | .. | 2 | 4 | 2 | 4 |
| Southport | 335 | 4,077 | 342 | 3,801 | 7 | — 276 |
| Tiaro | .. | .. | 1 | 2 | 1 | 2 |
| Toogoolawah | 1 | 3 | .. | .. | — 1 | — 3 |
| Woodford | 3 | 4 | 5 | 35 | 2 | 31 |
| Total State | 789 | 8,276 | 691 | 6,878 | — 98 | — 1,398 |

There were 214 producers of Arrowroot during 1932.

Table No. XLII.

RETURN SHOWING ARROWROOT MANUFACTURED DURING THE YEAR 1931-32.

| Petty Sessions District. | Hands Employed | Tuber. | Arrowroot. |
|--------------------------|----------------|--------|------------|
| | Number. | Tons. | Lb. |
| Beaudesert | 102 | 5,608 | 1,285,452 |
| Logan | | | |
| Southport | | | |

Table No. XLIII.

TOBACCO.

RETURN FOR TWO YEARS SHOWING AREA AND PRODUCTION OF TOBACCO.

| Division and Petty Sessions District. | 1931. | | 1932. | | | | Increase or Decrease— 1932. | |
|---------------------------------------|--------|---------------------|-------------|---------|--------------|---------------------|--------------------------------|-----------|
| | Area. | Produce Dried Leaf. | Total Area. | Bearing | Not Bearing. | Produce Dried Leaf. | Acres. | Lb. |
| | Acres. | Lb. | Acres. | Acres. | Acres. | Lb. | Acres. | Lb. |
| <i>Moreton—</i> | | | | | | | | |
| Brisbane (A) | 1 | 125 | 3 | 1 | 2 | 150 | 2 | 25 |
| Brisbane (B) | 3 | 343 | 68 | .. | 68 | .. | 65 | — 343 |
| Caboolture | .. | .. | 13 | 9 | 4 | 2,007 | 13 | 2,007 |
| Lowood | 1 | 13 | 3 | 1 | 2 | 118 | 2 | 105 |
| Rosewood | .. | .. | 1 | 1 | .. | 500 | 1 | 500 |
| <i>Wide Bay—</i> | | | | | | | | |
| Biggenden | 1 | * | 1 | 1 | .. | 487 | .. | 487 |
| Bundaberg | 1 | 25 | 26 | 5 | 21 | 1,318 | 25 | 1,293 |
| Childers | .. | .. | 3 | .. | 3 | .. | 3 | .. |
| Gympie | 1 | 64 | .. | .. | .. | .. | — 1 | — 64 |
| <i>Port Curtis—</i> | | | | | | | | |
| Gladstone | 3 | 1,210 | 44 | 38 | 6 | 10,926 | 41 | 9,716 |
| <i>Edgumbe—</i> | | | | | | | | |
| Ayr | 17 | 6,378 | 51 | 39 | 12 | 26,192 | 34 | 19,814 |
| Bowen | 28 | 9,817 | 195 | 195 | .. | 44,792 | 167 | 34,975 |
| Charters Towers | .. | .. | 20 | 15 | 5 | 5,557 | 20 | 5,557 |
| Mackay | 2 | 705 | 115 | 76 | 39 | 46,017 | 113 | 45,312 |
| Proserpine | .. | .. | 1 | 1 | .. | 1,550 | 1 | 1,550 |
| Ravenswood | .. | .. | 5 | 5 | .. | 1,680 | 5 | 1,680 |
| Townsville | 11 | 5,269 | 316 | 189 | 127 | 76,353 | 305 | 71,084 |
| <i>Rockingham—</i> | | | | | | | | |
| Atherton | 130 | 71,172 | 3,306 | 1,346 | 1,960 | 709,864 | 3,176 | 638,692 |
| Cairns | 30 | 15,231 | 59 | 58 | 1 | 19,265 | 29 | 4,034 |
| Cardwell | .. | .. | 3 | .. | 3 | .. | 3 | .. |
| Chillagoe | .. | .. | 454 | 454 | .. | 254,123 | 454 | 254,123 |
| Herberton | 6 | * | 106 | 72 | 34 | 33,557 | 100 | 33,557 |
| Ingham | 33 | 10,289 | 83 | 56 | 27 | 33,191 | 50 | 22,902 |
| Innisfail | 13 | 7,245 | .. | .. | .. | .. | — 13 | — 7,245 |
| <i>York Peninsula—</i> | | | | | | | | |
| Cook | .. | .. | 2 | 2 | .. | 673 | 2 | 673 |
| <i>Downs—</i> | | | | | | | | |
| Goondiwindi | .. | .. | 10 | 10 | .. | 16,000 | 10 | 16,000 |
| Inglewood | 291 | * | 381 | 227 | 154 | 151,340 | 90 | 151,340 |
| Killarney | .. | .. | 99 | 99 | .. | 112,693 | 99 | 112,693 |
| Stanthorpe | 37 | 1,420 | 216 | 116 | 100 | 75,464 | 179 | 74,044 |
| Texas | 672 | 131,364 | 1,653 | 799 | 854 | 677,804 | 981 | 546,440 |
| Warwick | 8 | * | 2 | 2 | .. | 2,240 | — 6 | 2,240 |
| Total State | 1,289 | 260,670 | 7,239 | 3,817 | 3,422 | 2,303,861 | 5,950 | 2,043,191 |

There were 656 tobacco growers.

* Not harvested.

Table No. XLIV.

VINES.

RETURN FOR TWO YEARS SHOWING AREA AND PRODUCTION OF VINES.

| Year. | VINEYARD. | | | Grapes Gathered. | Average per Acre (Bearing). |
|-------------|----------------|--------------------|--------|------------------|--------------------------------|
| | Acres Bearing. | Acres not Bearing. | Total. | | |
| 1931 | 1,514 | 235 | 1,749 | Lb. 4,917,808 | Lb. 3,248 |
| 1932 | 1,586 | 282 | 1,868 | 5,296,980 | 3,340 |

Table No. XLV.

RETURN FOR TWO YEARS SHOWING AREA UNDER VINES AND PRODUCTION OF GRAPES IN THE PRINCIPAL DISTRICTS OF THE STATE.

| Petty Sessions District. | AREA UNDER VINES. | | | | | | | | |
|----------------------------|-------------------|-----------------|----------------|----------|-----------------|----------------|-----------------------------|---------------------|---------------------|
| | 1931. | | | 1932. | | | Increase or Decrease— | 1931. | 1932. |
| | Bearing. | Not Bearing. | Total Area. | Bearing. | Not Bearing. | Total Area. | | Grapes Gathered. | Grapes Gathered. |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Lb. | Lb. |
| Brisbane (A) | 325 | 48 | 373 | 334 | 28 | 362 | — 11 | 481,783 | 443,137 |
| Brisbane (B) | 7 | ... | 7 | 4 | 1 | 5 | — 2 | 11,740 | 10,700 |
| Charters Towers | 20 | ... | 20 | 10 | ... | 10 | — 10 | 15,339 | 47,103 |
| Chinchilla | ... | ... | ... | 2 | ... | 2 | 2 | ... | 44,900 |
| Cleveland | 3 | 3 | 6 | 5 | 3 | 8 | 2 | 16,515 | 9,884 |
| Gatton | 7 | 1 | 8 | 6 | 1 | 7 | -- 1 | 9,720 | 23,000 |
| Herberton | 10 | ... | 10 | 8 | ... | 8 | — 2 | 21,707 | 14,330 |
| Lowood | 26 | ... | 26 | 29 | ... | 29 | 3 | 112,550 | 206,000 |
| Maryborough | 18 | 4 | 22 | 20 | 2 | 22 | ... | 14,596 | 23,743 |
| Oakey | 2 | ... | 2 | 5 | ... | 5 | 3 | 17,250 | 14,332 |
| Rockhampton | 15 | 4 | 19 | 22 | 6 | 28 | 9 | 84,242 | 83,893 |
| Roma | 414 | 27 | 441 | 402 | 25 | 427 | — 14 | 1,021,510 | 662,351 |
| Stanthorpe | 598 | 133 | 731 | 662 | 192 | 854 | 123 | 2,909,950 | 3,543,556 |
| St. George | 2 | ... | 2 | 4 | ... | 4 | 2 | 16,800 | 16,100 |
| Toowoomba | 8 | 1 | 9 | 8 | ... | 8 | — 1 | 34,888 | 28,722 |
| Warwick | 12 | ... | 12 | 18 | ... | 18 | 6 | 34,879 | 25,371 |
| Wynnum | 8 | 1 | 9 | 7 | ... | 7 | — 2 | 30,200 | 20,252 |
| All other Districts | 39 | 13 | 52 | 40 | 24 | 64 | 12 | 84,139 | 79,606 |
| Totals | 1,514 | 235 | 1,749 | 1,586 | 282 | 1,868 | 119 | 4,917,808 | 5,296,980 |

Table No. XLVI.

RETURN FOR FIVE YEARS SHOWING THE AVERAGE PRODUCTION OF GRAPES IN CERTAIN PETTY SESSIONS DISTRICTS OF THE STATE.

| Petty Sessions District. | 1928. Average per Acre. | 1929. Average per Acre. | 1930. Average per Acre. | 19 Average per Acre. | 1932. Average per Acre. |
|--------------------------|----------------------------|----------------------------|----------------------------|-------------------------|----------------------------|
| | Lb. | Lb. | Lb. | Lb. | Lb. |
| Brisbane (A) | 1,527 | 1,873 | 1,451 | 1,482 | 1,327 |
| Roma | 1,309 | 1,683 | 2,044 | 2,467 | 1,648 |
| Stanthorpe | 3,565 | 3,360 | 4,924 | 4,866 | 5,353 |
| Toowoomba | 2,737 | 3,317 | 3,686 | 4,361 | 3,590 |
| Warwick | 3,462 | 1,462 | 1,387 | 2,907 | 1,410 |
| State | 2,426 | 2,616 | 1,533 | 3,248 | 3,340 |

Table No. XLVII.
WINE.

RETURN FOR FIVE YEARS SHOWING NUMBER OF MAKERS, WINE MADE, AND WINE SPIRIT DISTILLED.

| Year. | | | | | | | | | | | Number of Makers. | Quantity of Wine Made. | Quantity of Wine Spirit Distilled. |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----------------------|---------------------------|--|
| 1928 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 51 | Gallons. 37,210 | Gallons. 449 |
| 1929 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 56 | 48,174 | 583 |
| 1930 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 50 | 48,899 | 3,612 |
| 1931 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 47 | 41,456 | 3,663 |
| 1932 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 39 | 35,301 | 1,488 |

Table No. XLVIII.

RETURN SHOWING THE PRINCIPAL DISTRICTS IN WHICH WINE WAS MADE DURING THE YEAR 1932.

| Petty Sessions District. | | | | | | | | Number of Makers. | Quantity of Wine Made. | Quantity of Wine Spirit Distilled. |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|-------------------|---------------------------|---------------------------------------|
| Maryborough | ... | ... | ... | ... | ... | ... | ... | 5 | Gallons. 1,130 | Gallons. ... |
| Toowoomba | ... | ... | ... | ... | ... | ... | ... | 4 | 1,180 | ... |
| Roma | ... | ... | ... | ... | ... | ... | ... | 2 | 29,376 | ... |
| Stanthorpe | ... | ... | ... | ... | ... | ... | ... | 2 | 630 | ... |
| All other Districts | ... | ... | ... | ... | ... | ... | ... | 26 | 2,985 | ... |
| Totals | ... | ... | ... | ... | ... | ... | ... | 39 | 35,301 | 1,488 |

Table No. XLIX.

BANANAS.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCTION OF BANANAS IN THE PRINCIPAL DISTRICTS OF THE STATE.

| Petty Sessions District. | Area. | | | | Produce. | | Increase or Decrease — 1932. | |
|--------------------------|--------|-------------------|---------------------------|-----------------|-----------|-----------|------------------------------|-------------|
| | 1931. | Bearing, 1932. | Not yet Bearing, 1932. | Total, 1932. | 1931. | 1932. | Area. | Produce. |
| | Acres. | Acres. | Acres. | Acres. | Bunches. | Bunches. | Acres. | Bunches. |
| Brisbane (A) | 323 | 167 | 113 | 280 | 58,540 | 42,073 | — 43 | — 16,467 |
| Bundaberg | 191 | 141 | 57 | 198 | 40,724 | 39,426 | 7 | — 1,298 |
| Caboolture | 386 | 265 | 105 | 370 | 70,028 | 61,283 | — 16 | — 8,745 |
| Cairns | 263 | 190 | 26 | 216 | 51,480 | 42,951 | — 47 | — 8,529 |
| Cleveland | 161 | 121 | 92 | 213 | 25,259 | 24,112 | 52 | — 1,147 |
| Gympie | 6,024 | 1,708 | 669 | 2,377 | 1,331,826 | 417,682 | — 3,647 | — 914,144 |
| Kilcoy | 286 | 123 | 33 | 156 | 69,675 | 32,717 | — 130 | — 36,958 |
| Logan | 440 | 301 | 209 | 510 | 79,699 | 82,788 | 70 | 3,089 |
| Mackay | 172 | 84 | 24 | 108 | 46,448 | 23,929 | — 64 | — 22,519 |
| Maroochy | 1,990 | 1,326 | 778 | 2,104 | 432,667 | 455,313 | 114 | 22,646 |
| Redcliffe | 949 | 509 | 323 | 832 | 197,125 | 143,815 | — 117 | — 53,310 |
| Rockhampton | 364 | 246 | 81 | 327 | 67,799 | 50,682 | — 37 | — 17,117 |
| Southport | 1,300 | 1,040 | 536 | 1,576 | 188,021 | 261,099 | 276 | 73,078 |
| Tiaro | 265 | 167 | 32 | 199 | 43,843 | 27,917 | — 66 | — 15,926 |
| Woodford | 510 | 319 | 115 | 434 | 100,377 | 90,807 | — 76 | — 9,570 |
| All other Districts | 1,140 | 528 | 161 | 689 | 147,167 | 73,289 | — 451 | — 73,878 |
| Totals | 14,764 | 7,235 | 3,354 | 10,589 | 2,950,678 | 1,869,883 | — 4,175 | — 1,080,795 |

Table No. L.

RETURN SHOWING THE AVERAGE YIELD OF BANANAS IN THE PRINCIPAL DISTRICTS OF THE STATE DURING THE YEAR 1932.

| | Average per Acre— Bunches. | | Average per Acre— Bunches. |
|------------------|-------------------------------|-----------------|-------------------------------|
| Brisbane (A) ... | 252 | Logan ... | 275 |
| Bundaberg ... | 280 | Maroochy ... | 343 |
| Caboolture ... | 231 | Redcliffe ... | 283 |
| Cairns ... | 216 | Rockhampton ... | 206 |
| Cleveland ... | 199 | Southport ... | 251 |
| Gympie ... | 245 | Tiaro ... | 167 |
| Kilcoy ... | 266 | | |

Table No. LI.
PINEAPPLES.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCTION OF PINEAPPLES IN THE STATE.

| Petty Sessions District. | 1931. | | 1932. | | | | Increase or Decrease—1932. | |
|--------------------------|--------|-----------|----------|------------------|-------------|-----------|----------------------------|----------|
| | Area. | Produce. | Bearing. | Not yet Bearing. | Total Area. | Produce. | Area. | Produce. |
| | Acres. | Dozen. | Acres. | Acres. | Acres. | Dozen. | Acres. | Dozen. |
| Brisbane (A) ... | 422 | 86,677 | 287 | 97 | 384 | 104,989 | — 38 | 18,312 |
| Brisbane (B) ... | 275 | 50,794 | 218 | 42 | 260 | 39,519 | — 15 | 11,275 |
| Caboolture ... | 614 | 126,297 | 434 | 156 | 590 | 119,397 | — 24 | 6,900 |
| Cleveland ... | 761 | 111,088 | 505 | 268 | 773 | 122,852 | 12 | 11,764 |
| Gympie ... | 434 | 95,034 | 424 | 111 | 535 | 100,453 | 101 | 5,419 |
| Logan ... | 103 | 18,925 | 82 | 42 | 124 | 16,525 | 21 | 2,400 |
| Maroochy ... | 2,027 | 511,059 | 1,548 | 406 | 1,954 | 500,989 | — 73 | 10,070 |
| Maryborough ... | 167 | 46,076 | 149 | 19 | 168 | 36,062 | 1 | 10,014 |
| Rockhampton ... | 223 | 37,958 | 205 | 30 | 235 | 34,110 | 12 | 3,848 |
| Townsville ... | 97 | 11,148 | 130 | 26 | 156 | 26,572 | 59 | 15,424 |
| Wynnum ... | 122 | 19,033 | 84 | 45 | 129 | 16,398 | 7 | 2,635 |
| All other Districts | 544 | 67,565 | 468 | 86 | 554 | 58,004 | 10 | 9,561 |
| Total ... | 5,789 | 1,181,654 | 4,534 | 1,328 | 5,862 | 1,175,870 | 73 | 5,734 |

N.B.—Brisbane (B) refers to South Brisbane.

Table No. LII.
ORANGES.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCTION OF ORANGES IN THE PRINCIPAL DISTRICTS OF THE STATE.

| Petty Sessions District. | Total Area. | | Bearing, 1932. | Not yet Bearing, 1932. | Produce. | | Increase or Decrease — 1932. | |
|--------------------------|-------------|--------|-------------------|---------------------------|----------|----------|---------------------------------|----------|
| | 1931. | 1932. | Area. | Area. | 1931. | 1932. | Area. | Produce. |
| | Acres. | Acres. | Acres. | Acres. | Bushels. | Bushels. | Acres. | Bushels. |
| Allora ... | 50 | 17 | 17 | ... | 2,000 | 2,500 | — 33 | 500 |
| Bundaberg ... | 46 | 34 | 27 | 7 | 3,935 | 4,758 | — 12 | 823 |
| Caboolture ... | 91 | 95 | 67 | 28 | 6,797 | 8,805 | 4 | 2,008 |
| Cairns ... | 84 | 81 | 68 | 13 | 8,010 | 6,153 | — 3 | 1,857 |
| Cardwell ... | 179 | 172 | 106 | 66 | 11,269 | 13,969 | — 7 | 2,700 |
| Charters Towers ... | 68 | 65 | 55 | 10 | 2,863 | 3,834 | — 3 | 971 |
| Childers ... | 76 | 74 | 57 | 17 | 5,251 | 6,106 | — 2 | 855 |
| Cleveland ... | 46 | 39 | 24 | 15 | 1,060 | 1,354 | — 7 | 294 |
| Cook ... | 36 | 34 | 33 | 1 | 1,498 | 1,439 | — 2 | 59 |
| Emerald ... | 21 | 21 | 17 | 4 | 2,700 | 2,200 | ... | 500 |
| Esk ... | 42 | 41 | 27 | 14 | 3,293 | 1,506 | — 1 | 1,787 |
| Gatton ... | 74 | 90 | 70 | 20 | 7,825 | 11,160 | 16 | 3,335 |
| Gayndah ... | 75 | 121 | 97 | 24 | 7,991 | 15,242 | 46 | 7,251 |
| Gladstone ... | 42 | 43 | 36 | 7 | 1,042 | 1,572 | 1 | 530 |
| Gympie ... | 50 | 51 | 34 | 17 | 1,844 | 2,409 | 1 | 565 |
| Helidon ... | 22 | 16 | 15 | 1 | 2,426 | 1,893 | — 6 | 533 |
| Logan ... | 73 | 83 | 69 | 14 | 6,032 | 5,581 | 10 | 451 |
| Lowood ... | 23 | 21 | 14 | 7 | 2,082 | 1,401 | — 2 | 681 |
| Mackay ... | 71 | 62 | 37 | 25 | 7,265 | 4,801 | — 9 | 2,464 |
| Maroochy ... | 1,210 | 1,060 | 849 | 211 | 104,731 | 99,567 | — 150 | 5,164 |
| Maryborough ... | 540 | 511 | 386 | 125 | 55,009 | 61,457 | — 29 | 6,448 |
| Proserpine ... | 27 | 24 | 23 | 1 | 3,097 | 3,246 | — 3 | 149 |
| Redcliffe ... | 38 | 30 | 23 | 7 | 1,767 | 2,598 | — 8 | 831 |
| Rockhampton ... | 414 | 275 | 212 | 63 | 21,735 | 25,830 | — 139 | 4,095 |
| Roma ... | 49 | 54 | 44 | 10 | 2,440 | 2,750 | 5 | 310 |
| Southport ... | 119 | 119 | 105 | 14 | 9,284 | 11,308 | ... | 2,024 |
| Tiaro ... | 66 | 63 | 62 | 1 | 4,685 | 2,761 | — 3 | 1,924 |
| All other Districts | 337 | 326 | 250 | 76 | 16,730 | 15,795 | — 11 | 935 |
| Totals ... | 3,969 | 3,622 | 2,824 | 798 | 304,661 | 321,995 | — 347 | 17,334 |

Table No. LIII.

MANGOES.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCTION OF MANGOES IN THE PRINCIPAL DISTRICTS OF THE STATE.

| Petty Sessions District. | Total Area. | | Bearing, 1932. | Not yet Bearing, 1932. | Produce. | | Increase or Decrease - 1932. | |
|----------------------------|-------------|--------|-------------------|------------------------------|----------|----------|---------------------------------|----------|
| | 1931. | 1932. | | | 1931. | 1932. | Acres. | Bushels. |
| | Acres. | Acres. | Acres. | Acres. | Bushels. | Bushels. | | |
| Bowen | 32 | 35 | 20 | 15 | 4,948 | 3,922 | 3 | - 1,026 |
| Gladstone | 4 | 3 | 3 | ... | 697 | 513 | - 1 | - 184 |
| Gympie | 4 | 3 | 2 | 1 | 879 | 681 | - 1 | - 198 |
| Ingham | ... | 3 | 3 | ... | ... | 587 | 3 | 587 |
| Logan | 9 | 12 | 11 | 1 | 514 | 1,395 | 3 | 881 |
| Mackay | 36 | 23 | 22 | 1 | 15,642 | 3,877 | - 13 | - 11,765 |
| Maryborough | 6 | 4 | 4 | ... | 896 | 540 | - 2 | - 356 |
| Proserpine | 17 | 14 | 14 | ... | 3,285 | 3,170 | - 3 | - 115 |
| Rockhampton | 20 | 24 | 20 | 4 | 4,090 | 2,950 | 4 | - 1,140 |
| Somerset | 5 | 6 | 4 | 2 | 1,075 | 1,340 | 1 | 265 |
| Townsville | 6 | 6 | 6 | ... | 1,646 | 1,445 | ... | - 201 |
| All other Districts | 30 | 27 | 23 | 4 | 3,109 | 2,615 | - 3 | - 494 |
| Totals | 169 | 160 | 132 | 28 | 36,781 | 23,035 | - 9 | - 13,746 |

Table No. LIV.

STRAWBERRIES.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCTION IN THE PRINCIPAL DISTRICTS OF THE STATE.

| Petty Sessions District. | Area. | | Produce. | | Increase or Decrease - | |
|--------------------------|--------|--------|----------|---------|------------------------|----------|
| | 1931. | 1932. | 1931. | 1932. | 1932. | 1932. |
| | Acres. | Acres. | Quarts. | Quarts. | Acres. | Quarts. |
| Adavale | 1 | ... | 100 | ... | - 1 | - 100 |
| Brisbane (A) | 13 | 8 | 12,210 | 6,352 | - 5 | - 5,858 |
| Brisbane (B) | 1 | 1 | 730 | 300 | ... | - 430 |
| Cleveland | 61 | 56 | 84,623 | 55,898 | - 5 | - 28,725 |
| Gympie | ... | 2 | ... | 890 | 2 | 890 |
| Maroochy | 28 | 30 | 26,619 | 36,824 | 2 | 10,205 |
| Maryborough | 2 | ... | 340 | ... | - 2 | - 340 |
| Redcliffe | 2 | 2 | 700 | 330 | ... | - 370 |
| Rockhampton | 5 | 5 | 5,515 | 2,000 | ... | - 3,515 |
| Southport | 1 | 1 | 350 | 500 | ... | 150 |
| Toowoomba | ... | 1 | ... | 100 | 1 | 100 |
| Townsville | 1 | 1 | 300 | 100 | ... | - 200 |
| Wynnum | 11 | 7 | 16,842 | 8,373 | - 4 | - 8,469 |
| Totals | 126 | 114 | 148,329 | 111,667 | - 12 | - 36,662 |

N.B.—Brisbane (B) refers to South Brisbane.

Table No. LV.

APPLES.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCTION OF APPLES IN THE PRINCIPAL DISTRICTS OF THE STATE.

| Petty Sessions District. | Area. | | Increase or Decrease - 1932. | Bearing, 1932. | Not Bearing, 1932. | Produce. | | Increase or Decrease - 1932. |
|--------------------------|--------|--------|------------------------------------|-------------------|--------------------------|----------|----------|------------------------------------|
| | 1931. | 1932. | | | | 1931. | 1932. | |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Bushels. | Bushels. | Bushels. |
| Herberton | 1 | 1 | ... | 1 | ... | 56 | 40 | - 16 |
| Stanthorpe | 4,304 | 4,538 | 234 | 3,360 | 1,178 | 171,636 | 223,908 | 52,272 |
| Toowoomba | 4 | 3 | - 1 | 3 | ... | 290 | 468 | 178 |
| Warwick | 225 | 197 | - 28 | 163 | 34 | 6,986 | 9,149 | 2,163 |
| Other Districts | 2 | 2 | ... | ... | 2 | 777 | ... | 777 |
| Totals | 4,536 | 4,741 | 205 | 3,527 | 1,214 | 179,745 | 233,565 | 53,820 |

Table No. LVI.
OTHER FRUITS.

RETURN SHOWING THE AREA AND PRODUCTION OF OTHER FRUITS DURING THE YEAR 1932.

| | Bearing. | | Yield. |
|----------------|----------|--------|----------------|
| | Acres. | Acres. | |
| Almonds... | ... | ... | ... |
| Apricots | 93 | 44 | 6,275 bushels |
| Cherries | 8 | ... | 215 bushels |
| Custard apples | 228 | 19 | 35,859 bushels |
| Figs | 13 | ... | 75 bushels |
| Lemons | 104 | 51 | 11,148 bushels |
| Nectarines | 31 | ... | 1,546 bushels |
| Olives | ... | 1 | ... |
| Passion fruit | 107 | ... | 10,014 bushels |
| Papaws | 602 | 275 | 120,786 dozen |
| Peaches | 1,313 | 302 | 85,809 bushels |
| Pears | 224 | 31 | 18,200 bushels |
| Persimmons | 5 | ... | 503 bushels |
| Plums | 1,044 | 301 | 61,942 bushels |
| Quinces | 4 | ... | 204 bushels |
| Water Melons | 231 | ... | 1,523 tons |

Table No. LVII.

OTHER VEGETABLES.

RETURN FOR TWO YEARS SHOWING AREA AND PRODUCTION OF OTHER VEGETABLES.

| Other Vegetables. | 1931. | | 1932. | | |
|---------------------------|-----------|-----------------|-------------|-----------------|-------------|
| | Acres. | Produce. | Acres. | Produce. | |
| Pulse { | Beans ... | 10 | 244 bushels | 19 | 211 bushels |
| | Peas ... | 3 | 222 bushels | 40 | 935 bushels |
| Green { | Beans ... | 1,146 | 95,031 bags | 1,033 | 76,745 bags |
| | Peas ... | 996 | 65,870 bags | 829 | 55,354 bags |
| Cabbages and Cauliflowers | 1,460 | 290,390 dozen | 1,353 | 293,497 dozen | |
| Cucumbers | 314 | 155,486 dozen | 345 | 187,990 dozen | |
| Marrows | 25 | 371 tons | ... | ... | |
| Onions | 518 | 35,185 cwt. | 971 | 59,470 cwt. | |
| Tomatoes | 4,008 | 346,353 bushels | 3,947 | 319,278 bushels | |
| Turnips | 126 | 687 tons | 550 | 3,947 tons | |

Table No. LVIII.

PRINCIPAL OTHER CROPS.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCTION OF OTHER CROPS.

| | 1931. | | 1932. | |
|----------------|--------|-------------------|--------|-------------------|
| | Acres. | Produce. | Acres. | Produce. |
| Broom millet | 549 | 687,485 lb. straw | 210 | 117,381 lb. straw |
| Canary seed | 4,060 | 1,666,057 lb. | 7,886 | 2,763,012 lb. |
| Cocoanuts | 390 | 18,900 dozen | 372 | 18,900 dozen |
| Grass seed | 2,178 | 12,169 bushels | 1,456 | 30,049 bushels |
| Lucerne seed | 110 | 14,080 lb. | 63 | 11,340 lb. |
| Mangold wurzel | 133 | 664 tons | 214 | 1,150 tons |
| Millet seed | 172 | 3,332 bushels | 276 | 5,618 bushels |
| Peanuts | 3,328 | 5,994,532 lb. | 2,298 | 1,239,268 lb. |

Table No. LIX.

PASTURAGE AND OTHER FODDER CROPS.

RETURN FOR FIVE YEARS SHOWING THE AREA UNDER PASTURAGE.

| | 1928. Acres. | 1929. Acres. | 1930. Acres. | 1931. Acres. | 1932. Acres. |
|-----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Hay | 55,498 | 49,745 | 52,228 | 59,601 | 64,076 |
| Green forage | 180,524 | 208,624 | 217,282 | 309,957 | 392,762 |
| Artificially sown pasture | 587,434 | 639,871 | 661,839 | 718,700 | 732,095 |
| Total | 823,456 | 898,240 | 931,349 | 1,088,258 | 1,188,933 |

Table No. LX.

HAY.

RETURN FOR TWO YEARS SHOWING THE AREA AND PRODUCTION OF HAY CROPS.

| Hay Crops. | Area. | | Increase or Decrease — 1932. | Produce. | | Increase or Decrease — 1932. |
|------------------|--------|--------|------------------------------------|----------|--------|------------------------------------|
| | 1931. | 1932. | | 1931. | 1932. | |
| | Acres. | Acres. | Acres. | Tons. | Tons. | Tons. |
| Wheat | 5,282 | 5,498 | 216 | 4,902 | 4,974 | 72 |
| Oats | 1,617 | 2,724 | 1,107 | 1,812 | 2,698 | 886 |
| Lucerne | 47,547 | 52,925 | 5,378 | 79,237 | 70,223 | - 9,014 |
| Other | 5,155 | 2,929 | - 2,226 | 5,324 | 4,209 | - 1,115 |
| Totals | 59,601 | 64,076 | 4,475 | 91,275 | 82,104 | - 9,171 |

Table No. LXI.

ARTIFICIALLY SOWN PASTURE.

RETURN FOR TWO YEARS SHOWING THE AREA UNDER ARTIFICIALLY SOWN PASTURES.

| Petty Sessions District. | 1931. | 1932. | Increase, 1932. | Decrease, 1932. |
|------------------------------|---------|---------|--------------------|--------------------|
| | Acres. | Acres. | Acres. | Acres. |
| Atherton | 45,953 | 53,901 | 7,948 | ... |
| Beaudesert | 17,489 | 22,590 | 5,101 | ... |
| Biggenden | 18,079 | 10,082 | ... | 7,997 |
| Chinchilla | 9,248 | 7,209 | ... | 2,039 |
| Cooyar | 8,314 | 9,184 | 870 | ... |
| Crow's Nest | 8,911 | 9,657 | 746 | ... |
| Dalby | 44,079 | 42,922 | ... | 1,157 |
| Dugandan | 7,172 | 5,929 | ... | 1,243 |
| Eidsvold | 7,141 | 6,955 | ... | 186 |
| Gatton | 7,980 | 7,409 | ... | 571 |
| Gayndah | 37,014 | 37,447 | 433 | ... |
| Gladstone | 25,079 | 24,849 | ... | 230 |
| Gympie | 136,407 | 135,997 | ... | 410 |
| Helidon | 4,718 | 5,461 | 743 | ... |
| Herberton | 8,042 | 7,887 | ... | 155 |
| Maroochy | 58,503 | 56,469 | ... | 2,034 |
| Monto | 5,540 | 15,835 | 10,295 | ... |
| Nanango | 52,242 | 49,765 | ... | 2,477 |
| Redcliffe | 13,104 | 14,242 | 1,138 | ... |
| Rockhampton | 32,494 | 37,198 | 4,704 | ... |
| Southport | 34,793 | 38,942 | 4,149 | ... |
| Tiaro | 5,892 | 6,369 | 477 | ... |
| Wienholt | 68,186 | 53,413 | ... | 14,773 |
| Woodford | 25,752 | 28,628 | 2,876 | ... |
| All other Districts | 36,568 | 43,755 | 7,187 | ... |
| Totals | 718,700 | 732,095 | 13,395 | ... |

Table No. LXII.

ENSILAGE.

RETURN FOR TWO YEARS SHOWING NUMBER OF MAKERS AND ENSILAGE MADE IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE.

| Petty Sessions District. | 1931. | | 1932. | | Increase, 1932. | Decrease, 1932. |
|--------------------------|----------------|-------|----------------|-------|-----------------|-----------------|
| | No. of Makers. | Tons. | No. of Makers. | Tons. | Tons. | Tons. |
| Atherton | 5 | 170 | 6 | 240 | 70 | ... |
| Beaudesert | 3 | 230 | 4 | 213 | ... | 17 |
| Brisbane (A) | 1 | 50 | 2 | 120 | 70 | ... |
| Brisbane (B) | 15 | 1,220 | 13 | 885 | ... | 335 |
| Charters Towers | 1 | 26 | 1 | 8 | ... | 18 |
| Cleveland | ... | ... | 1 | 50 | 50 | ... |
| Clifton | ... | ... | 1 | 80 | 80 | ... |
| Dalby | ... | ... | 1 | 30 | 30 | ... |
| Dugandan | 5 | 300 | 8 | 329 | 29 | ... |
| Eidsvold | 1 | 30 | ... | ... | ... | 30 |
| Esk | 1 | 100 | 1 | 100 | ... | ... |
| Gatton | ... | ... | 1 | 150 | 150 | ... |
| Gayndah | 4 | 355 | 4 | 205 | ... | 150 |
| Gladstone | 5 | 470 | 1 | 70 | ... | 400 |
| Goodna | ... | ... | 1 | 60 | 60 | ... |
| Harrisville | ... | ... | 3 | 66 | 66 | ... |
| Helidon | ... | ... | 1 | 50 | 50 | ... |
| Ingham | ... | ... | 1 | 40 | 40 | ... |
| Inglewood | ... | ... | 1 | 90 | 90 | ... |
| Ipswich | 2 | 210 | 2 | 170 | ... | 40 |
| Kilcoy | ... | ... | 2 | 60 | 60 | ... |
| Kilkivan | 1 | 35 | ... | ... | ... | 35 |
| Laidley | ... | ... | 3 | 215 | 215 | ... |
| Marburg | 3 | 220 | 6 | 425 | 205 | ... |
| Maroochy | 4 | 366 | 5 | 417 | 51 | ... |
| Maryborough | 4 | 360 | 2 | 130 | ... | 230 |
| Nanango | 6 | 400 | 10 | 472 | 72 | ... |
| Redcliffe | 2 | 165 | 2 | 120 | ... | 45 |
| Roma | ... | ... | 2 | 14 | 14 | ... |
| Rockhampton | ... | ... | 1 | 12 | 12 | ... |
| Southport | 2 | 400 | 3 | 300 | ... | 100 |
| Toogoolawah | 2 | 100 | 1 | 25 | ... | 75 |
| Townsville | 6 | 254 | 14 | 649 | 395 | ... |
| Warwick | 1 | 8 | ... | ... | ... | 8 |
| Woodford | 3 | 170 | 4 | 310 | 140 | ... |
| Wynnum | 2 | 180 | 4 | 200 | 20 | ... |
| Totals | 79 | 5,819 | 112 | 6,305 | 486 | ... |

Value of Ensilage made 1931, £11,238; 1932, £12,668.

N.B.—Brisbane (B) refers to South Brisbane.

Table No. LXIII. RETURN SHOWING THE RESULTS OF THE DAIRYING INDUSTRY IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEAR 1932.

Table with 18 columns: Districts, Total Milk Obtained, HOW UTILISED (For Butter on Farms, For Cheese on Farms, For Domestic Purposes, Separated for Sale, Sold for Consumption as Milk, Sold to Condensed Milk Factories, Sold to Cheese Factories), ESTABLISHMENTS (Dairying, Butteries, Cheese Factories), DAIRY CATTLE (In Milk, Dry, Heifers &c, Average Cows), BUTTER MADE (At Factories, By Farmers, Total), CHEESE MADE (At Factories, By Farmers, Total). Rows include districts like Moreton, Wide Bay, and Port Curtis.

Table No. LXIII.—continued.
RETURN SHOWING THE RESULTS OF THE DAIRYING INDUSTRY IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEAR 1932—continued.

| Districts. | Total Milk Obtained. | HOW UTILISED. | | | | | | ESTABLISHMENTS. | | | | | | DAIRY CATTLE. | | | Average per Cow. | BUTTER MADE. | | | CHEESE MADE. | | | | | |
|--|--------------------------------------|--------------------------------|------------------------|------------------------------------|--------------------------------|----------------------------------|-----------------------------------|---------------------------|------------------|-------------------|----------------------------|----------------------------|--------------------------|--------------------|----------------------------------|--------------------------------|-----------------------------------|----------------------------------|---------------|-------------|-------------------|---------------|-------------|-------------------|-----------|-----------|
| | | For Butter on Farms. | For Cheese on Farms. | For Domestic Purposes by Producer. | Separated for Sale. | Sold for Consumption as Milk. | Sold to Condensed Milk Factories. | Sold to Cheese Factories. | Dairying. | Butter Factories. | Cheese Factories. | In Milk. | Dry. | Helpers, &c. | No. | No. | | No. | At Factories. | By Farmers. | Total. | At Factories. | By Farmers. | Total. | | |
| <i>Rockingham.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atherton .. | 8,287,253 | 162,983 | .. | 132,657 | 7,602,138 | 104,657 | 284,818 | 510 | 4 | 3 | 15,527 | 5,457 | 1,371 | 395 | 3,940,831 | 81,884 | 4,022,715 | .. | .. | .. | 263,902 | .. | .. | 263,902 | | |
| Cairns .. | 249,469 | 3,220 | .. | 67,224 | 53,500 | 125,525 | .. | 231 | .. | .. | 953 | 493 | 107 | 173 | .. | 928 | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Cardwell .. | 18,832 | .. | 1,745 | .. | .. | 17,087 | .. | 3 | .. | .. | 75 | 38 | 33 | 167 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Chillagoe .. | 2,600 | .. | 980 | .. | .. | 720 | .. | 8 | .. | .. | 25 | 12 | .. | 70 | .. | 300 | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Herberton .. | 790,540 | .. | 18,570 | 733,800 | .. | 2,150 | .. | 83 | 1 | .. | 2,147 | 811 | 181 | 267 | 372,103 | 17,705 | 389,808 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Ingham .. | 301,628 | 13,420 | .. | 45,160 | 55,760 | 187,288 | .. | 203 | .. | .. | 808 | 585 | 59 | 217 | .. | 4,198 | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Innisfail .. | 184,199 | 719 | .. | 76,150 | 105,880 | 1,450 | .. | 263 | 1 | .. | 462 | 453 | 112 | 201 | 40,631 | 176 | 40,807 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total Rockingham | 9,834,521 | 217,262 | .. | 342,486 | 8,551,078 | 438,877 | 284,818 | 1,301 | 6 | 3 | 19,997 | 7,849 | 1,863 | 353 | 4,353,565 | 105,191 | 4,458,756 | .. | .. | .. | 263,902 | .. | .. | 263,902 | | |
| <i>Maranoa.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mitchell .. | 35,685 | 1,300 | 1,400 | 32,585 | .. | 400 | .. | 5 | 1 | .. | 117 | 53 | 6 | 210 | 1,097,401 | 650 | 650 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Roma .. | 2,284,444 | 66,987 | 52,137 | 2,135,535 | .. | 29,785 | .. | 264 | .. | .. | 6,703 | 2,209 | 501 | 256 | .. | 28,571 | 1,125,972 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Surat .. | 63,308 | 3,720 | 3,372 | 55,206 | .. | 1,010 | .. | 16 | .. | .. | .. | .. | 29 | .. | .. | 1,584 | 1,584 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Yeulba .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total Maranoa | 2,388,437 | 72,007 | .. | 56,909 | 2,223,326 | 31,195 | .. | 285 | 1 | .. | 7,174 | 2,407 | 536 | 249 | 1,097,401 | 30,805 | 1,128,206 | .. | .. | .. | .. | .. | .. | .. | .. | |
| <i>Downs.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Allora .. | 2,538,299 | 250 | 110,876 | 2,096,123 | 3,650 | 327,400 | .. | 292 | 1 | .. | 5,119 | 670 | 100 | 438 | 1,468,262 | 110 | 1,468,372 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Chinchilla .. | 2,516,272 | 35,110 | 31,186 | 2,449,976 | .. | .. | .. | 118 | 1 | .. | 5,038 | 1,418 | 100 | 390 | 1,308,247 | 16,079 | 1,324,926 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Clifton .. | 4,640,760 | 149,027 | 95,830 | 3,677,847 | 4,170 | 713,886 | .. | 484 | 1 | .. | 8,888 | 1,317 | 190 | 455 | 1,508,929 | 66,786 | 1,575,715 | .. | .. | 1,058,868 | .. | .. | .. | .. | .. | |
| Condamine .. | 3,577,675 | 62,550 | 47,926 | 3,462,999 | 4,200 | .. | .. | 206 | 1 | .. | 7,187 | 2,319 | 475 | 376 | 834,246 | 31,000 | 865,246 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Dalby .. | 9,784,390 | 175,000 | 159,991 | 8,627,968 | 36,605 | 784,826 | .. | 519 | 1 | .. | 20,819 | 5,733 | 1,098 | 367 | 3,661,019 | 77,906 | 3,738,925 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Goombungee .. | 2,208,425 | 57,768 | 45,342 | 1,970,421 | .. | 134,894 | .. | 199 | 1 | .. | 5,540 | 1,128 | 231 | 331 | 1,289,038 | 23,885 | 1,317,923 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Goondiwindi .. | 316,637 | 9,000 | 8,850 | 174,507 | 22,280 | 102,000 | .. | 29 | 1 | .. | 7,715 | 247 | 3 | 329 | 24,440 | 4,500 | 28,940 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Highfields .. | 2,679,009 | 66,043 | 54,331 | 2,279,454 | .. | 219,181 | .. | 237 | .. | .. | 5,349 | 1,138 | 149 | 413 | .. | 31,973 | 31,973 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Inglewood .. | 1,831,857 | 42,070 | 29,966 | 1,570,296 | 5,753 | 183,772 | .. | 127 | .. | .. | 4,011 | 1,139 | 203 | 356 | .. | 16,558 | 16,558 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Jondaryan .. | 1,597,378 | 33,416 | 17,100 | 1,053,239 | 300 | 493,323 | .. | 100 | .. | .. | 3,448 | 904 | 189 | 367 | .. | 19,236 | 19,236 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Killarney .. | 2,323,442 | 72,055 | 34,567 | 2,184,610 | 9,490 | 22,720 | .. | 179 | .. | .. | 4,171 | 813 | 105 | 466 | 1,426,014 | 28,266 | 1,454,280 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Oakey .. | 8,285,187 | 126,992 | 112,680 | 5,670,389 | 578 | 2,374,548 | .. | 504 | 1 | .. | 16,638 | 3,400 | 614 | 413 | 3,547,013 | 56,196 | 3,603,209 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Pittsworth .. | 5,731,547 | 140,280 | 150,687 | 2,433,242 | 15,748 | 2,973,590 | .. | 508 | .. | .. | 12,508 | 2,065 | 316 | 393 | .. | 68,292 | 68,292 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Stanthorpe .. | 240,462 | 99,959 | 75,093 | 62,823 | 20,587 | .. | .. | 488 | .. | .. | 1,860 | 348 | 91 | 199 | .. | 48,714 | 48,714 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Texas .. | 469,644 | 8,552 | 16,431 | 443,439 | 1,202 | .. | .. | 46 | .. | .. | 1,394 | 607 | 42 | 235 | .. | 278,384 | 281,784 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Toowoomba .. | 3,342,919 | 103,203 | 112,275 | 1,353,096 | 194,921 | 1,579,424 | .. | 366 | .. | .. | 6,526 | 1,330 | 472 | 426 | .. | 4,276,648 | 4,328,645 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Warwick .. | 6,351,730 | 183,023 | 137,035 | 5,403,319 | 79,215 | 549,138 | .. | 629 | 1 | .. | 12,325 | 2,442 | 201 | 430 | .. | 81,331 | 83,200,525 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total Downs | 58,435,633 | 1,364,298 | .. | 44,913,768 | 398,699 | 10,518,702 | .. | 5,031 | 12 | 56 | 120,536 | 27,018 | 4,479 | 396 | 22,741,434 | 631,829 | 23,373,263 | 10,608,817 | .. | .. | 10,608,817 | .. | .. | 10,608,817 | | |
| Other Districts | 2,466,188 | 311,932 | 489,969 | 1,106,090 | 558,197 | .. | .. | 1,752 | 2 | .. | 10,259 | 7,527 | 1,631 | 139 | 502,800 | 106,323 | 609,123 | .. | .. | .. | .. | .. | .. | .. | .. | |
| Grand Total {1932 1931 | 6216,666,245 6230,013,898 | 6,505,264 6,403,226 | 4,250 5,300 | 185,587,461 198,385,468 | 7,582,941 7,031,347 | 11,107,343 12,226,922 | .. | 24,591 24,016 | 56 54 | 62 63 | 586,995 590,656 | 173,557 152,668 | 32,391 31,977 | 285 309 | 93,312,321 97,602,553 | 3,004,880 2,992,305 | 96,317,201 100,565,158 | 11,153,825 12,256,157 | .. | .. | .. | .. | .. | .. | .. | .. |
| Increase, 1932 Decrease, 1932 | .. | 102,038 | 1,050 | 12,798,007 | 551,594 | 1,119,579 | .. | .. | 2 | .. | 3,661 | 20,889 | .. | .. | 4,290,532 | .. | 4,247,947 | .. | .. | .. | .. | .. | .. | .. | .. | |

(a) 324,198 gallons of this were sent from the Moreton Division to New South Wales.

(b) 621,422 gallons of this were sent from the Moreton Division to New South Wales.

NOTE.—Brisbane (A) refers to Brisbane ; Brisbane (B) refers to South Brisbane.

Table No. LXV.
RETURN SHOWING THE GROSS PRODUCE OF PRINCIPAL CROPS RAISED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEAR 1932.

| Divisions. | QUANTITY OF PRODUCE. | | | | | | | | | | | | | | | | | | | | |
|------------------------------|----------------------|----------|----------|--------|----------|----------|----------|-----------|--------|-----------|-----------|---------------|------------------|----------------------|-----------------------|---------|------------------|------------------|----------|-------------|----------|
| | GRAIN CROPS. | | | | | | | POTATOES. | | | | SUGAR-CANE. | | | | VINES. | | | | | |
| | Wheat. | Oats. | BARLEY. | | Maize. | Rye. | Rice. | English. | Sweet. | Pumpkins. | Cotton. | Area Crushed. | Weight Obtained. | Arrow-root (Tubers). | Tobacco (Cured Leaf.) | Coffee. | Hay (All Kinds). | Grapes Gathered. | Bananas. | Pineapples. | Oranges. |
| Bushels. | Bushels. | Bushels. | Malting. | Other. | Bushels. | Bushels. | Bushels. | Tons. | Tons. | Tons. | Lb. | Acres. | Tons. | Tons. | Lb. | Tons. | Lb. | Bunches. | Dozens. | Bushels. | |
| <i>Moreton Division.</i> | | | | | | | | | | | | | | | | | | | | | |
| Brisbane (A) | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Brisbane (B) | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Beaudesert | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Caboolture | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cleveland | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cooyar | 583 | 471 | 144 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Crow's Nest | 8,820 | 1,413 | 798 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Dugandan | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Esk | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Goodna | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Harrisville | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Heldon | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Ipswich | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Kilcoy | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Laidley | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Logan | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Lowood | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Marburg | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Maroochy | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Redcliffe | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Rosewood | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Southport | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Toogoolawah | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Woodford | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Wynnum | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total Moreton | 5,333 | 2,124 | 798 | 701 | 701 | 554,552 | .. | 10,141 | 3,279 | 14,024 | 459,361 | 4,108 | 61,121 | 6,733 | 2,775 | 4,200 | 737,687 | 1,220,535 | 940,506 | 149,175 | .. |
| <i>Wide Bay Division.</i> | | | | | | | | | | | | | | | | | | | | | |
| Biggenden | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bundaberg | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Childers | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Eidsvold | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Gayndah | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Gin Gin | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Gympie | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Kilkivan | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Maryborough | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mount Perry | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Nanango | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Tiaro | 738 | 3,288 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Weinhold | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total Wide Bay | 1,188 | 4,897 | .. | .. | .. | 226,667 | .. | 1,864 | 433 | 2,549 | 564,058 | 20,475 | 147,436 | 145 | 1,805 | .. | .. | 499,322 | 148,737 | 93,038 | .. |
| <i>Port Curtis Division.</i> | | | | | | | | | | | | | | | | | | | | | |
| Banana | 1,200 | .. | .. | .. | .. | 755 | .. | .. | .. | .. | 565,087 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Gladstone | .. | .. | .. | .. | .. | 6,612 | .. | .. | .. | .. | 99,086 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Monto | .. | .. | .. | .. | .. | 689 | .. | .. | .. | .. | 1,498,257 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mount Morgan | .. | .. | .. | .. | .. | 618 | .. | .. | .. | .. | 2,617,528 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Rockhampton | .. | .. | .. | .. | .. | 8,045 | .. | .. | .. | .. | 323,495 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| St. Lawrence | .. | .. | .. | .. | .. | 1,389 | .. | .. | .. | .. | 17,221 | 2,870 | 33,893 | .. | .. | .. | .. | .. | .. | .. | .. |
| Total Port Curtis | 1,200 | .. | .. | .. | .. | 18,103 | .. | 507 | 99 | 743 | 5,120,674 | 2,870 | 33,893 | .. | 10,926 | .. | .. | 56,528 | 37,535 | 28,535 | .. |

Table No. LXV.—*continued.*
 RETURN SHOWING THE GROSS PRODUCE OF PRINCIPAL CROPS RAISED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEAR 1932—*continued.*

QUANTITY OF PRODUCE.

| Divisions. | GRAIN CROPS. | | | | | | | | | | | | | | | POTATOES. | | | | PUMPKINS. | | | SUGAR-CANE. | | Tobacco (Cured Leaf). | | Coffee. | Hay (All Kinds). | VINES. | | Bananas. | Pineapples. | Oranges. | | | |
|----------------------------------|--------------|----------|----------|--------|----------|----------|----------|----------|----------|----------|-------|--------|-------|--------|-------|-----------|-------|--------|-------|-----------|-------|--------|-------------|--------|-----------------------|--------|----------|------------------|----------|--------|----------|-------------|----------|----|----|----|
| | Wheat. | | Oats. | | BARLEY. | | Maize. | Rye. | Rice. | English. | | Sweet. | | Tons. | Lb. | Acres. | Tons. | Tons. | Lb. | Tons. | Lb. | Tons. | Lb. | Tons. | Lb. | Tons. | Bunches. | Dozens. | Bushels. | | | | | | | |
| | Bushels. | Bushels. | Bushels. | Other. | Bushels. | Bushels. | Bushels. | Bushels. | Bushels. | Tons. | Tons. | Tons. | Tons. | Tons. | Lb. | Tons. | Tons. | Lb. | Tons. | Lb. | Tons. | Lb. | Tons. | Lb. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | Tons. | | | | | |
| | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | Other. | Malt. | | | | | |
| <i>Edgecombe Division.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ayr | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | |
| Bowen | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | | |
| Cape River | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | |
| Charters Towers | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | |
| Collinsville | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | | |
| Mackay | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | |
| Proserpine | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | |
| Ravenswood | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | |
| Townsville | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total Edgecombe | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Rockingham Division.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Atherton | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | | |
| Cairns | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Cardwell | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Chillagoe | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Herberton | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Ingham | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Innisfail | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Total Rockingham | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>York Peninsula Division.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coen | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Cook | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Douglas | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Somerset | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total York Peninsula | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Carpentaria Division.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Burke | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Cloncurry | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | |
| Croydon | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Etheridge | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Hughenden | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Julia Creek | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Mount Isa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Norman | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Richmond | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total Carpentaria | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Central-Western Division.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Boulia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Cameroonal | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Diamantina | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Isisford | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Jundah | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Windorah | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Winton | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Total Central-Western | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Table No. LXVI. SHOWING THE TOTAL EXTENT OF LAND UNDER CULTIVATION AND THE AREA UNDER EACH DESCRIPTION OF CROP IN QUEENSLAND—RETURN FOR TEN YEARS.

Table with columns for Year, Total Extent of Land under Cultivation, Land in Fallow Lying Idle, etc., and various crop categories including Grain Crops, Potatoes, Sugar-Cane, Coffee, Lucerne and Green Forage, Vines, Bananas, Pineapples, Oranges, Mangoes, Apples, Other Crops, Market Gardens, and Other Gardens and Orchards.

* 382 acres bearing. † 3,817 acres bearing. a Bananas, bearing, 10,553 acres; total area, 14,766 acres. b Bananas, bearing, 11,122 acres; total area, 16,489 acres. c Bananas, bearing, 10,988 acres; total area, 17,967 acres. d Bananas, bearing, 13,185 acres; total area, 19,750 acres. e Bananas, bearing, 12,874 acres; total area, 19,357 acres. f Bananas, bearing, 12,565 acres; total area, 18,030 acres. g Pineapples, bearing, 3,368 acres; total area, 3,995 acres. h Pineapples, bearing, 3,274 acres; total area, 4,235 acres. i Pineapples, bearing, 3,059 acres; total area, 4,204 acres. j Pineapples, bearing, 3,259 acres; total area, 4,794 acres. k Pineapples, bearing, 3,393 acres; total area, 5,144 acres. l Pineapples, bearing, 3,953 acres; total area, 5,543 acres. m Pineapples, bearing, 10,885 acres; total area, 14,764 acres. n Pineapples, bearing, 4,394 acres; total area, 5,780 acres. o Bananas, bearing, 7,325 acres; total area, 10,589 acres. p Bananas, bearing, 4,534 acres; total area, 5,862 acres. q Pineapples, bearing, 3,953 acres; total area, 5,543 acres.

Table No. LXVII. SHOWING THE GROSS PRODUCE OF PRINCIPAL CROPS RAISED IN QUEENSLAND—RETURN FOR TEN YEARS.

Table with columns for Year, Wheat, Oats, Barley, Maize, Rye, Rice, English Potatoes, Sweet Potatoes, Cotton Upland, Cotton Engine, Sugar-Cane, Tobacco (Cured), Coffee, Hay (all kinds), Ensilage, Grapes, Wine, Galls, Bunches, Dozens, Bushels, Quarts, Apples, Market Gardens, Other Gardens, and Total Value.

Table No. LXVIII.
SHOWING AVERAGE PRODUCE PER ACRE OF PRINCIPAL CROPS IN QUEENSLAND—RETURN FOR TEN YEARS.

| Year. | GRAIN CROPS. | | | | | | POTATOES. | | | SUGAR. | | Arturoot (Tubers). | Tobacco (Cured Leaf). | Coffee. | Hay (all Kinds). | Grapes. | Bananas. | Pineapples. | Oranges. | Mangoes. | Strawberries. | Apples. | Market Garden. | Gardens and Orchards. | |
|----------|--------------|-------|---------|-------|--------|-------|-----------|----------|--------|-----------|------------------|--------------------|-----------------------|---------|------------------|---------|----------|-------------|----------|----------|---------------|---------|----------------|-----------------------|------------------------|
| | Wheat. | Oats. | Barley. | | Maize. | Rye. | Rice. | English. | Sweet. | Pumpkins. | Cotton Unginned. | | | | | | | | | | | | | | Cane per Acre Crushed. |
| 1923 ... | 4.76 | 11.24 | 5.62 | 6.53 | 16.86 | 7.11 | ... | 1.45 | 3.37 | 1.99 | 307 | 14.75 | 1.94 | 7.46 | 708 | 0.93 | 3,108 | 167 | 250 | 88 | 294 | 983 | 49 | 44 | 29 |
| 1924 ... | 14.70 | 15.94 | 20.36 | 17.19 | 31.99 | 36.60 | ... | 2.14 | 4.14 | 3.75 | 327 | 18.92 | 2.44 | 11.46 | 440 | 1.44 | 2,343 | 183 | 262 | 101 | 231 | 1,452 | 42 | 41 | 30 |
| 1925 ... | 11.89 | 7.97 | 13.57 | 11.87 | 21.94 | 23.65 | 11.67 | 1.47 | 4.31 | 2.80 | 488 | 19.36 | 2.56 | 13.81 | 519 | 1.49 | 2,486 | 245 | 268 | 109 | 152 | 1,168 | 52 | 41 | 38 |
| 1926 ... | 6.55 | 19.27 | 4.24 | 6.24 | 19.33 | 29.67 | 13.33 | 1.13 | 3.04 | 2.04 | 483 | 15.45 | 2.06 | 11.11 | 518 | 1.19 | 2,848 | 248 | 291 | 104 | 239 | 1,192 | 41 | 42 | 25 |
| 1927 ... | 17.59 | 15.00 | 24.10 | 18.00 | 28.65 | 25.52 | ... | 1.88 | 3.72 | 3.25 | 472 | 17.45 | 2.38 | 11.46 | 731 | 1.45 | 2,561 | 261 | 266 | 92 | 181 | 781 | 32 | 40 | 41 |
| 1928 ... | 11.54 | 19.22 | 14.72 | 12.65 | 26.72 | 15.60 | 40.33 | 1.19 | 4.11 | 2.39 | 605 | 17.32 | 2.41 | 11.04 | 300 | 1.54 | 2,426 | 248 | 288 | 137 | 378 | 1,063 | 52 | 48 | 35 |
| 1929 ... | 20.75 | 18.40 | 22.10 | 19.20 | 25.50 | 13.48 | 12.00 | 1.63 | 3.40 | 2.51 | 535 | 16.67 | 2.41 | 8.10 | 748 | 1.60 | 2,616 | 228 | 253 | 95 | 251 | 1,815 | 51 | 50 | 44 |
| 1930 ... | 18.76 | 14.92 | 21.83 | 17.21 | 26.52 | 11.38 | ... | 1.80 | 3.53 | 2.66 | 751 | 15.89 | 2.33 | 13.29 | 538 | 1.67 | 3,533 | 244 | 251 | 110 | 206 | 1,210 | 63 | 48 | 35 |
| 1931 ... | 15.53 | 15.73 | 16.99 | 14.40 | 25.26 | 7.71 | ... | 1.66 | 3.63 | 2.53 | 679 | 17.29 | 2.49 | 10.49 | 497 | 1.53 | 3,248 | 271 | 269 | 103 | 252 | 1,177 | 48 | 39 | 35 |
| 1932 ... | 9.97 | 15.73 | 20.70 | 21.94 | 16.79 | 13.28 | ... | 1.44 | 2.29 | 1.90 | 209 | 17.30 | 2.51 | 9.95 | 600 | 1.28 | 3,340 | 258 | 259 | 114 | 175 | 980 | 66 | 36 | 34 |
| # | 13.92 | 16.53 | 17.66 | 17.20 | 23.29 | 6.63 | 19.35 | 1.70 | 3.91 | 2.83 | 449 | 17.10 | 2.26 | 11.37 | 636 | 1.37 | 2,565 | 197 | 242 | 108 | 247 | 1,220 | 48 | 34 | 27 |

* Average for twenty years.

Table No. LXIX. RETURN SHOWING THE AREA AND PRODUCE OBTAINED DURING THE YEAR 1932 FROM CERTAIN OTHER CROPS, DETAILS OF WHICH ARE NOT INCLUDED IN THE GENERAL TABLE.

Table with columns for Division, OTHER FRUITS, VEGETABLES, and OTHER MISCELLANEOUS CROPS. Rows include various crops like Apples, Apricots, Cherries, etc., with sub-columns for area and produce. Includes a 'Total Area' row at the bottom.

Table No. LXX.

RETURN SHOWING THE TOTAL EXTENT OF LAND CULTIVATED FOR HAY, TOGETHER WITH THE YIELD OF HAY IN EACH OF THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE, AND THE AVERAGE YIELD PER ACRE DURING THE YEAR 1932.

| PETTY SESSIONS DISTRICTS. | HAY. | | | | | | | | | |
|---------------------------|--------|-------|--------|-------|----------|--------|--------|-------|--------|--------|
| | Wheat. | | Oats. | | Lucerne. | | Other. | | Total. | |
| | Acres. | Tons. | Acres. | Tons. | Acres. | Tons. | Acres. | Tons. | Acres. | Tons. |
| Beaudesert | .. | .. | 21 | 19 | 653 | 2,325 | 72 | 127 | 746 | 2,471 |
| Clifton | 1,733 | 1,464 | 134 | 118 | 2,759 | 2,108 | 113 | 43 | 4,739 | 3,733 |
| Crow's Nest | 44 | 54 | 12 | 4 | 811 | 1,002 | 6 | 10 | 873 | 1,070 |
| Dugandan | 46 | 72 | 39 | 56 | 5,773 | 10,801 | 221 | 334 | 6,079 | 11,263 |
| Gatton | 454 | 592 | 219 | 262 | 4,413 | 7,231 | 118 | 151 | 5,204 | 8,236 |
| Harrisville | 132 | 169 | 527 | 498 | 3,904 | 4,691 | 440 | 515 | 5,003 | 5,873 |
| Helidon | .. | .. | 3 | 3 | 715 | 1,244 | 29 | 44 | 747 | 1,291 |
| Highfields | 23 | 32 | 21 | 20 | 760 | 816 | .. | .. | 804 | 868 |
| Killarney | 65 | 63 | 29 | 35 | 1,517 | 1,826 | 31 | 10 | 1,642 | 1,934 |
| Laidley | 244 | 318 | 75 | 77 | 4,094 | 7,486 | 61 | 73 | 4,474 | 7,954 |
| Lowood | 20 | 18 | 11 | 18 | 1,730 | 2,311 | 39 | 45 | 1,800 | 2,392 |
| Marburg | .. | .. | .. | .. | 761 | 1,259 | 148 | 241 | 909 | 1,500 |
| Nanango | 23 | 32 | 378 | 335 | 2,825 | 3,515 | 50 | 71 | 3,276 | 3,953 |
| Oakey | 228 | 244 | 45 | 33 | 1,143 | 794 | 100 | 135 | 1,516 | 1,206 |
| Rockhampton | 6 | 5 | 67 | 83 | 464 | 749 | 182 | 263 | 719 | 1,100 |
| Rosewood | .. | .. | 103 | 110 | 1,807 | 2,379 | 140 | 187 | 2,050 | 2,676 |
| Toogoolawah | .. | .. | 3 | 5 | 1,252 | 1,870 | 38 | 41 | 1,293 | 1,916 |
| Toowoomba | 134 | 154 | 268 | 243 | 3,389 | 2,489 | 104 | 431 | 3,895 | 3,317 |
| Warwick | 814 | 603 | 152 | 137 | 6,135 | 4,899 | 118 | 91 | 7,219 | 5,730 |
| Wienholt | .. | .. | 30 | 20 | 2,944 | 3,578 | 16 | 16 | 2,990 | 3,614 |
| All Other Districts | 1,532 | 1,154 | 587 | 622 | 5,076 | 6,850 | 903 | 1,381 | 8,098 | 10,007 |
| Grand Total { 1932 | 5,498 | 4,974 | 2,724 | 2,698 | 52,925 | 70,223 | 2,929 | 4,209 | 64,076 | 82,104 |
| { 1931 | 5,282 | 4,902 | 1,617 | 1,812 | 47,547 | 79,237 | 5,155 | 5,324 | 59,601 | 91,275 |
| Increase, 1932 .. | 216 | 72 | 1,107 | 886 | 5,378 | .. | .. | .. | 4,475 | .. |
| Decrease, 1932 .. | .. | .. | .. | .. | .. | 9,014 | 2,226 | 1,115 | .. | 9,171 |
| Average Yield per acre | 0.90 | | 0.99 | | 1.33 | | 1.44 | | 1.28 | |

Table No. LXXI.

RETURN SHOWING THE TOTAL EXTENT OF LAND CULTIVATED FOR GREEN CROPS IN EACH OF THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEAR 1932.

| PETTY SESSIONS DISTRICTS. | GREEN CROPS. | | | | |
|-----------------------------|------------------|-----------------|--------------------|------------------|----------------------------------|
| | Wheat. Acres. | Oats. Acres. | Lucerne. Acres. | Other. Acres. | Total of all Kinds. Acres. |
| Allora | 3,386 | 3,046 | 5,474 | 3,075 | 14,981 |
| Beaudesert | 190 | 1,917 | 2,216 | 2,609 | 6,932 |
| Brisbane (A) | 136 | 170 | 202 | 2,223 | 2,731 |
| Chinchilla | 769 | 536 | 15 | 1,075 | 2,395 |
| Clifton | 7,853 | 3,252 | 7,149 | 8,791 | 27,045 |
| Condamine | 1,079 | 423 | 36 | 563 | 2,101 |
| Cooyar | 398 | 1,072 | 361 | 859 | 2,690 |
| Crow's Nest | 1,044 | 4,486 | 1,634 | 2,519 | 9,683 |
| Dalby | 6,632 | 5,538 | 203 | 5,251 | 17,624 |
| Dugandan | 70 | 3,029 | 383 | 3,691 | 7,173 |
| Esk | 19 | 545 | 368 | 1,081 | 2,013 |
| Gatton | 600 | 1,652 | 846 | 2,812 | 5,910 |
| Gayndah | 466 | 3,600 | 637 | 6,488 | 11,191 |
| Gin Gin | .. | 6 | 3 | 2,669 | 2,678 |
| Goombungee | 2,416 | 4,269 | 821 | 3,821 | 11,327 |
| Gympie | 22 | 1,486 | 141 | 3,810 | 5,459 |
| Harrisville | 326 | 2,482 | 1,531 | 2,873 | 7,212 |
| Helidon | 178 | 652 | 198 | 1,038 | 2,066 |
| Highfields | 901 | 3,580 | 1,599 | 3,765 | 9,845 |
| Inglewood | 2,078 | 463 | 137 | 1,558 | 4,236 |
| Ipswich | 32 | 603 | 480 | 945 | 2,060 |
| Jondaryan | 1,340 | 1,270 | 262 | 2,614 | 5,486 |
| Killarney | 318 | 1,875 | 880 | 1,183 | 4,256 |
| Laidley | 575 | 989 | 958 | 3,198 | 5,720 |
| Lowood | 153 | 1,238 | 279 | 2,607 | 4,277 |
| Marburg | 200 | 1,088 | 160 | 4,695 | 6,143 |
| Maroochy | 12 | 107 | 41 | 1,203 | 1,363 |
| Monto | 129 | 819 | 552 | 1,157 | 2,657 |
| Mount Morgan | 1,164 | 227 | 81 | 902 | 2,374 |
| Nanango | 607 | 14,898 | 2,550 | 16,612 | 34,667 |
| Oakey | 9,773 | 8,628 | 1,918 | 12,927 | 33,246 |
| Pittsworth | 17,015 | 2,595 | 2,242 | 10,523 | 32,375 |
| Redcliffe | 122 | 146 | 76 | 1,922 | 2,266 |
| Roma | 2,840 | 202 | 352 | 367 | 3,761 |
| Rosewood | 138 | 1,713 | 938 | 3,516 | 6,305 |
| Toogoolawah | 86 | 1,643 | 1,883 | 2,161 | 5,773 |
| Toowoomba | 3,266 | 3,028 | 1,626 | 3,497 | 11,417 |
| Warwick | 4,447 | 5,680 | 4,746 | 5,349 | 20,222 |
| Weinholt | 879 | 15,052 | 2,742 | 13,946 | 32,619 |
| All Other Districts | 1,749 | 3,614 | 1,936 | 13,184 | 20,483 |
| Grand Total { 1932 | 73,408 | 107,619 | 48,656 | 163,079 | 392,762 |
| { 1931 | 68,536 | 96,086 | 43,013 | 102,322 | 309,957 |
| Increase, 1932 | 4,872 | 11,533 | 5,643 | 60,757 | 82,805 |
| Decrease, 1932 | .. | .. | .. | .. | .. |

Table No. LXXII.
 RETURNS SHOWING AVERAGE YIELD PER ACRE OF CROPS IN EACH DIVISION OF THE STATE FOR THE YEAR 1932.

| Division. | GRAIN CROPS. | | | | | | POTATOES. | | Sugar-cane (to Acres Crushed) | Cotton. | Arrow-root (Tuber). | Tobacco (Dried Leaf). | Coffee. | Pumpkins. | Hay of all kinds. | Grapes. | Bananas. | Pine-apples. | Oranges. |
|---------------------------|--------------|----------|-----------------|----------------|----------|----------|-----------|----------|-------------------------------|---------|---------------------|-----------------------|---------|-----------|-------------------|---------|----------|--------------|----------|
| | Wheat. | Oats. | Barley, Maltng. | Barley, Other. | Maize. | Eye. | Rice. | English. |  |  |  |  |  |  |  |  |  |  |  | Sweet. |
| | Bushels. | Bushels. | Bushels. | Bushels. | Bushels. | Bushels. | Bushels. | Bushels. | Tons. | Tons. | Tons. | Lb. | Lb. | Tons. | Tons. | Lb. | Bunches. | Dozen. | Bushels. |
| Moreton | 15-92 | 22-60 | 25-74 | 17-53 | 13-80 | ... | 1-53 | 2-37 | 14-88 | 269 | 9-99 | 231 | 600 | 1-98 | 1-62 | 1,854 | 282 | 285 | 112 |
| Wide Bay | 9-90 | 18-62 | ... | 9-23 | 9-63 | ... | 1-05 | 1-94 | 7-20 | 94 | 8-53 | 301 | ... | 1-86 | 1-27 | 1,136 | 238 | 227 | 139 |
| Port Curtis | 4-51 | ... | ... | ... | 10-12 | ... | 1-39 | 1-83 | 11-81 | 241 | ... | 288 | ... | 1-45 | 1-54 | 3,336 | 174 | 158 | 107 |
| Edgecumbe | ... | ... | ... | ... | 15-00 | ... | 1-49 | 1-57 | 15-18 | 757 | ... | 389 | ... | 1-26 | ... | 4,250 | 190 | 155 | 84 |
| Rockingham | ... | ... | ... | ... | 41-93 | ... | 1-71 | 2-80 | 21-38 | 251 | ... | 529 | ... | 2-08 | 1-43 | 1,791 | 203 | 105 | 115 |
| York Peninsula | ... | ... | ... | ... | 26-16 | ... | 0-50 | 2-11 | ... | ... | ... | 337 | ... | 3-87 | ... | ... | 51 | 25 | 48 |
| Carpentaria | ... | ... | ... | ... | ... | ... | ... | 1-00 | ... | ... | ... | ... | ... | 2-00 | ... | ... | ... | ... | 7 |
| Central-western | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4,006 | ... | ... | ... |
| South-western | ... | ... | ... | ... | ... | ... | 3-00 | 1-00 | ... | ... | ... | ... | ... | 2-57 | ... | 620 | ... | ... | 8 |
| Central | ... | ... | ... | ... | ... | ... | 1-00 | 1-00 | ... | 62 | ... | ... | ... | 1-00 | 1-00 | ... | ... | ... | 106 |
| Maranoa | 2-72 | ... | ... | ... | 8-39 | ... | ... | ... | ... | 87 | ... | ... | ... | 1-17 | 0-72 | 1,648 | ... | ... | 96 |
| Downs | 10-63 | 15-32 | 20-65 | 22-18 | 9-59 | 15-90 | 1-50 | 1-67 | ... | 94 | ... | 826 | ... | 1-24 | 0-84 | 524 | ... | ... | ... |
| TOTAL AVERAGE YIELD, 1932 | 9-97 | 15-73 | 20-70 | 21-94 | 16-79 | 13-28 | 1-44 | 2-29 | 17-30 | 2 9 | 9-95 | 604 | 600 | 1-90 | 1-28 | 3,340 | 258 | 259 | 114 |
| " " 1931 | 15-53 | 14-92 | 16-98 | 14-40 | 25-60 | 7-71 | 1-66 | 3-63 | 17-29 | 679 | 10-49 | 682 | 497 | 2-53 | 1-53 | 3,248 | 271 | 269 | 103 |
| INCREASE, 1932 | ... | 0-81 | 3-72 | 7-54 | ... | 5-57 | ... | ... | 0-01 | ... | ... | ... | 103 | ... | ... | 92 | ... | ... | 11 |
| DECREASE, 1932 | 5-56 | ... | ... | ... | 8-31 | ... | 0-22 | 1-34 | ... | 470 | 0-54 | 78 | ... | 0-63 | 0-25 | ... | 13 | 10 | ... |

Table No. LXXIII.

RETURN SHOWING THE AREA, YIELD, AND VALUE OF CROPS FOR THE YEAR 1932.

| Description of Crop. | | Area. | Yield. | Value. |
|---|-----------------------------------|-----------------|--------------------------|-------------|
| | | Acres. | | £ |
| Cereals | Barley (Malting) | 3,275 | 67,792 bushels | 10,169 |
| | Barley (Other) | 1,515 | 33,241 " | 4,986 |
| | Maize | 98,487 | 1,653,853 " | 389,345 |
| | Oats | 3,733 | 58,729 " | 10,400 |
| | Wheat | 250,049 | 2,493,902 " | *447,169 |
| | Other Cereals—Rice | ... | ... | ... |
| | " " Rye | 18 | 239 " | 74 |
| Grass Seed | | 1,456 | 30,049 " | 30,049 |
| Green Forage (all kinds) | | 392,762 | | 981,905 |
| Hay | Lucerne | 52,925 | 70,223 tons | 336,485 |
| | Oaten | 2,724 | 2,698 " | 24,394 |
| | Wheaten | 5,498 | 4,974 " | 26,424 |
| | Other | 2,929 | 4,209 " | 26,658 |
| Straw | Oaten | ... | 60 " | 271 |
| | Wheaten | ... | 336 " | 1,491 |
| | Other | ... | 22 " | 98 |
| Pulse | Beans | 19 | 1,211 bushels | 2,725 |
| | Peas | 40 | 935 " | 550 |
| Root Crops | Arrowroot (Tubers) | 691 | 6,878 tons | 12,037 |
| | Mangolds | 214 | 1,150 " | 2,875 |
| | Onions | 971 | 59,470 cwt. | 43,921 |
| | Potatoes | 9,743 | 14,017 tons | 108,630 |
| | " Sweet | 1,791 | 4,106 " | 21,043 |
| | Turnips (including Swede Turnips) | 142 | 550 " | 3,025 |
| | Ginger | ... | ... | ... |
| Grapes, Productive | For table use | 1,586 | 5,296,980 lb. | 93,319 |
| | For wine | | | |
| | For drying purposes | | | |
| " Unproductive | | 282 | | |
| Sugar-cane, Productive | | 205,046 | 3,546,370 tons | 6,852,717 |
| " Unproductive | | 86,090 | | |
| Tobacco, Productive | | 3,817 | 2,303,861 lb. dried leaf | 230,386 |
| " Unproductive | | 3,422 | | |
| Market Gardens | | 992 | | 35,699 |
| Orchards and Fruit Gardens | Almonds | ... | ... | ... |
| | Apples | 3,527 | 233,565 bushels | 94,337 |
| | Apricots | 93 | 6,275 " | 4,262 |
| | Bananas | 7,235 | 1,869,833 bunches | 427,208 |
| | Cherries | 8 | 215 bushels | 227 |
| | Custard Apples | 228 | 35,859 " | 12,475 |
| | Figs | 13 | 75 " | 23 |
| | Lemons | 104 | 11,148 " | 8,477 |
| | Limes | ... | ... | ... |
| | Mangoes | 132 | 23,035 " | 7,432 |
| | Nectarines | 31 | 1,546 " | 831 |
| | Olives | ... | ... | ... |
| | Oranges and Mandarines | 2,824 | 321,995 " | 122,808 |
| | Passion Fruit | 107 | 10,014 " | 6,765 |
| | Pawpaws | 602 | 120,786 dozen | 15,430 |
| | Peaches | 1,313 | 85,809 bushels | 37,720 |
| | Pears | 224 | 18,200 " | 6,977 |
| | Plums | 1,044 | 61,942 " | 34,842 |
| | Pineapples | 4,534 | 1,175,870 dozen | 196,914 |
| | Persimmons | 5 | 503 bushels | 145 |
| | Quinces | 4 | 204 " | 115 |
| | Rosellas | ... | ... | ... |
| | Strawberries | 114 | 111,667 qts. | 7,038 |
| | Water Melons | 231 | 1,523 tons | 12,688 |
| | Other (Gardens and Orchards) | 318 | | 7,423 |
| | Unproductive | 7,746 | | |
| | Broom Millet | 210 | 117,381 lb. straw | 2,388 |
| Cabbages and Cauliflowers | 1,353 | 293,497 dozen | 80,406 | |
| Canary Seed | 7,886 | 2,763,012 lb. | 31,660 | |
| Cocoanuts | 372 | 18,900 dozen | 3,426 | |
| Coffee | 7 | 4,200 lb. | 158 | |
| " Unproductive | 2 | | | |
| Cotton, Unginned | 29,995 | 6,270,116 " | †125,106 | |
| " Unproductive | 26,113 | | | |
| Cucumbers | 345 | 187,990 dozen | 15,338 | |
| Green Beans | 1,033 | 76,745 bags | 43,987 | |
| Green Peas | 829 | 55,354 " | 21,348 | |
| Lucerne Seed | 63 | 11,340 lb. | 591 | |
| Cowpea | 208 | 1,651 bushels | 1,238 | |
| Millet Seed | 276 | 5,618 " | 2,739 | |
| Panicum Seed | 501 | 357,900 lb. | 2,983 | |
| Peanuts | 2,298 | 1,239,268 " | 18,857 | |
| Pumpkins | 9,546 | 18,153 tons | 89,252 | |
| Sunflower Seed | ... | ... | ... | |
| Tomatoes | 3,947 | 319,278 bushels | 165,272 | |
| Total under Crop | | 1,245,638 | | £11,305,731 |
| Land in fallow | | 70,629 | | |
| Area under permanent artificially sown grasses | | 732,095 | | |
| Previously cropped land lying idle during season | | 110,381 | | |
| New ground cleared but not ploughed during season | | 11,546 | | |
| Total area of arable land | | 2,170,289 | | |

* Includes Bounty £40,744.

† Includes Bounty £30,833.

Poster
Registrar-General,

REPORT OF THE REGISTRAR-GENERAL ON LIVE STOCK AND PASTORAL PRODUCTION FOR THE YEAR 1932.

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REPORT OF THE REGISTRAR-GENERAL ON LIVE STOCK AND PASTORAL PRODUCTION IN QUEENSLAND FOR THE YEAR 1932.

Table No. I.

RETURN SHOWING THE NUMBER OF LIVE STOCK IN THE STATE FOR TWO YEARS, AND THE INCREASE OR DECREASE FOR THE YEAR 1932.

| Year ended 31st December. | Horses. | Cattle. | Sheep. | Swine. |
|------------------------------------|---------|-----------|------------|---------|
| 1931 | 469,474 | 5,550,399 | 22,324,278 | 222,686 |
| 1932 | 452,486 | 5,535,065 | 21,312,865 | 213,249 |
| Numerical Increase in 1932 | ... | ... | ... | ... |
| Numerical Decrease in 1932 | 16,988 | 15,334 | 1,011,413 | 9,437 |
| Centesimal Increase in 1932 | ... | ... | ... | ... |
| Centesimal Decrease in 1932 | 3·62 | 0·28 | 4·53 | 4·24 |

Table No. II.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, AND SWINE IN THE STATE.

| Year ended 31st December. | Horses. | Cattle. | Sheep. | Swine. |
|---------------------------|---------|-----------|------------|---------|
| 1923 | 661,593 | 6,396,514 | 16,756,101 | 132,243 |
| 1924 | 660,093 | 6,454,653 | 19,028,252 | 156,163 |
| 1925 | 638,372 | 6,436,645 | 20,663,323 | 199,598 |
| 1926 | 571,622 | 5,464,845 | 16,860,772 | 183,662 |
| 1927 | 548,333 | 5,225,804 | 16,642,385 | 191,947 |
| 1928 | 522,490 | 5,128,341 | 18,509,201 | 215,764 |
| 1929 | 500,104 | 5,208,588 | 20,324,303 | 236,037 |
| 1930 | 481,615 | 5,463,724 | 22,542,043 | 217,528 |
| 1931 | 469,474 | 5,550,399 | 22,324,278 | 222,686 |
| 1932 | 452,486 | 5,535,065 | 21,312,865 | 213,249 |

Table No. III.

RETURN FOR TEN YEARS SHOWING THE CENTESIMAL INCREASE OR DECREASE IN LIVE STOCK.

| Year ended 31st December. | Horses. | Cattle. | Sheep. | Swine. |
|---------------------------|---------|---------|---------|---------|
| 1923 | — 7·35 | — 8·04 | — 5·02 | — 17·67 |
| 1924 | — 0·23 | 0·91 | 13·56 | 18·09 |
| 1925 | — 3·29 | — 0·28 | 8·59 | 27·81 |
| 1926 | — 10·46 | — 15·10 | — 18·40 | — 7·98 |
| 1927 | — 4·07 | — 4·37 | — 1·30 | 4·51 |
| 1928 | — 4·71 | — 1·87 | 11·22 | 12·41 |
| 1929 | — 4·28 | 1·56 | 9·81 | 9·40 |
| 1930 | — 3·70 | 4·90 | 10·91 | — 7·84 |
| 1931 | — 2·52 | 1·59 | — 0·97 | 2·37 |
| 1932 | — 3·62 | — 0·28 | — 4·53 | — 4·24 |

— Decrease.

Table No. IV.

RETURN SHOWING THE DENSITY AND THE PROPORTION OF THE VARIOUS KINDS OF LIVE STOCK IN THE SEVERAL PASTORAL DISTRICTS AND THE NUMBER PER CAPITA IN THE STATE AS AT 31ST DECEMBER, 1932.

In Converting Horses and Cattle to Terms of Sheep, Ten Head of Sheep are Taken as Equal to One Horse or Head of Cattle.

| Pastoral District. | Area in Acres. | Centesimal Ratio of Area of District to Area of State. | HORSES. | | | CATTLE. | | | SHEEP. | | | ALL KINDS IN TERMS OF SHEEP. | | |
|----------------------------------|----------------|--|-----------------|-------------------------|--------------------------------|-----------------|-------------------------|--------------------------------|-----------------|-------------------------|--------------------------------|------------------------------|-------------------------|--------------------------------|
| | | | Acres per Head. | Number per Square Mile. | Per-centage to Total in State. | Acres per Head. | Number per Square Mile. | Per-centage to Total in State. | Acres per Head. | Number per Square Mile. | Per-centage to Total in State. | Acres per Head. | Number per Square Mile. | Per-centage to Total in State. |
| Burke ... | 65,383,040 | 15.24 | 2,057 | 0.31 | 7.03 | 117 | 5.47 | 10.10 | 30 | 21.34 | 10.23 | 8.08 | 79.17 | 9.96 |
| Burnett ... | 7,972,480 | 1.86 | 224 | 2.85 | 7.86 | 15 | 44.06 | 9.92 | 1,413 | 0.45 | 0.02 | 1.36 | 469.59 | 7.21 |
| Cook ... | 63,601,920 | 14.82 | 1,855 | 0.34 | 7.58 | 127 | 5.04 | 9.05 | 84,690 | 0.01 | 0.00 | 11.88 | 53.89 | 6.60 |
| Darling Downs ... | 16,249,600 | 3.79 | 266 | 2.41 | 13.51 | 32 | 20.08 | 9.21 | 6 | 101.22 | 12.06 | 1.96 | 326.09 | 10.20 |
| Gregory North ... | 54,266,240 | 12.64 | 5,046 | 0.13 | 2.38 | 444 | 1.44 | 2.21 | 30 | 21.26 | 8.46 | 17.32 | 36.96 | 3.86 |
| Gregory South ... | 31,617,920 | 7.37 | 5,625 | 0.11 | 1.24 | 337 | 1.90 | 1.69 | 71 | 9.04 | 2.09 | 21.95 | 29.15 | 1.77 |
| Leichhardt ... | 30,946,560 | 7.21 | 810 | 0.79 | 8.44 | 47 | 13.60 | 11.88 | 35 | 18.06 | 4.10 | 3.95 | 161.95 | 9.64 |
| Maranoa ... | 25,110,400 | 5.85 | 1,169 | 0.55 | 4.75 | 147 | 4.34 | 3.08 | 7 | 91.93 | 16.92 | 4.55 | 140.81 | 6.81 |
| Mitchell ... | 35,431,680 | 8.26 | 1,526 | 0.42 | 5.13 | 413 | 1.55 | 1.55 | 6 | 109.67 | 28.49 | 4.95 | 129.36 | 8.82 |
| Moreton ... | 5,649,920 | 1.32 | 100 | 6.42 | 12.52 | 9 | 68.14 | 10.87 | 567 | 1.13 | 0.05 | 0.86 | 746.75 | 8.12 |
| North Kennedy ... | 21,832,960 | 5.09 | 478 | 1.34 | 10.09 | 50 | 12.82 | 7.90 | 3,556 | 0.18 | 0.03 | 4.51 | 141.79 | 5.96 |
| Port Curtis ... | 8,994,560 | 2.09 | 338 | 1.90 | 5.89 | 19 | 33.04 | 8.39 | 328 | 1.96 | 0.13 | 1.82 | 351.29 | 6.08 |
| South Kennedy ... | 19,523,960 | 4.55 | 899 | 0.71 | 4.80 | 61 | 10.42 | 5.74 | 128 | 5.00 | 0.72 | 5.50 | 116.33 | 4.37 |
| Warrego ... | 37,333,760 | 8.70 | 2,757 | 0.23 | 2.99 | 330 | 1.94 | 2.05 | 11 | 60.93 | 16.68 | 7.74 | 82.68 | 5.94 |
| Wide Bay ... | 5,200,000 | 1.21 | 198 | 3.23 | 5.79 | 15 | 43.32 | 6.36 | 1,146 | 0.56 | 0.02 | 1.37 | 466.05 | 4.66 |
| STATE ... | 429,120,000 | 100.00 | 948 | 0.67 | 100.00 | 78 | 8.26 | 100.00 | 20 | 31.79 | 100.00 | 5.29 | 121.09 | 100.00 |
| Number per Capita Population ... | | | 0.46 | | | 5.67 | | | 21.84 | | | 83.21 | | |

Table No. V.

The following table shows, from the latest information available, the live stock density in various countries:—

| | Live Stock in Terms of Sheep per Square Mile. |
|------------------------------|---|
| Queensland ... | 121 |
| New South Wales ... | 285 |
| Victoria ... | 458 |
| Argentina ... | 403 |
| Australia ... | 82 |
| Germany ... | 1,258 |
| Union of South Africa ... | 368 |
| United Kingdom ... | 1,815 |
| United States of America ... | 283 |

Table No. VI.

RETURN SHOWING NUMBER AND PROPORTION OF HORSES, CATTLE, SHEEP, AND SWINE IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE AS AT 31ST DECEMBER, 1932.

| Division. | HORSES. | | CATTLE. | | SHEEP. | | SWINE. | |
|-----------------|---------|--------|-----------|--------|------------|--------|---------|--------|
| | No. | % | No. | % | No. | % | No. | % |
| Southern ... | 225,662 | 49.87 | 2,536,342 | 45.82 | 10,274,672 | 48.21 | 193,652 | 90.81 |
| Central ... | 100,097 | 22.12 | 1,319,371 | 23.84 | 8,753,213 | 41.07 | 7,177 | 3.37 |
| Northern ... | 126,727 | 28.01 | 1,679,352 | 30.34 | 2,284,980 | 10.72 | 12,420 | 5.82 |
| Total State ... | 452,486 | 100.00 | 5,535,065 | 100.00 | 21,312,865 | 100.00 | 213,249 | 100.00 |

Table No. VII.

RETURN SHOWING NUMBER OF HORSES, CATTLE, AND SHEEP PER SQUARE MILE AND PER CAPITA OF POPULATION IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE AS AT 31ST DECEMBER, 1932.

| Divisor | Area in sq. miles. | Population. | HORSES. | | CATTLE. | | SHEEP. | | ALL KINDS IN TERMS OF SHEEP. | |
|--------------|--------------------|-------------|---------------|---------------------------|---------------|---------------------------|---------------|---------------------------|------------------------------|---------------------------|
| | | | Per Sq. Mile. | Per Capita of Population. | Per Sq. Mile. | Per Capita of Population. | Per Sq. Mile. | Per Capita of Population. | Per Sq. Mile. | Per Capita of Population. |
| Southern ... | 209,980 | 693,874 | 1.07 | 0.33 | 12.08 | 3.66 | 48.93 | 14.81 | 62.09 | 18.79 |
| Central ... | 209,340 | 114,587 | 0.48 | 0.87 | 6.30 | 11.51 | 41.81 | 76.39 | 48.59 | 88.78 |
| Northern ... | 251,180 | 167,195 | 0.50 | 0.76 | 6.69 | 10.04 | 9.10 | 13.67 | 16.29 | 24.47 |

* Estimated 31st December, 1932 (Total, 975,656).

Table No. VIII.

RETURN SHOWING THE NUMBER OF HORSES IMPORTED AND EXPORTED INTO AND FROM THE STATE
FOR THE YEAR 1932.

| HORSES IMPORTED DURING 1932. | | | | HORSES EXPORTED DURING 1932. | | | |
|------------------------------|---------|--------|--------|--------------------------------|---------|---------|---------|
| Country. | Number. | Value. | | Country. | Number. | Value. | |
| <i>Oversea—</i> | | £ | £ | <i>Oversea—</i> | | £ | £ |
| United Kingdom ... | 1 | 85 | | India | 940 | 14,393 | |
| | | | | Territory of New Guinea | 3 | 48 | |
| | | | | Philippines ... | 1 | 100 | |
| | | | | | 944 | | 14,541 |
| | 1 | | 85 | | | | |
| <i>Interstate (by land)—</i> | | | | <i>Interstate (by land)—</i> | | | |
| New South Wales... | 10,179 | 60,158 | | New South Wales ... | 21,259 | 103,531 | |
| Northern Territory | 937 | 1,540 | | Northern Territory | 601 | 928 | |
| South Australia ... | 177 | 734 | | South Australia ... | 823 | 2,762 | |
| | 11,293 | | 62,432 | | 22,683 | | 107,221 |
| Totals | 11,294 | | 62,517 | Totals | 23,627 | | 121,762 |

N.B.—Horses Imported Interstate by Sea for the six months ended 30th June, 1932, were 47, value £3,913. Horses Exported, nil.

Table No. IX.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF ENTIRE AND OTHER HORSES.

| Year ended 31st Dec. | Entire Horses. | Other Horses. | Total. |
|----------------------|----------------|---------------|---------|
| 1923 | 4,728 | 656,865 | 661,593 |
| 1924 | 3,717 | 656,376 | 660,093 |
| 1925 | 2,827 | 635,545 | 638,372 |
| 1926 | 2,221 | 569,401 | 571,622 |
| 1927 | 1,951 | 546,382 | 548,333 |
| 1928 | 1,750 | 520,740 | 522,490 |
| 1929 | 1,700 | 498,404 | 500,104 |
| 1930 | 1,805 | 479,810 | 481,615 |
| 1931 | 2,221 | 467,253 | 469,474 |
| 1932 | 2,147 | 450,339 | 452,486 |

Table No. X.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF OWNERS AND THE SIZES OF HERDS UNDER
VARIOUS GROUPINGS, ALSO THE INCREASE OR DECREASE FOR THE YEAR 1932.

For Details of Sizes of Herds of Cattle in Pastoral Districts, for the Year 1932, see Table No. XXXV.

| Year ended 31st Dec. | 1 to 100. | | 101 to 300. | | 301 to 500. | | 501 to 1,000. | |
|----------------------|-----------|-----------|-------------|---------|-------------|---------|---------------|---------|
| | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. |
| 1923 | 40,616 | 1,085,453 | 3,887 | 653,056 | 907 | 355,714 | 695 | 491,764 |
| 1924 | 39,921 | 1,093,972 | 3,902 | 653,778 | 897 | 348,761 | 742 | 526,408 |
| 1925 | 39,341 | 1,096,618 | 4,151 | 694,989 | 916 | 355,795 | 715 | 506,630 |
| 1926 | 38,922 | 1,048,964 | 3,781 | 635,735 | 819 | 321,806 | 657 | 467,437 |
| 1927 | 38,234 | 1,058,777 | 3,841 | 640,761 | 791 | 307,384 | 639 | 460,477 |
| 1928 | 37,501 | 1,086,823 | 4,017 | 662,848 | 787 | 309,195 | 637 | 451,767 |
| 1929 | 37,376 | 1,113,944 | 4,359 | 713,674 | 841 | 326,676 | 633 | 447,727 |
| 1930 | 37,590 | 1,153,767 | 4,709 | 768,192 | 867 | 338,439 | 652 | 458,244 |
| 1931 | 38,715 | 1,219,244 | 5,006 | 822,241 | 889 | 346,963 | 679 | 477,297 |
| 1932 | 39,805 | 1,254,112 | 4,978 | 812,966 | 856 | 330,355 | 708 | 495,940 |

| Year ended 31st Dec. | 1,001 to 5,000. | | 5,001 to 10,000. | | 10,001 and Upwards. | | Totals. | | Average Size of Herds. |
|----------------------|-----------------|-----------|------------------|---------|---------------------|-----------|---------|-----------|------------------------|
| | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | |
| 1923 | 743 | 1,581,675 | 120 | 846,622 | 80 | 1,382,230 | 47,048 | 6,396,514 | 136 |
| 1924 | 747 | 1,588,186 | 131 | 898,451 | 76 | 1,345,097 | 46,416 | 6,454,663 | 139 |
| 1925 | 751 | 1,563,877 | 136 | 921,985 | 73 | 1,296,751 | 46,083 | 6,436,645 | 140 |
| 1926 | 617 | 1,303,068 | 113 | 776,324 | 49 | 911,511 | 44,958 | 5,464,845 | 122 |
| 1927 | 609 | 1,278,875 | 106 | 731,917 | 40 | 747,613 | 44,260 | 5,225,804 | 118 |
| 1928 | 589 | 1,238,377 | 93 | 643,522 | 43 | 735,809 | 43,667 | 5,128,341 | 117 |
| 1929 | 601 | 1,256,436 | 106 | 729,907 | 37 | 620,224 | 43,953 | 5,208,588 | 119 |
| 1930 | 640 | 1,330,754 | 98 | 658,532 | 46 | 755,796 | 44,602 | 5,463,724 | 122 |
| 1931 | 617 | 1,286,905 | 105 | 704,694 | 40 | 693,055 | 46,051 | 5,550,399 | 121 |
| 1932 | 611 | 1,286,119 | 101 | 708,518 | 37 | 647,055 | 47,096 | 5,535,065 | 118 |

Increase or Decrease —

2.27 -0.28 -2.48

Table No. XI.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF OWNERS AND THE SIZES OF FLOCKS UNDER VARIOUS GROUPINGS ALSO THE INCREASE OR DECREASE FOR THE YEAR 1932.

For Details of Sizes of Flocks of Sheep in Pastoral Districts for the Year 1932 see Table No. XXXVII.

| Year ended 31st Dec. | 1 to 500. | | 501 to 1,000. | | 1,001 to 2,000. | | 2,001 to 5,000. | | 5,001 to 10,000. | |
|----------------------|-----------|---------|---------------|---------|-----------------|-----------|-----------------|-----------|------------------|-----------|
| | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. |
| 1923 .. | 1,675 | 174,917 | 311 | 236,598 | 426 | 644,570 | 686 | 2,321,322 | 432 | 3,033,207 |
| 1924 .. | 1,614 | 186,342 | 345 | 261,812 | 464 | 685,075 | 716 | 2,434,612 | 481 | 3,385,487 |
| 1925 .. | 1,760 | 225,800 | 382 | 290,070 | 521 | 788,722 | 805 | 2,701,654 | 525 | 3,686,331 |
| 1926 .. | 1,917 | 254,351 | 474 | 357,721 | 604 | 908,897 | 1,027 | 3,389,550 | 457 | 3,207,379 |
| 1927 .. | 2,024 | 273,668 | 554 | 410,614 | 709 | 1,071,703 | 1,020 | 3,371,043 | 471 | 3,220,135 |
| 1928 .. | 1,948 | 270,670 | 548 | 411,937 | 758 | 1,129,591 | 1,095 | 3,637,181 | 553 | 3,830,572 |
| 1929 .. | 1,913 | 252,107 | 548 | 415,464 | 766 | 1,148,611 | 1,234 | 4,088,974 | 662 | 4,560,694 |
| 1930 .. | 1,944 | 245,755 | 520 | 398,080 | 673 | 1,006,284 | 1,214 | 4,078,142 | 734 | 5,053,772 |
| 1931 .. | 1,911 | 227,967 | 526 | 401,406 | 677 | 1,002,776 | 1,231 | 4,179,403 | 772 | 5,348,174 |
| 1932 .. | 1,788 | 214,150 | 551 | 415,076 | 679 | 1,026,160 | 1,250 | 4,262,626 | 767 | 5,341,945 |

| Year ended 31st Dec. | 10,001 to 20,000. | | 20,001 to 50,000. | | 50,001 to 100,000. | | 100,001 and Upwards. | | Totals. | | Average Size of Flocks. |
|----------------------|-------------------|-----------|-------------------|-----------|--------------------|-----------|----------------------|-----------|---------|------------|-------------------------|
| | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | |
| 1923 .. | 228 | 3,166,296 | 117 | 3,617,743 | 43 | 2,974,156 | 5 | 587,292 | 3,923 | 16,756,101 | 4,271 |
| 1924 .. | 227 | 3,145,912 | 162 | 4,995,505 | 42 | 2,943,945 | 8 | 989,562 | 4,059 | 19,028,252 | 4,688 |
| 1925 .. | 286 | 3,931,942 | 151 | 4,707,128 | 48 | 3,304,523 | 9 | 1,027,153 | 4,487 | 20,663,323 | 4,605 |
| 1926 .. | 235 | 3,240,198 | 120 | 3,726,023 | 23 | 1,423,600 | 3 | 353,053 | 4,860 | 16,860,772 | 3,469 |
| 1927 .. | 234 | 3,280,459 | 109 | 3,364,725 | 22 | 1,362,817 | 2 | 287,221 | 5,145 | 16,642,385 | 3,235 |
| 1928 .. | 279 | 3,899,803 | 113 | 3,399,575 | 24 | 1,570,488 | 3 | 359,384 | 5,321 | 18,509,201 | 3,479 |
| 1929 .. | 286 | 4,021,226 | 127 | 3,791,241 | 25 | 1,570,079 | 4 | 475,907 | 5,565 | 20,324,303 | 3,652 |
| 1930 .. | 313 | 4,356,680 | 158 | 4,635,047 | 33 | 2,261,447 | 4 | 506,836 | 5,593 | 22,542,043 | 4,030 |
| 1931 .. | 303 | 4,144,829 | 153 | 4,445,418 | 35 | 2,302,423 | 2 | 271,882 | 5,610 | 22,324,278 | 3,979 |
| 1932 .. | 302 | 4,132,447 | 109 | 3,329,982 | 35 | 2,323,938 | 2 | 266,541 | 5,483 | 21,312,865 | 3,887 |

Increase or Decrease — — 2.26 — 4.53 — 2.31

Table No. XII.

RETURN FOR TEN YEARS SHOWING THE RESULTS OF LAMBING, LOSSES, ETC., IN THE STATE.

For Details for the Year 1932 see Tables No. L. and LI.

| | 1923. | 1924. | 1925. | 1926. | 1927. | 1928. | 1929. | 1930. | 1931. | 1932. |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Total Sheep as per Stock Returns on 1st January | 17,641,071 | 16,756,101 | 19,028,252 | 20,663,323 | 16,860,772 | 16,642,385 | 18,509,201 | 20,324,303 | 22,542,043 | 22,324,278 |
| Ewes mated with Rams | 7,225,507 | 8,481,332 | 8,772,276 | 6,557,034 | 6,980,529 | 7,820,137 | 8,114,502 | 9,158,966 | 9,107,493 | 8,877,345 |
| Lambs Marked | 3,052,893 | 4,833,145 | 4,638,376 | 2,245,998 | 2,481,955 | 3,995,065 | 4,257,250 | 5,625,924 | 5,013,286 | 4,243,356 |
| Percentage of Lambing | 42.25 | 56.99 | 52.88 | 34.25 | 35.56 | 51.09 | 52.46 | 61.43 | 55.05 | 47.80 |
| Purchases | 3,904,803 | 5,143,617 | 4,173,815 | 3,889,789 | 4,371,786 | 5,095,420 | 4,332,101 | 3,334,721 | 3,109,122 | 3,076,159 |
| Sales | 5,053,173 | 5,646,885 | 4,793,725 | 4,409,589 | 4,429,268 | 5,331,870 | 4,693,815 | 4,642,376 | 5,621,848 | 5,141,507 |
| Losses | 2,577,987 | 1,877,428 | 2,197,262 | 5,335,207 | 2,449,231 | 1,693,954 | 1,851,105 | 1,840,943 | 2,449,784 | 2,920,545 |
| Killed for Food on Holding | 211,506 | 180,298 | 186,133 | 193,542 | 193,629 | 197,845 | 229,329 | 259,586 | 268,541 | 268,876 |
| Total Sheep as per Stock Returns on 31st December | 16,756,101 | 19,028,252 | 20,663,323 | 16,860,772 | 16,642,385 | 18,509,201 | 20,324,303 | 22,542,043 | 22,324,278 | 21,312,865 |
| Skins obtained during the Year | 214,389 | *182,755 | †180,852 | †201,169 | †232,920 | †205,797 | †208,162 | †219,347 | †206,204 | †139,674 |

* Estimated.

† Year ended 30th June.

Table No. XIII.

RETURN FOR TWO YEARS SHOWING THE NUMBER OF CATTLE, ETC., EXPORTED AND KILLED.

| YEAR ENDED 31ST DECEMBER. | CATTLE AND CALVES. | | SHEEP AND LAMBS. | | SWINE. | |
|---|--------------------|---------|------------------|-----------|---------|---------|
| | 1931. | 1932. | 1931. | 1932. | 1931. | 1932. |
| Exported, less number imported alive Oversea | 3 | 17 | 480 | 260 | 8 | ... |
| Exported, less number imported alive Overland | 204,714 | 209,305 | 917,028 | 812,860 | 3,664 | 1,701 |
| Preserved, frozen, and boiled down | 288,794 | 269,541 | 689,716 | 507,763 | 320,099 | 287,912 |
| Number killed for food for home consumption | 302,875 | 326,407 | 1,248,599 | 1,249,018 | 96,616 | 95,631 |
| Totals | 796,386 | 805,270 | 2,855,823 | 2,569,901 | 420,387 | 385,244 |

N.B.—This Table does not include Interstate Coastwise Traffic, which for the six months ended 30th June, 1932, was as follows—Inwards: Cattle, 17; Sheep, 6; Swine, 2. Outwards: Nil.

Table No. XIV.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, AND SWINE IMPORTED INTO AND EXPORTED FROM THE STATE OVERLAND AND OVERSEA.

| *Year. | HORSES. | | CATTLE. | | SHEEP. | | SWINE. | | |
|--------|----------------------------|-----------|----------|-----------|----------|-----------|----------|-----------|--------|
| | Inwards. | Outwards. | Inwards. | Outwards. | Inwards. | Outwards. | Inwards. | Outwards. | |
| | Number. | Number. | Number. | Number. | Number. | Number. | Number. | Number. | |
| 1923 | Overland, Calendar year.. | 20,761 | 27,665 | 31,090 | 215,790 | 332,480 | 725,144 | † | † |
| | Overland, Financial year.. | 23,906 | 23,303 | 26,042 | 133,134 | 339,532 | 565,756 | † | † |
| | Oversea, Financial year .. | 1 | 1,603 | .. | 1,131 | .. | 62 | .. | 7 |
| 1924 | Overland, Calendar year.. | 19,131 | 19,982 | 67,681 | 195,943 | 222,489 | 642,055 | † | † |
| | Overland, Financial year.. | 24,099 | 25,425 | 61,747 | 256,093 | 231,325 | 912,849 | † | † |
| | Oversea, Financial year .. | 14 | 783 | .. | 483 | .. | 25 | .. | 2 |
| 1925 | Overland, Calendar year.. | 25,375 | 18,032 | 23,353 | 243,322 | 283,795 | 606,237 | † | † |
| | Overland, Financial year.. | 13,838 | 15,244 | 29,431 | 194,608 | 242,674 | 461,161 | † | † |
| | Oversea, Calendar year .. | 1 | 3,407 | 4 | 53 | .. | 13 | † | † |
| 1926 | Overland, Calendar year.. | 11,299 | 15,151 | 14,530 | 335,600 | 448,586 | 684,498 | † | † |
| | Overland, Financial year.. | 22,757 | 20,619 | 18,592 | 335,724 | 225,579 | 791,533 | † | † |
| | Oversea, Calendar year .. | .. | 2,428 | .. | 72 | .. | 6 | .. | 3 |
| 1927 | Overland, Calendar year.. | 11,461 | 9,935 | 108,192 | 168,730 | 1,150,437 | 457,897 | † | † |
| | Overland, Financial year.. | 14,696 | 20,876 | 71,722 | 265,384 | 937,030 | 630,207 | † | † |
| | Oversea, Calendar year .. | .. | 634 | .. | 54 | .. | 22 | .. | 50 |
| 1928 | Overland, Jan. to June .. | 3,804 | 6,364 | 4,129 | 264,225 | 422,589 | 351,990 | † | † |
| | Overland, July to Dec. .. | 3,277 | 5,203 | 5,145 | 101,877 | 328,665 | 317,304 | 126 | 3,174 |
| | Oversea, Jan. to June .. | .. | 2,137 | .. | 18 | .. | 54 | .. | 24 |
| 1929 | Overland, Jan. to June .. | 23,561 | 6,232 | 51,614 | 85,028 | 394,970 | 220,978 | 143 | 4,287 |
| | Overland, July to Dec. .. | 4,904 | 7,682 | 34,049 | 95,550 | 233,915 | 314,820 | 134 | 12,244 |
| | Oversea, Jan. to June .. | .. | 2,906 | .. | 21 | .. | 316 | .. | 7 |
| 1930 | Overland, Jan. to June .. | 5,271 | 8,579 | 66,092 | 84,111 | 397,616 | 346,064 | 201 | 7,373 |
| | Overland, July to Dec. .. | 9,470 | 1,0460 | 34,709 | 142,702 | 215,204 | 543,794 | 595 | 3,751 |
| | Oversea, Jan. to June .. | .. | 2,492 | 13 | 25 | .. | 344 | .. | 3 |
| 1931 | Overland, Jan. to June .. | 4,974 | 8,212 | 28,147 | 122,681 | 156,266 | 382,188 | 627 | 3,497 |
| | Overland, July to Dec. .. | 6,783 | 11,819 | 24,226 | 134,406 | 121,501 | 812,607 | 694 | 1,488 |
| | Oversea, Jan. to June .. | 1 | 147 | 10 | .. | .. | 170 | .. | .. |
| 1932 | Overland, Jan. to June .. | 5,368 | 11,017 | 13,595 | 128,879 | 118,561 | 537,096 | 779 | 2,792 |
| | Overland, July to Dec. .. | 5,925 | 11,666 | 17,430 | 111,451 | 171,706 | 566,031 | 903 | 591 |
| | Oversea, Jan. to June .. | .. | 2 | .. | 4 | .. | 260 | .. | .. |
| 1933 | Overland, Jan. to June .. | 6,160 | 7,828 | 21,442 | 61,104 | 264,519 | 172,063 | 792 | 1,431 |
| | Oversea, Jan. to June .. | 1 | 8 | 2 | 1 | .. | 41 | 1 | 3 |

† Not available.

* Interstate coastwise traffic for the six months ended 30th June, 1932, was as follows:—Inwards—Horses 47, Value £3,913; Cattle 17, Value £827; Sheep 6, Value £240; Swine 2, Value £50. Outwards—Nil.

Table No. XV.

RETURN OF LIVE STOCK AND WOOL CROSSING THE QUEENSLAND BORDERS DURING THE YEAR ENDED 31ST DECEMBER, 1932.

| | HORSES. | | CATTLE. | | SHEEP. | | SWINE. | | WOOL. | |
|-----------------------|---------|---------|---------|---------|-----------|---------|---------|--------|---------|---------|
| | Number. | Value. | Number. | Value. | Number. | Value. | Number. | Value. | Bales. | *Value. |
| | | £ | | £ | | £ | | £ | No. | £ |
| INWARDS. | | | | | | | | | | |
| From— | | | | | | | | | | |
| New South Wales .. | 10,179 | 60,158 | 13,460 | 61,916 | 290,267 | 133,523 | 1,682 | 3,599 | 6,643 | 73,131 |
| Northern Territory .. | 937 | 1,540 | 16,549 | 54,731 | .. | .. | .. | .. | .. | .. |
| South Australia .. | 177 | 734 | 1,016 | 5,080 | .. | .. | .. | .. | .. | .. |
| Totals .. | 11,293 | 62,432 | 31,025 | 121,727 | 290,267 | 133,523 | 1,682 | 3,599 | 6,643 | 73,131 |
| OUTWARDS. | | | | | | | | | | |
| To— | | | | | | | | | | |
| New South Wales .. | 21,259 | 103,531 | 229,604 | 771,469 | 1,079,742 | 334,720 | 3,383 | 5,616 | 10,380 | 114,321 |
| Northern Territory .. | 601 | 928 | 75 | 225 | 3,000 | 450 | .. | .. | .. | .. |
| South Australia .. | 823 | 2,762 | 10,651 | 65,105 | 20,385 | 7,316 | .. | .. | †867 | 11,224 |
| Totals .. | 22,683 | 107,221 | 240,330 | 836,799 | 1,103,127 | 342,486 | 3,383 | 5,616 | †11,247 | 125,545 |

* Based on Oversea Export Value.

† Including 352 bales of scoured wool.

Table No. XVI.

RETURN SHOWING THE NUMBER, &C., OF BACON-CURING AND MEAT-PRESERVING WORKS FOR THE YEAR ENDED 30TH JUNE, 1932, AND INCREASE OR DECREASE ON PREVIOUS YEAR.

| Kind of Establishment. | Number. | Number of Hands Employed. | Value of Machinery and Plant. | Value of Land and Premises. | Value of Output. |
|------------------------|---------|---------------------------|-------------------------------|-----------------------------|------------------|
| Bacon Curing | 8 | 526 | £ 97,924 | £ 177,655 | £ 947,895 |
| Meat Preserving | 8 | 2,221 | 672,119 | 1,185,829 | 2,271,823 |
| Totals, 1931-32 | 16 | 2,747 | 770,043 | 1,363,484 | 3,219,718 |
| Totals, 1930-31 | 17 | 3,225 | 863,244 | 1,457,351 | 4,901,152 |
| Increase, 1931-32 | ... | ... | ... | ... | ... |
| Decrease, 1931-32 | 1 | 478 | 93,201 | 93,867 | 1,681,434 |

Table No. XVII.

RETURN SHOWING NUMBER OF SWINE SLAUGHTERED AND THE PRODUCTS THEREOF, AT MEATWORKS AND ON FARMS, IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE FOR THE YEAR 1932.

| Petty Sessions District. | Swine Slaughtered. | Fresh Pork. | Salt and Preserved Pork. | Bacon and Ham. |
|--------------------------|--------------------|-------------|--------------------------|----------------|
| | Number. | Lb. | Lb. | Lb. |
| Atherton | 9,122 | 30,077 | 810 | 621,021 |
| Bowen | 78 | 4,408 | 820 | ... |
| Brisbane* | 171,855 | 3,260,908 | 1,351,785 | 8,336,442 |
| Bundaberg | 133 | 3,257 | 2,589 | 9,315 |
| Clifton | 227 | 2,193 | 315 | 23,923 |
| Crow's Nest | 313 | 4,403 | 11,305 | 22,399 |
| Dalby | 207 | 3,640 | 6,350 | 11,829 |
| Gatton | 402 | 15,103 | 8,426 | 13,925 |
| Gayndah | 381 | 9,792 | 18,062 | 2,258 |
| Gladstone | 80 | 1,733 | 3,165 | 807 |
| Goodna | 8,149 | 593,791 | 95 | ... |
| Gympie | 54 | 1,590 | 1,510 | 260 |
| Harrisville | 252 | 2,690 | 16,553 | 3,720 |
| Killarney | 64 | 1,440 | 1,900 | 4,710 |
| Laidley | 225 | 9,375 | 17,272 | 3,020 |
| Logan | 279 | 7,440 | 16,015 | 13,849 |
| Lowood | 148 | 10,677 | 10,269 | 922 |
| Mackay | 23 | 520 | 530 | 1,315 |
| Marburg | 174 | 2,447 | 16,771 | 2,411 |
| Maryborough | 7,586 | 22,768 | 87,576 | 546,479 |
| Nanango | 505 | 12,941 | 12,759 | 18,874 |
| Oakey | 304 | 10,142 | 13,766 | 12,049 |
| Pittsworth | 66 | 3,037 | 3,694 | 2,478 |
| Rockhampton | 9,036 | 398,427 | 2,775 | 335,670 |
| Roma | 39 | 754 | 1,970 | 2,110 |
| Toogoolawah | 170 | 2,864 | 12,460 | 750 |
| Toowoomba | 75,417 | 3,418 | 4,942 | 5,961,090 |
| Warwick | 5,398 | 22,532 | 2,190 | 404,224 |
| Wienholt | 424 | 5,179 | 35,267 | 1,990 |
| All other Districts | 5,716 | 135,345 | 87,531 | 91,150 |
| Totals, 1932 | † 296,827 | 4,582,891 | 1,749,472 | 16,448,990 |

* Including South Brisbane and Wynnum.

† Includes 8,915 swine killed on farms, producing 591,686 lb. of pork and 274,721 lb. of bacon and ham.

N.B.—In addition to the particulars shown in this table, the returns received from slaughter-houses account for 86,716 swine killed, producing 7,171,093 lb. of fresh pork. Thus the total swine killed in the State was 383,543, pork produced 13,503,461 lb., and bacon and ham 16,448,990 lb.

Table No. XVIII.

WOOL.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF SHEEP SHORN AND THE WOOL PRODUCED IN QUEENSLAND.
For details for the year ended 30th June, 1932, see Tables No. XLIV., XLV., and XLVI.

| Production of Wool. | 1922. | 1923. | 1924-5. | 1925-6. | 1926-7. |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Number of sheep shorn | 18,465,471 | 17,754,989 | 18,518,682 | 20,552,992 | 17,600,510 |
| Result off Shears only, lb. net— | | | | | |
| Greasy wool | 106,989,147 | 100,964,197 | 123,078,294 | 129,361,017 | 104,308,040 |
| Scoured wool | 11,030,559 | 8,112,704 | 7,099,421 | 7,156,291 | 5,964,445 |
| *Above expressed as "Greasy" | 129,050,265 | 117,189,605 | 137,277,136 | 143,673,599 | 116,236,930 |
| Average weight, lb.— | | | | | |
| Per Greasy bale | 344 | 348 | 346 | 341 | 335 |
| Per Scoured bale | 229 | 228 | 238 | 229 | 221 |
| Per Fleece in the Grease | 6.99 | 6.60 | 7.41 | 6.99 | 6.60 |
| Total wool production (Greasy), including quantity fell-mongered, exported on skins, and utilised, lb. | 134,971,150 | 121,913,075 | 140,862,541 | 146,985,689 | 119,847,967 |
| †Estimated value of production | £10,825,811 | £12,191,308 | £15,553,572 | £10,993,305 | £9,423,046 |

| Production of Wool. | 1927-8. | 1928-9. | 1929-30. | 1930-31. | 1931-32. |
|---|--------------------|--------------------|----------------------|----------------------|----------------------|
| Number of sheep shorn | 16,961,698 | 18,438,630 | 20,733,054 | 22,778,181 | 23,183,705 |
| Result off Shears only, lb. net— | | | | | |
| Greasy wool | 110,611,493 | 121,219,173 | 138,030,120 | 158,468,047 | 156,199,991 |
| Scoured wool | 6,085,234 | 6,234,550 | 8,278,574 | 7,445,725 | 9,204,320 |
| *Above expressed as "Greasy" | 122,781,961 | 134,727,365 | 155,967,030 | 174,600,451 | 176,142,684 |
| Average weight, lb.— | | | | | |
| Per Greasy bale | 335 | 333 | 333 | 333 | 327 |
| Per Scoured bale | 217 | 217 | 222 | 215 | 207 |
| Per Fleece in the Grease | 7.24 | 7.31 | 7.52 | 7.67 | 7.60 |
| Total wool production (Greasy), including quantity fell-mongered, exported on skins, and utilised, lb. | 126,429,938 | 138,988,930 | † 161,087,873 | † 182,061,407 | † 184,716,462 |
| †Estimated value of production | £10,635,919 | £9,943,540 | £7,785,914 | £7,479,689 | £6,626,703 |

NOTE—In addition to the above, returns amounting to 36,523,190 lb. of greasy wool shorn were received for the first six months of 1924.

* From 1st July, 1928, scoured wool has been converted into the estimated greasy equivalent on the assumption that 1 lb. scoured wool is produced from 2½ lb. greasy. In previous years a ratio of 1 to 2 was used.

† Based on Oversea Export value (Financial Year).

‡ Including dead wool.

Table No. XIX.

RETURN FOR TEN YEARS SHOWING THE AVERAGE OVERSEA EXPORT PRICE OF WOOL FROM QUEENSLAND.

| Year ended 30th June. | 1924. | 1925. | 1926. | 1927. | 1928. | 1929. | 1930. | 1931. | 1932. | 1933. |
|-----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | Per lb. | Per lb. | Per lb. | Per lb. | Per lb. | Per lb. | Per lb. | Per lb. | Per lb. | Per lb. |
| Greasy wool ... | 24d. | 26½d. | 17.95d. | 18.87d. | 20.19d. | 17.17d. | 11.60d. | 9.86d. | 8.61d. | 9.01d. |
| Scoured wool ... | 42d. | 46d. | 30.86d. | 31.40d. | 34.48d. | 31.44d. | 22.34d. | 14.76d. | 13.45d. | 14.73d. |

Table No. XX.

RETURN FOR TEN YEARS SHOWING THE QUANTITY AND VALUE OF WOOL EXPORTED Oversea FROM QUEENSLAND.

| Exports of Wool, Oversea Only. | GREASY. | | SCOURED. | | WOOLLED SKINS. | |
|-----------------------------------|-------------|------------|------------|-----------|----------------|---------|
| | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| | Lb. gross. | £ | Lb. gross. | £ | Lb. gross. | £ |
| Year. | | | | | | |
| 1923-1924 | 82,555,619 | 8,266,711 | 10,847,962 | 1,892,303 | 1,866,000 | 116,265 |
| 1924-1925 | 89,761,910 | 9,902,962 | 10,888,055 | 2,089,990 | 2,461,789 | 176,910 |
| 1925-1926 | 155,529,490 | 11,636,937 | 10,166,018 | 1,307,051 | 3,804,570 | 202,368 |
| 1926-1927 | 92,434,753 | 7,267,525 | 9,371,143 | 1,225,868 | 3,580,864 | 171,847 |
| 1927-1928 | 98,572,221 | 8,290,737 | 10,645,113 | 1,529,291 | 3,330,919 | 179,349 |
| 1928-1929 | 115,370,996 | 8,256,965 | 11,785,858 | 1,544,164 | 4,287,380 | 221,428 |
| 1929-1930 | 122,023,953 | 5,898,865 | 10,911,832 | 1,015,954 | 5,720,343 | 177,406 |
| 1930-1931 | 146,129,752 | 6,005,219 | 10,890,695 | 669,823 | 5,758,382 | 112,783 |
| 1931-1932 | 149,541,226 | 5,367,646 | 14,198,049 | 795,779 | 5,018,095 | 77,968 |
| 1932-1933 | 142,716,884 | 5,359,620 | 17,193,918 | 1,055,563 | 4,112,509 | 67,419 |

Table No. XXI.

RETURN FOR TEN YEARS SHOWING THE AMOUNT OF SCOURED WOOL USED IN MANUFACTURE.

| Quantity of Scoured Wool used in manufacture ... | 1923. | 1924-25. | 1925-26. | 1926-27. | 1927-28. | 1928-29. | 1929-30. | 1930-31. | 1931-32. | 1932-33. |
|--|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. |
| | 629,784 | 544,269 | 454,075 | 625,342 | 625,852 | 477,008 | 572,237 | 440,756 | 541,451 | 774,559 |

Table No. XXII.

RETURN FOR TWO YEARS SHOWING THE EXPORT OVERSEA OF HOME PRODUCE.

| Value of— | 1930-31. | | 1931-32. | |
|-------------------------------------|--------------------|------------------------------|--------------------|------------------------------|
| | HOME PRODUCE ONLY. | | HOME PRODUCE ONLY. | |
| | Total Exports. | Percentage to Total Exports. | Total Exports. | Percentage to Total Exports. |
| | £ | | £ | |
| Agricultural and Dairy Products ... | 5,641,407 | 33·87 | 6,311,421 | 39·45 |
| *Pastoral " ... | 9,717,280 | 58·35 | 8,708,553 | 54·44 |
| Mineral " ... | 124,843 | 0·75 | 663,372 | 4·15 |
| Other " ... | 1,170,337 | 7·03 | 313,891 | 1·96 |
| Totals ... | £16,653,867 | 100·00 | £15,997,237 | 100·00 |

* Exclusive of Furred Skins:— 1930-31, £3,763; 1931-32, £132,066.

Table No. XXIII.

RETURN FOR TWO YEARS SHOWING THE DETAILS OF PASTORAL PRODUCTS EXPORTED OVERSEA.

| Value of— | 1930-31. | 1931-32. | Increase or —Decrease, 1931-32. |
|--|--------------------|------------------|---------------------------------|
| | HOME PRODUCE ONLY. | | |
| | Exports Oversea. | Exports Oversea. | |
| | £ | £ | £ |
| Pastoral Products— | | | |
| Wool ... | 6,675,042 | 6,163,425 | — 511,617 |
| Live stock (Horses, Cattle, and Sheep) ... | 33,752 | 28,878 | — 4,874 |
| *Meat (all kinds, including Extract) ... | 2,411,476 | 2,091,949 | — 319,527 |
| Tallow ... | 191,746 | 199,945 | 8,199 |
| †Hides and skins ... | 353,706 | 171,601 | — 182,105 |
| Leather ... | 12,591 | 11,608 | — 983 |
| All other ... | 38,967 | 41,147 | 2,180 |
| Totals ... | 9,717,280 | 8,708,553 | — 1,008,727 |

* Exclusive of Bacon, Ham, Pork and Poultry, these being treated as products of Agriculture:—1930-31, £232,324; 1931-32, £160,316.

† Exclusive of Furred Skins:—1930-31, £3,763; 1931-32, £132,066.

Table No. XXIV.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF COMMON GOATS IN THE STATE AND THE NUMBER KILLED FOR FOOD, &C.

| Year ended 31st December— | Number Depastured. | Number Killed for Food. | Weight: Lb. | Average Weight: Lb. | Number of Skins Obtained. |
|---------------------------|--------------------|-------------------------|-------------|---------------------|---------------------------|
| 1923 ... | 119,832 | 23,134 | 596,621 | 25·79 | 10,200 |
| 1924 ... | 131,148 | 21,204 | 571,619 | 26·96 | 8,256 |
| 1925 ... | 126,752 | 25,141 | 717,087 | 28·52 | 11,305 |
| 1926 ... | 86,012 | 14,252 | 395,028 | 27·72 | 9,409 |
| 1927 ... | 95,227 | 16,657 | 470,378 | 28·24 | 10,447 |
| 1928 ... | 85,622 | 14,888 | 417,305 | 28·03 | 9,261 |
| 1929 ... | 82,360 | 14,983 | 434,380 | 28·99 | 9,581 |
| 1930 ... | 69,460 | 11,195 | 307,177 | 27·44 | 6,169 |
| 1931 ... | 73,739 | 14,483 | 375,872 | 25·95 | 6,632 |
| 1932 ... | 76,986 | 15,175 | 421,016 | 27·74 | *6,057 |

*Value of Skins, £266.

Table No. XXV.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF ANGORA GOATS IN THE STATE AND THE NUMBER KILLED FOR FOOD, MOHAIR OBTAINED, &C.

| Year ended 31st December. | Number of Animals. | Mohair Obtained. | Number Killed for Food. | Weight: Lb. | Average Weight: Lb. | Skins Obtained. |
|------------------------------|-----------------------|---------------------|----------------------------|-------------|------------------------|-----------------|
| | | Lb. | | | | |
| 1923 | 3,931 | 2,204 | 860 | 27,081 | 31.49 | 625 |
| 1924 | 3,511 | 1,782 | 729 | 21,119 | 28.97 | 519 |
| 1925 | 3,923 | 1,604 | 551 | 15,800 | 28.52 | 520 |
| 1926 | 3,343 | 1,532 | 590 | 17,003 | 28.82 | 487 |
| 1927 | 2,354 | 1,765 | 303 | 9,629 | 31.78 | 239 |
| 1928 | 2,938 | 2,137 | 673 | 19,429 | 28.87 | 648 |
| 1929 | 2,215 | 1,425 | 467 | 14,127 | 30.25 | 360 |
| 1930 | 1,840 | 1,288 | 276 | 8,034 | 29.11 | 310 |
| 1931 | 1,683 | 972 | 205 | 5,955 | 29.05 | 145 |
| 1932 | *1,516 | †756 | 227 | 6,633 | 29.22 | ‡166 |

* Including 20 Saanen Goats.

† Value of Mohair, £15.

‡ Value of Skins, £6.

Table No. XXVI.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF CAMELS, DONKEYS, AND MULES IN THE STATE, TOGETHER WITH THE INCREASE OR DECREASE.

| Year ended 31st December. | Number of Camels. | Increase or Decrease. | Number of Donkeys. | Increase or Decrease. | Number of Mules. | Increase or Decrease. |
|------------------------------|----------------------|--------------------------|-----------------------|--------------------------|---------------------|--------------------------|
| 1923 | 399 | — 13.82 | 64 | 16.36 | 1,078 | 15.91 |
| 1924 | 362 | — 9.27 | 39 | — 39.06 | 992 | — 7.98 |
| 1925 | 480 | 32.60 | 11 | — 71.79 | 925 | — 6.75 |
| 1926 | 313 | — 34.79 | 26 | 13.64 | 906 | — 2.05 |
| 1927 | 440 | 40.58 | 23 | — 11.54 | 898 | — 0.88 |
| 1928 | 466 | 5.91 | 25 | 8.70 | 980 | 9.13 |
| 1929 | 354 | — 24.03 | 30 | 20.00 | 972 | — 0.82 |
| 1930 | 215 | — 39.27 | 18 | — 40.00 | 627 | — 35.49 |
| 1931 | 433 | 101.40 | 33 | 83.33 | 838 | 33.65 |
| 1932 | 502 | 15.94 | 44 | 33.33 | 798 | 4.77 |

— Decrease.

Table No. XXVII.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF CALVES RETURNED AS BRANDED AND THE CENTESIMAL INCREASE OR DECREASE. For details for 1932 see Table XXIX.

| Year ended 31st December. | Male. | Increase or Decrease. | Female. | Increase or Decrease. | Total. | Increase or Decrease. |
|------------------------------|---------|--------------------------|---------|--------------------------|-----------|--------------------------|
| 1923 | 497,112 | — 15.19 | 539,883 | — 14.46 | 1,036,995 | — 14.51 |
| 1924 | 508,342 | 2.26 | 554,145 | 2.64 | 1,062,487 | 2.46 |
| 1925 | 612,606 | 20.51 | 660,784 | 19.24 | 1,273,390 | 19.85 |
| 1926 | 409,702 | — 33.12 | 450,373 | — 31.84 | 860,075 | — 32.46 |
| 1927 | 374,849 | — 8.51 | 420,822 | — 6.56 | 795,671 | — 7.49 |
| 1928 | 468,581 | 25.01 | 520,986 | 23.80 | 989,567 | 24.37 |
| 1929 | 468,006 | — 0.12 | 528,548 | 1.45 | 996,554 | 0.71 |
| 1930 | 506,434 | 8.21 | 565,408 | 6.97 | 1,071,842 | 7.55 |
| 1931 | 489,148 | — 3.41 | 559,251 | — 1.09 | 1,048,399 | — 2.19 |
| 1932 | 449,537 | — 8.10 | 534,252 | — 4.47 | 983,789 | — 6.16 |

— Decrease.

Table No. XXVIII.

RETURN SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, AND SWINE, IN THE VARIOUS PETTY SESSIONS DISTRICTS OF THE STATE, TOGETHER WITH THE INCREASE OR DECREASE OF CATTLE AND SHEEP ON 31ST DECEMBER, 1932.

| Petty Sessions District. | HORSES. | | CATTLE. | | | | | SHEEP. | | | | | SWINE. |
|--------------------------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|--------|--|--|--------|
| | 1932. | 1931. | 1932. | 1932. | | 1931. | 1932. | 1932. | | 1932. | | | |
| | | | | Increase. | Decrease. | | | Increase. | Decrease. | | | | |
| | | | | | | | | | | | | | |
| Adavale | 797 | 4,236 | 4,747 | 511 | .. | 330,333 | 263,192 | .. | 67,141 | 29 | | | |
| Allora | 3,609 | 12,355 | 13,422 | 1,067 | .. | 8,395 | 7,236 | .. | 1,159 | 2,926 | | | |
| Alpha | 3,964 | 50,920 | 51,019 | 99 | .. | 166,925 | 181,510 | 14,585 | .. | 97 | | | |
| Aramac | 2,072 | 1,991 | 3,029 | 1,038 | .. | 273,864 | 324,694 | 50,830 | .. | .. | | | |
| Atherton | 5,212 | 53,276 | 52,761 | .. | 515 | 815 | 577 | .. | .. | 238 | | | |
| Augathella | 2,247 | 23,564 | 25,504 | 1,940 | .. | 365,209 | 337,248 | .. | 27,961 | 17 | | | |
| Ayr | 8,046 | 32,768 | 32,712 | .. | 56 | 430 | 1,325 | 895 | .. | 528 | | | |
| Banana | 2,039 | 59,077 | 49,845 | .. | 9,232 | 344 | 123 | .. | .. | 221 | | | |
| Barcaldine | 1,884 | 4,616 | 5,047 | 431 | .. | 551,826 | 563,092 | 11,266 | .. | 144 | | | |
| Beaudesert | 4,307 | 82,067 | 80,632 | .. | 1,435 | 1,575 | 1,302 | .. | 273 | 9,578 | | | |
| Biggenden | 2,718 | 49,094 | 45,352 | .. | 3,742 | 532 | 329 | .. | 203 | 1,498 | | | |
| Blackall | 3,331 | 5,880 | 6,856 | 976 | .. | 962,753 | 1,053,421 | 90,668 | .. | 98 | | | |
| Bollon | 1,693 | 22,220 | 15,415 | .. | 6,805 | 844,514 | 430,973 | .. | 413,541 | 11 | | | |
| Boullia | 1,799 | 12,744 | 20,871 | 8,127 | .. | 212,711 | 196,361 | .. | 16,350 | 13 | | | |
| Bowen | 3,804 | 21,607 | 22,345 | 738 | .. | .. | .. | .. | .. | 126 | | | |
| Brisbane | 4,449 | 21,489 | 22,492 | 1,003 | .. | 223 | 198 | .. | .. | 2,442 | | | |
| Bundaberg | 6,142 | 63,733 | 58,223 | .. | 5,510 | 1,666 | 2,028 | 362 | .. | 1,165 | | | |
| Burke | 3,523 | 100,967 | 108,269 | 7,302 | .. | 44,867 | 50,616 | 5,749 | .. | 64 | | | |
| Caboollure | 921 | 8,816 | 9,320 | 504 | .. | 205 | 219 | 14 | .. | 785 | | | |
| Cairns | 2,571 | 3,730 | 4,068 | 338 | .. | 61 | .. | .. | 61 | 178 | | | |
| Camooweal | 2,490 | 59,063 | 53,526 | .. | 5,537 | 10,500 | 13,821 | 3,321 | .. | 105 | | | |
| Cape River | 4,972 | 89,791 | 85,257 | .. | 4,534 | 358 | 355 | .. | 3 | 210 | | | |
| Cardwell | 1,210 | 5,959 | 5,782 | .. | 177 | .. | .. | .. | .. | 44 | | | |
| Charleville | 3,685 | 20,868 | 26,678 | 5,810 | .. | 950,260 | 921,076 | .. | 26,184 | 158 | | | |
| Charters Towers | 9,871 | 140,931 | 135,960 | .. | 4,971 | 1,090 | 1,022 | .. | 68 | 634 | | | |
| Childers | 1,957 | 14,556 | 13,928 | .. | 628 | .. | .. | .. | .. | 233 | | | |
| Chillagoe | 3,577 | 36,328 | 38,617 | 2,289 | .. | .. | .. | .. | .. | 54 | | | |
| Chinchilla | 2,651 | 33,847 | 34,331 | 484 | .. | 19,836 | 15,948 | .. | 3,888 | 1,087 | | | |
| Clermont | 8,182 | 126,116 | 119,456 | .. | 6,660 | 498,752 | 456,695 | .. | 42,057 | 207 | | | |
| Cleveland | 659 | 1,324 | 1,364 | 40 | .. | 24 | 30 | 6 | .. | 177 | | | |
| Clifton | 5,776 | 19,306 | 19,766 | 460 | .. | 24,749 | 23,408 | .. | 1,341 | 4,927 | | | |
| Cloncurry | 10,944 | 200,884 | 185,559 | .. | 15,325 | 942,089 | 1,009,767 | 67,678 | .. | 358 | | | |
| Coen | 2,329 | 22,638 | 23,850 | 1,212 | .. | .. | .. | .. | .. | 1 | | | |
| Collinsville | 3,799 | 97,583 | 126,310 | 28,727 | .. | 40 | 2 | .. | 38 | 141 | | | |
| Condamine | 3,444 | 46,719 | 49,563 | 2,844 | .. | 43,779 | 48,407 | 4,628 | .. | 684 | | | |
| Cook | 3,983 | 88,932 | 81,889 | .. | 7,043 | .. | .. | .. | .. | 25 | | | |
| Cooyar | .. | 13,800 | .. | .. | .. | 1,697 | .. | .. | .. | .. | | | |
| Goombungee | .. | 9,340 | .. | .. | 499 | 24 | .. | .. | .. | .. | | | |
| Jondaryan | 8,440 | 10,033 | 78,558 | .. | .. | 101,072 | 127,976 | .. | 9,419 | 17,044 | | | |
| Oakey | .. | 45,884 | .. | .. | .. | 34,602 | .. | .. | .. | .. | | | |
| Crow's Nest | 2,868 | 29,238 | 27,852 | .. | 1,386 | 635 | 504 | .. | 131 | 8,129 | | | |
| Croydon | 1,470 | 22,711 | 22,226 | .. | 485 | .. | .. | .. | .. | .. | | | |
| Cunnamulla | 3,089 | 11,540 | 15,186 | 3,646 | .. | 859,519 | 1,277,285 | 417,766 | .. | 11 | | | |
| Dalby | 8,992 | 113,056 | 114,925 | 1,869 | .. | 658,687 | 617,004 | .. | 41,683 | 5,200 | | | |
| Diamantina | 1,194 | 28,178 | 23,238 | .. | 4,940 | 1,909 | 8 | .. | 1,901 | .. | | | |
| Douglas | 2,346 | 3,351 | 3,743 | 392 | .. | .. | .. | .. | .. | 125 | | | |
| Dugandan | 4,610 | 45,013 | 43,361 | .. | 1,652 | 161 | 145 | .. | 16 | 9,880 | | | |
| Eidsvold | 2,633 | 70,018 | 48,288 | .. | .. | 444 | 403 | .. | .. | 693 | | | |
| Gladstone | 7,000 | .. | 145,825 | .. | 21,247 | .. | 2,246 | .. | 669 | 1,229 | | | |
| Emerald | 3,690 | 197,967 | 52,625 | .. | .. | 3,911 | 1,037 | .. | .. | 1,291 | | | |
| Esk | 3,215 | 53,054 | 48,907 | .. | 4,147 | 209,005 | 191,006 | .. | 17,999 | 153 | | | |
| Etheridge | 1,847 | 33,017 | 31,152 | .. | 1,865 | 2,626 | 1,992 | .. | 634 | 2,008 | | | |
| Eulo | 8,475 | 197,248 | 191,255 | .. | 5,993 | .. | .. | .. | .. | 67 | | | |
| .. .. . | 803 | 7,085 | 10,292 | 3,207 | .. | 166,770 | 281,073 | 114,303 | .. | .. | | | |
| Gatton | 4,015 | 29,560 | 29,100 | .. | 460 | 701 | 665 | .. | 36 | 5,257 | | | |
| Gaydah | 6,622 | 138,793 | 136,114 | .. | 2,679 | 922 | 726 | .. | 196 | 4,657 | | | |
| Gin Gin | 3,434 | 60,759 | 55,509 | .. | 5,250 | 293 | 263 | .. | 30 | 358 | | | |
| Goodna | 427 | 2,513 | 2,470 | .. | 43 | 7 | 12 | 5 | .. | 150 | | | |
| Goondiwindi | 3,346 | 36,254 | 40,847 | 4,593 | .. | 627,801 | 630,813 | 3,012 | .. | 322 | | | |
| Gympie | 6,263 | 120,958 | 123,655 | 2,697 | .. | 1,457 | 1,029 | .. | 428 | 10,891 | | | |
| Harrisville | 2,814 | 22,681 | 21,205 | .. | 1,476 | 431 | 327 | .. | 104 | 3,982 | | | |
| Helidon | .. | 17,160 | .. | .. | .. | 27 | .. | .. | .. | .. | | | |
| Highfields | 6,945 | 9,830 | 44,944 | .. | 1,596 | 104 | 7,608 | .. | 1,730 | 8,447 | | | |
| Toowoomba | .. | 19,550 | .. | .. | .. | 9,207 | .. | .. | .. | .. | | | |
| Herberton | 4,220 | 59,776 | 63,200 | 3,424 | .. | 357 | 65 | .. | 292 | 434 | | | |
| Hughenden | 4,572 | 49,923 | 48,686 | .. | 1,237 | 655,934 | 566,344 | .. | 89,590 | 111 | | | |
| Hungerford | 558 | 5,375 | 5,474 | 99 | .. | 133,257 | 146,064 | 12,807 | .. | .. | | | |
| Ingham | 7,042 | 33,307 | 35,280 | 1,973 | .. | 177 | 140 | .. | 37 | 666 | | | |
| Inglewood | 2,526 | 21,361 | 22,627 | 1,266 | .. | 321,553 | 292,156 | .. | 29,397 | 606 | | | |
| Innisfail | 3,088 | 3,944 | 3,984 | 40 | .. | 370 | 174 | .. | 196 | 111 | | | |
| Ipswich | 1,713 | 15,348 | 15,328 | .. | 20 | 334 | 242 | .. | 92 | 1,012 | | | |
| Isisford | 2,663 | 6,070 | 6,774 | 704 | .. | 760,818 | 733,845 | .. | 26,973 | 36 | | | |
| Julia Creek | 3,074 | 62,379 | 53,221 | .. | 9,158 | 771,276 | 435,673 | .. | 335,603 | 1 | | | |
| Jundah | 1,827 | 5,103 | 12,419 | 7,316 | .. | 317,204 | 306,150 | .. | 11,054 | .. | | | |
| Kilcoy | 1,344 | 19,360 | 18,256 | .. | 1,104 | 178 | 90 | .. | 88 | 2,418 | | | |
| Kilkivan | 1,294 | 23,264 | 21,790 | .. | 1,474 | 97 | 93 | .. | 4 | 614 | | | |
| Killarney | 2,343 | 11,818 | 12,496 | 678 | .. | 6,233 | 4,849 | .. | 1,384 | 1,110 | | | |
| Laidley | 3,092 | 20,898 | 19,844 | .. | 1,054 | 75 | 63 | .. | 12 | 3,776 | | | |
| Logan | 1,895 | 16,064 | 16,708 | 644 | .. | 187 | 361 | 174 | .. | 1,471 | | | |
| Longreach | 5,285 | 13,478 | 15,318 | 1,840 | .. | 1,719,228 | 1,651,918 | .. | 67,310 | 140 | | | |
| Lowood | 1,891 | 18,835 | 18,048 | .. | 787 | 83 | 45 | .. | 38 | 3,183 | | | |
| Mackay | 20,616 | 125,175 | 128,927 | 3,752 | .. | 1,904 | 1,701 | .. | 203 | 1,170 | | | |
| Marburg | 1,358 | 8,996 | 8,479 | .. | 517 | 47 | .. | .. | 47 | 2,804 | | | |
| Maroochy | 2,842 | 41,644 | 43,938 | 2,294 | .. | 458 | 404 | .. | 54 | 4,608 | | | |
| Maryborough | 3,974 | 24,483 | 25,568 | 1,085 | .. | 810 | 593 | .. | 217 | 833 | | | |
| Mitchell | 5,656 | 62,450 | 63,738 | 1,288 | .. | 488,404 | 484,966 | .. | 3,438 | 101 | | | |
| Mount Isa | 243 | 805 | 485 | .. | 320 | .. | .. | .. | .. | 50 | | | |
| Mount Morgan | 6,293 | 73,789 | 74,602 | 813 | .. | 1,560 | 1,528 | .. | 32 | 1,091 | | | |
| Mount Perry | 1,491 | 38,672 | 35,418 | .. | 3,254 | 36 | 26 | .. | 10 | 27 | | | |
| Muttaburra | 2,540 | 9,128 | 10,140 | 1,012 | .. | 982,902 | 944,916 | .. | 37,986 | 1 | | | |
| Nanango | 10,536 | 121,857 | 115,377 | .. | 6,480 | 2,519 | 1,888 | .. | 631 | 19,060 | | | |
| Norman | 6,428 | 200,064 | 195,165 | .. | 4,899 | 4,765 | 5,816 | 1,051 | .. | 1 | | | |
| Pittsworth | 5,936 | 38,090 | 39,368 | 1,278 | .. | 187,393 | 175,679 | .. | 11,714 | 7,413 | | | |
| Proserpine | 3,476 | 10,993 | 12,333 | 1,340 | .. | 1,684 | 1,714 | 30 | .. | 106 | | | |

Table No. XXVIII.—continued.

RETURN SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, AND SWINE, IN THE VARIOUS PETTY SESSIONS DISTRICTS OF THE STATE, TOGETHER WITH THE INCREASE OR DECREASE OF CATTLE AND SHEEP ON 31ST DECEMBER, 1932.

| Petty Sessions District. | HORSES. | CATTLE. | | | | SHEEP. | | | | SWINE. | |
|-----------------------------------|---------|---------|------------|---------|-----------|-----------|------------|-----------|-----------|---------|-----------|
| | | 1932. | 1931. | 1932. | 1932. | | 1931. | 1932. | 1932. | | |
| | | | | | Increase. | Decrease. | | | Increase. | | Decrease. |
| Quilpie | 2,713 | 5,617 | 36,017 | 30,400 | .. | 267,671 | 612,750 | 345,079 | .. | 51 | |
| Ravenswood | 1,225 | 15,564 | 15,627 | 63 | .. | .. | .. | .. | .. | 48 | |
| Redcliffe | 1,684 | 19,827 | 19,472 | .. | 355 | 433 | 359 | .. | 74 | 888 | |
| Richmond | 5,422 | 62,850 | 48,126 | .. | 14,724 | 1,136,330 | 706,968 | .. | 429,362 | .. | |
| Rockhampton | 14,928 | 331,929 | 335,674 | 3,745 | .. | 24,015 | 23,952 | .. | 63 | 3,099 | |
| Roma | 7,473 | 66,344 | 72,058 | 5,714 | .. | 452,066 | 507,632 | 55,566 | .. | 698 | |
| Rosewood | 2,401 | 24,805 | 24,144 | .. | 661 | 2,268 | 561 | .. | 1,707 | 3,592 | |
| St. George | 4,573 | 17,394 | 16,034 | .. | 1,360 | 1,198,812 | 1,206,038 | 7,226 | .. | 121 | |
| St. Lawrence | 4,219 | 107,194 | 113,091 | 5,897 | .. | 1,367 | 1,411 | 44 | .. | 50 | |
| Somerset | 276 | 976 | 1,004 | 28 | .. | .. | .. | .. | .. | 34 | |
| Southport | 2,085 | 36,300 | 37,641 | 1,341 | .. | 392 | 365 | .. | .. | 4,209 | |
| Springure | 5,561 | 83,114 | 80,619 | .. | 2,495 | 279,787 | 253,574 | .. | 26,213 | 68 | |
| Stanthorpe | 1,716 | 9,913 | 10,539 | 626 | .. | 284,470 | 270,837 | .. | 13,633 | 215 | |
| Surat | 1,814 | 16,226 | 15,601 | .. | 625 | 534,351 | 506,722 | .. | 27,629 | 29 | |
| Tambo | 2,291 | 15,049 | 16,675 | 1,626 | .. | 540,098 | 544,436 | 4,338 | .. | 7 | |
| Taroom | 3,544 | 113,363 | 114,575 | 1,212 | .. | 25,705 | 26,776 | 1,071 | .. | 88 | |
| Texas | 1,155 | 8,879 | 10,428 | 1,549 | .. | 117,223 | 107,599 | .. | 9,624 | 138 | |
| Thargomindah | 2,361 | 78,500 | 50,434 | .. | 28,066 | 244,515 | 31,120 | .. | 213,395 | 13 | |
| Tiaro | 3,224 | 55,736 | 54,680 | .. | 1,056 | 620 | 480 | .. | 140 | 1,492 | |
| Toogoolawah | 3,509 | 56,154 | 57,162 | 1,008 | .. | 637 | 489 | .. | 148 | 4,961 | |
| Townsville | 3,014 | 24,838 | 25,147 | 309 | .. | 349 | 1,758 | 1,409 | .. | 988 | |
| Warwick | 7,982 | 45,315 | 50,011 | 4,696 | .. | 252,144 | 241,893 | .. | 10,251 | 4,350 | |
| Wienholt | 9,644 | 140,671 | 141,032 | 361 | .. | 1,722 | 1,441 | .. | 281 | 17,556 | |
| Windorah | 2,804 | 27,429 | 34,740 | 7,311 | .. | 216,458 | 212,071 | .. | 4,387 | 11 | |
| Winton | 5,232 | 21,397 | 31,980 | 10,583 | .. | 1,439,962 | 1,243,908 | .. | 196,054 | 32 | |
| Woodford | 1,451 | 25,112 | 24,516 | .. | 596 | 491 | 270 | .. | 221 | 2,393 | |
| Wynnum | 432 | 1,676 | 1,814 | 138 | .. | 3 | 4 | 1 | .. | 60 | |
| Yeulba | 742 | 7,192 | 8,191 | 999 | .. | 1,809 | 1,851 | 42 | .. | 29 | |
| Total in State, 1932 | 452,486 | .. | *5,535,065 | 190,796 | 206,130 | .. | 21,312,865 | 1,213,926 | 2,225,339 | 213,249 | |
| Total in State, 1931 | 469,474 | .. | †5,550,399 | .. | .. | .. | 22,324,278 | .. | .. | 222,686 | |
| Increase, 1932 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 9,437 | |
| Decrease, 1932 | 16,988 | .. | .. | 15,334 | .. | .. | .. | 1,011,413 | .. | .. | |
| Centesimal Increase, 1932 | .. | .. | .. | 0.28 | .. | .. | .. | 4.53 | .. | 4.24 | |
| Centesimal Decrease, 1932 | 3.62 | .. | .. | .. | .. | .. | .. | .. | .. | .. | |

* Including 792,943 Dairy Cattle.

† Including 775,301 Dairy Cattle.

NOTE.—Totals of Adavale, Blackall, Bollon, Charleville, Cunnamulla, Diamantina, Eulo, Hungerford, Isisford, Jundah, Quilpie, Tambo, Thargomindah, and Windorah are comparable only as a whole, owing to alterations in the internal boundaries of these districts.

Table No. XXIX.

RETURN SHOWING NUMBER OF CALVES RETURNED AS BRANDED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEARS 1931 AND 1932, THE CENTESIMAL INCREASE OR DECREASE, ALSO THE NUMBER OF CATTLE AND SHEEP KILLED FOR FARM OR STATION USE DURING THE LATTER YEAR.

| Petty Sessions District. | Male. | | | Female. | | | Cattle Killed. | Sheep Killed. |
|--------------------------------|--------|--------|-----------------------|---------|--------|-----------------------|----------------|---------------|
| | 1931. | 1932. | Increase or Decrease. | 1931. | 1932. | Increase or Decrease. | 1932. | 1932. |
| Adavale | 813 | 449 | - 44.77 | 715 | 417 | - 41.68 | 105 | 2,455 |
| Allora | 762 | 1,060 | 39.11 | 881 | 1,172 | 33.03 | 46 | 325 |
| Alpha | 5,427 | 5,378 | - 0.90 | 5,617 | 5,490 | - 2.26 | 252 | 2,633 |
| Aramac | 231 | 319 | 38.10 | 245 | 315 | 28.57 | 34 | 3,518 |
| Atherton | 1,098 | 928 | - 15.48 | 4,411 | 4,115 | - 6.71 | 88 | 20 |
| Augathella.. .. . | 3,210 | 3,727 | 16.11 | 3,228 | 3,722 | 15.30 | 233 | 4,092 |
| Ayr | 2,945 | 2,452 | - 16.74 | 2,896 | 2,448 | - 15.47 | 104 | .. |
| Banana | 6,924 | 4,510 | - 34.86 | 6,887 | 4,559 | - 33.80 | 317 | .. |
| Barcaldine | 500 | 399 | - 20.20 | 561 | 347 | - 38.15 | 27 | 6,201 |
| Beaudesert | 3,653 | 2,622 | - 28.22 | 6,779 | 6,401 | - 5.58 | 178 | 250 |
| Biggenden | 2,770 | 1,786 | - 35.52 | 4,930 | 4,377 | - 11.22 | 155 | 40 |
| Blackall | 702 | 1,220 | 73.79 | 694 | 1,139 | 64.12 | 94 | 10,840 |
| Bollon | 1,363 | 920 | - 32.50 | 1,284 | 929 | - 27.65 | 143 | 5,753 |
| Boulia | 1,399 | 2,079 | 48.61 | 1,400 | 2,141 | 52.93 | 240 | 1,710 |
| Bowen | 2,049 | 1,818 | - 11.27 | 2,036 | 1,823 | - 10.46 | 192 | .. |
| Brisbane | 172 | 96 | - 44.19 | 1,507 | 1,476 | - 2.06 | 16 | 10 |
| Bundaberg | 3,140 | 2,606 | - 17.01 | 4,720 | 4,300 | - 8.90 | 411 | 277 |
| Burke | 12,142 | 10,950 | - 9.82 | 11,952 | 11,165 | - 6.58 | 633 | 387 |
| Caboolture.. .. . | 168 | 135 | - 19.64 | 894 | 907 | 1.45 | 33 | 14 |
| Cairns | 161 | 140 | - 13.04 | 198 | 206 | 4.04 | 36 | .. |
| Camooeal | 6,344 | 6,951 | 9.57 | 6,255 | 6,804 | 8.78 | 377 | 130 |
| Cape River | 8,968 | 6,358 | - 29.10 | 8,935 | 6,496 | - 27.30 | 443 | 13 |
| Cardwell | 617 | 474 | - 23.18 | 558 | 399 | - 28.49 | 45 | .. |
| Charleville | 2,088 | 1,993 | - 4.55 | 2,059 | 1,938 | - 5.88 | 296 | 12,429 |
| Charters Towers | 14,880 | 11,311 | - 23.99 | 14,853 | 10,913 | - 26.53 | 857 | 39 |
| Childers | 1,147 | 894 | - 22.06 | 1,233 | 1,130 | - 8.35 | 48 | .. |
| Chillagoe | 4,017 | 4,185 | 4.18 | 4,022 | 4,314 | 7.26 | 234 | .. |
| Chinchilla | 3,869 | 3,905 | 0.93 | 3,947 | 4,316 | 9.35 | 115 | 389 |
| Clermont | 11,720 | 10,484 | - 10.55 | 11,531 | 10,205 | - 11.50 | 837 | 7,225 |
| Cleveland | 16 | 10 | - 37.50 | 77 | 86 | 11.69 | .. | .. |
| Clifton | 1,326 | 1,163 | - 12.29 | 2,063 | 1,942 | - 5.87 | 84 | 1,053 |
| Cloncurry | 27,699 | 24,579 | - 11.26 | 28,093 | 24,657 | - 12.23 | 1,187 | 7,707 |
| Coen | 2,281 | 2,159 | - 5.35 | 2,247 | 2,181 | - 2.94 | 221 | .. |
| Collinsville.. .. . | 8,637 | 10,053 | 16.39 | 8,505 | 10,105 | 18.81 | 426 | .. |
| Condamine | 6,041 | 6,060 | 0.31 | 5,837 | 6,308 | 8.07 | 469 | 1,300 |
| Cook | 10,382 | 8,606 | - 17.11 | 10,071 | 8,998 | - 10.65 | 238 | .. |
| Cooyar | 1,009 | .. | .. | 1,155 | .. | .. | .. | .. |
| Goombungee } Oakey | 507 | 3,549 | - 20.82 | 1,107 | 7,161 | - 7.30 | 442 | 2,934 |
| Jondaryan } | 867 | .. | .. | 1,010 | .. | .. | .. | .. |
| Oakey } | 2,099 | .. | .. | 4,453 | .. | .. | .. | .. |
| Crow's Nest | 1,602 | 1,158 | - 27.72 | 2,410 | 2,452 | 1.74 | 117 | 24 |
| Croydon | 2,505 | 2,179 | - 13.01 | 2,464 | 2,273 | - 7.75 | 132 | .. |
| Cunnamulla | 1,105 | 1,919 | 73.67 | 997 | 1,957 | 96.29 | 75 | 14,929 |
| Dalby | 10,377 | 10,328 | - 0.47 | 12,593 | 13,217 | 4.96 | 425 | 9,716 |
| Diamantina | 2,657 | 2,035 | - 23.41 | 2,435 | 1,811 | - 25.63 | 156 | .. |
| Douglas | 110 | 154 | 40.00 | 251 | 277 | 10.36 | .. | .. |
| Dugandan | 1,969 | 1,518 | - 22.91 | 3,446 | 3,128 | - 9.23 | 83 | 9 |
| Eidsvold } Eidsvold | 7,127 | 4,380 | .. | 7,755 | 5,087 | .. | 258 | 62 |
| } Gladstone | 14,545 | 9,083 | - 22.98 | 17,992 | 12,138 | - 13.37 | 517 | 74 |
| Gladstone } Monto | .. | 3,229 | .. | .. | 5,079 | .. | 368 | 78 |
| Emerald | 5,144 | 4,447 | - 13.55 | 5,361 | 4,513 | - 15.82 | 237 | 2,444 |
| Esk | 1,686 | 1,349 | - 19.99 | 1,926 | 1,924 | - 0.10 | 89 | 124 |
| Etheridge | 20,870 | 20,426 | - 2.13 | 20,660 | 20,490 | - 0.82 | 968 | .. |
| Eulo | 184 | 563 | 205.98 | 192 | 584 | 204.17 | 39 | 2,281 |
| Gatton | 1,648 | 1,302 | - 21.00 | 2,318 | 1,718 | - 25.88 | 105 | 43 |
| Gayndah | 9,862 | 8,812 | - 10.65 | 12,956 | 10,258 | - 20.82 | 630 | 101 |
| Gin Gin | 5,038 | 4,275 | - 15.14 | 5,318 | 4,747 | - 10.74 | 307 | 21 |
| Goodna | 94 | 89 | - 5.32 | 200 | 200 | .. | 1 | .. |
| Goondiwindi | 3,624 | 6,117 | 68.79 | 3,503 | 6,351 | 81.30 | 175 | 9,484 |
| Gympie | 2,073 | 1,628 | - 21.47 | 10,187 | 10,636 | 4.41 | 216 | 49 |
| Harrisville | 1,035 | 784 | - 24.25 | 1,864 | 1,727 | - 7.35 | 68 | .. |
| Helidon | 758 | .. | .. | 1,288 | .. | .. | .. | .. |
| Highfields } Toowoomba | 383 | 1,690 | - 18.40 | 1,013 | 4,025 | - 5.12 | 34 | 296 |
| Toowoomba } | 930 | .. | .. | 1,941 | .. | .. | .. | .. |
| Herberton | 6,322 | 5,179 | - 18.08 | 6,551 | 5,558 | - 15.16 | 396 | 20 |
| Hughenden | 4,835 | 5,195 | 7.45 | 4,776 | 4,924 | 3.10 | 284 | 6,328 |
| Hungerford | 346 | 330 | - 4.62 | 344 | 307 | - 10.76 | 49 | 1,535 |
| Ingham | 3,466 | 3,099 | - 10.59 | 3,449 | 3,074 | - 10.87 | 122 | .. |
| Inglewood | 2,718 | 2,768 | 1.84 | 2,805 | 3,099 | 10.48 | 208 | 5,255 |
| Innisfail | 153 | 235 | 53.59 | 143 | 259 | 81.12 | 8 | .. |
| Ipswich | 579 | 497 | - 14.16 | 1,198 | 1,326 | 10.68 | 9 | 23 |
| Isisford | 769 | 968 | 25.88 | 717 | 1,019 | 42.12 | 65 | 7,916 |
| Julia Creek | 7,863 | 6,164 | - 21.61 | 7,802 | 6,579 | - 15.68 | 292 | 5,854 |
| Jundah | 379 | 1,585 | 318.21 | 387 | 1,619 | 318.35 | 152 | 3,390 |

Table No. XXIX.—continued.

RETURN SHOWING NUMBER OF CALVES RETURNED AS BRANDED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEARS 1931 AND 1932, THE CENTESIMAL INCREASE OR DECREASE, ALSO THE NUMBER OF CATTLE AND SHEEP KILLED FOR FARM OR STATION USE DURING THE LATTER YEAR.

| Petty Sessions District. | Male. | | | Female. | | | Cattle Killed. 1932. | Sheep Killed. 1932. |
|--------------------------|---------|---------|-----------------------|---------|---------|-----------------------|-------------------------|------------------------|
| | 1931. | 1932. | Increase or Decrease. | 1931. | 1932. | Increase or Decrease. | | |
| Kilcoy | 673 | 410 | - 39.08 | 1,578 | 1,406 | - 10.90 | 22 | .. |
| Kilkivan | 1,337 | 1,040 | - 22.21 | 1,922 | 1,657 | - 13.79 | 54 | 5 |
| Killarney | 880 | 926 | 5.23 | 1,190 | 1,256 | 5.55 | 72 | 142 |
| Laidley | 890 | 645 | - 27.53 | 1,270 | 1,162 | - 8.50 | 71 | .. |
| Logan | 126 | 122 | - 3.17 | 1,228 | 1,247 | 1.55 | 10 | 11 |
| Longreach | 1,554 | 1,989 | 27.99 | 1,588 | 1,991 | 25.38 | 129 | 16,976 |
| Lowood | 575 | 610 | 6.09 | 832 | 932 | 12.02 | 48 | .. |
| Mackay | 11,758 | 10,707 | - 8.94 | 12,078 | 11,390 | - 5.70 | 433 | 59 |
| Marburg | 110 | 138 | 25.45 | 562 | 509 | - 9.43 | 29 | .. |
| Maroochy | 561 | 432 | - 22.99 | 3,639 | 3,654 | 0.41 | 27 | .. |
| Maryborough | 1,127 | 964 | - 14.46 | 2,054 | 2,105 | 2.48 | 81 | .. |
| Mitchell | 7,573 | 8,511 | 12.39 | 7,669 | 8,618 | 12.37 | 485 | 7,802 |
| Mount Isa | 80 | 50 | - 37.50 | 85 | 40 | - 52.94 | 12 | .. |
| Mount Morgan | 5,450 | 5,384 | - 1.21 | 6,749 | 7,117 | 5.45 | 489 | 64 |
| Mount Perry | 3,820 | 2,953 | - 22.70 | 3,717 | 3,011 | - 18.99 | 190 | .. |
| Muttaburra | 687 | 986 | 43.52 | 674 | 963 | 42.88 | 103 | 10,331 |
| Nanango | 7,425 | 5,912 | - 20.38 | 11,071 | 10,469 | - 5.44 | 537 | 63 |
| Norman | 23,859 | 21,208 | - 11.11 | 24,119 | 21,472 | - 10.97 | 916 | 57 |
| Pittsworth | 2,147 | 2,026 | - 5.64 | 3,470 | 3,688 | 6.28 | 56 | 4,228 |
| Proserpine | 1,136 | 1,234 | 8.63 | 1,230 | 1,338 | 8.78 | 52 | 29 |
| Quilpie | 835 | 3,944 | 372.34 | 812 | 3,743 | 360.96 | 254 | 6,953 |
| Ravenswood | 2,199 | 1,884 | - 14.32 | 2,015 | 1,854 | - 7.99 | 71 | .. |
| Redcliffe | 238 | 76 | - 68.07 | 1,599 | 1,116 | - 30.21 | 2 | 14 |
| Richmond | 5,953 | 4,427 | - 25.63 | 5,901 | 4,493 | - 23.86 | 333 | 9,211 |
| Rockhampton | 33,823 | 29,650 | - 12.34 | 35,629 | 32,171 | - 9.71 | 1,555 | 574 |
| Roma | 8,246 | 8,669 | 5.13 | 8,302 | 9,029 | 8.76 | 627 | 8,142 |
| Rosewood | 916 | 650 | - 29.04 | 1,490 | 1,725 | 15.77 | 30 | 35 |
| St. George | 1,572 | 1,608 | 2.29 | 1,519 | 1,684 | 10.86 | 185 | 20,904 |
| St. Lawrence | 12,557 | 11,763 | - 6.32 | 12,574 | 11,761 | - 6.47 | 518 | 56 |
| Somerset | 78 | 90 | 15.38 | 65 | 76 | 16.92 | .. | .. |
| Southport | 779 | 446 | - 42.75 | 3,216 | 3,211 | - 0.16 | 45 | 21 |
| Springsure | 9,030 | 9,417 | 4.29 | 9,060 | 9,348 | 3.18 | 427 | 3,081 |
| Stanthorpe | 785 | 892 | 13.63 | 760 | 851 | 11.97 | 66 | 3,223 |
| Surat | 2,112 | 1,812 | - 14.20 | 1,939 | 1,890 | - 2.53 | 201 | 7,211 |
| Tambo | 1,703 | 2,089 | 22.67 | 1,642 | 1,985 | 20.89 | 138 | 7,021 |
| Taroom | 14,200 | 12,760 | - 10.14 | 14,064 | 12,827 | - 8.80 | 910 | 477 |
| Texas | 772 | 1,123 | 45.47 | 756 | 1,083 | 43.25 | 57 | 1,756 |
| Thargomindah | 6,591 | 4,114 | - 37.58 | 6,370 | 4,053 | - 36.37 | 626 | 154 |
| Tiaro | 3,794 | 2,890 | - 23.83 | 5,318 | 5,019 | - 5.62 | 241 | 14 |
| Toogoolawah | 2,870 | 2,621 | - 8.68 | 4,108 | 3,965 | - 3.48 | 181 | 40 |
| Townsville | 2,546 | 2,246 | - 11.78 | 2,467 | 2,326 | - 5.72 | 81 | 8 |
| Warwick | 4,128 | 4,497 | 8.94 | 4,772 | 5,294 | 10.94 | 259 | 4,523 |
| Wienholt | 7,399 | 7,099 | - 4.05 | 12,353 | 12,699 | 2.80 | 561 | 95 |
| Windorah | 3,192 | 3,657 | 14.57 | 3,063 | 3,428 | 11.92 | 321 | 2,242 |
| Winton | 2,445 | 3,610 | 47.65 | 2,408 | 3,629 | 50.71 | 896 | 11,474 |
| Woodford | 865 | 456 | - 47.28 | 2,321 | 2,215 | - 4.57 | 69 | 4 |
| Wynnum | 4 | 4 | .. | 85 | 93 | 9.41 | .. | .. |
| Yeulba | 849 | 983 | 15.78 | 830 | 901 | 8.55 | 80 | 76 |
| Totals | 489,148 | 449,537 | - 8.10 | 559,251 | 534,252 | - 4.47 | 28,791 | 268,876 |

— Decrease.

NOTE.—Totals of Adavale, Blackall, Bollon, Charleville, Cunnamulla, Diamantina, Eulo, Hungerford, Isisford, Jundah, Quilpie, Tambo, Thargomindah, and Windorah are comparable only as a whole, owing to alterations in the internal boundaries of these districts.

Table No. XXX.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF CATTLE AND SHEEP KILLED IN THE STATE FOR FARM OR STATION USE, ALSO THE CENTESIMAL INCREASE OR DECREASE. For details for 1932, see Table XXIX.

| Year ended 31st December. | Cattle. | Increase or Decrease. | Sheep. | Increase or Decrease. |
|---------------------------|---------|-----------------------|---------|-----------------------|
| 1923 | .. | .. | 211,506 | - 9.17 |
| 1924 | .. | .. | 180,298 | - 4.76 |
| 1925 | *44,721 | .. | 186,133 | 3.24 |
| 1926 | 38,617 | - 13.65 | 193,542 | 3.98 |
| 1927 | 35,885 | - 7.07 | 193,629 | 0.04 |
| 1928 | 32,068 | - 10.64 | 197,845 | 2.18 |
| 1929 | 28,194 | - 12.08 | 229,329 | 15.91 |
| 1930 | 24,802 | - 12.03 | 259,586 | 13.19 |
| 1931 | 26,857 | 8.29 | 268,541 | 3.45 |
| 1932 | 28,791 | 7.20 | 268,876 | 1.25 |

* First year collected.

— Decrease.

Table No. XXXI.
RETURN FOR TEN YEARS SHOWING THE NUMBER OF CALVES RETURNED AS BRANDED IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE.

| Year ended 31st December. | BURKE. | | BURNETT. | | COOK. | | DARLING DOWNS. | | GREGORY NORTH. | | GREGORY SOUTH. | | LEICHHARDT. | | MARANO. | |
|---------------------------|-----------|---------|----------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|-------------|---------|---------|---------|
| | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. |
| 1923 | 84,281 | 85,855 | 27,217 | 35,569 | 40,333 | 41,816 | 34,352 | 40,748 | 29,211 | 28,492 | 17,156 | 17,041 | 68,561 | 69,602 | 22,897 | 23,125 |
| 1924 | 86,185 | 88,123 | 27,832 | 36,508 | 41,245 | 42,920 | 35,128 | 41,824 | 29,870 | 29,245 | 17,544 | 17,491 | 70,110 | 71,441 | 23,414 | 23,736 |
| 1925 | 103,862 | 105,081 | 33,540 | 43,534 | 49,704 | 51,180 | 42,333 | 49,873 | 35,997 | 34,873 | 21,142 | 20,857 | 84,490 | 85,189 | 28,216 | 28,304 |
| 1926 | 53,808 | 54,364 | 27,965 | 36,879 | 42,088 | 43,275 | 31,968 | 37,972 | 16,771 | 17,400 | 15,812 | 16,332 | 53,921 | 53,611 | 22,966 | 22,900 |
| 1927 | 57,957 | 58,682 | 31,635 | 40,062 | 40,746 | 42,888 | 28,374 | 34,813 | 8,684 | 9,299 | 10,816 | 11,022 | 42,804 | 43,503 | 18,010 | 17,843 |
| 1928 | 67,279 | 67,954 | 35,508 | 47,385 | 54,459 | 55,892 | 35,612 | 43,770 | 1,535 | 1,552 | 12,676 | 12,870 | 66,044 | 65,327 | 16,660 | 16,514 |
| 1929 | 73,733 | 76,538 | 37,483 | 49,664 | 49,074 | 51,864 | 38,616 | 46,373 | 2,826 | 2,828 | 6,183 | 5,819 | 67,980 | 67,752 | 18,052 | 17,758 |
| 1930 | 69,158 | 68,250 | 41,851 | 54,769 | 52,893 | 55,761 | 40,859 | 48,230 | 7,318 | 7,482 | 5,669 | 5,566 | 79,533 | 80,083 | 18,128 | 17,545 |
| 1931 | 72,541 | 72,645 | 39,334 | 54,239 | 52,572 | 55,490 | 42,215 | 52,101 | 11,092 | 11,157 | 7,917 | 7,295 | 75,063 | 75,376 | 18,016 | 17,825 |
| 1932 | 63,072 | 63,691 | 32,830 | 48,809 | 48,969 | 53,136 | 44,526 | 57,120 | 14,596 | 14,336 | 9,527 | 9,042 | 65,958 | 66,764 | 18,508 | 18,902 |
| Year ended 31st December. | MITCHELL. | | MORETON. | | NORTH KENNEDY. | | PORT CURTIS. | | SOUTH KENNEDY. | | WARREGO. | | WIDE BAY. | | TOTAL. | |
| | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. | Male. | Female. |
| 1923 | 16,373 | 16,504 | 16,533 | 29,302 | 45,459 | 45,454 | 27,430 | 31,143 | 36,521 | 36,503 | 18,945 | 19,560 | 11,843 | 19,169 | 497,112 | 539,883 |
| 1924 | 16,743 | 16,940 | 16,906 | 30,076 | 46,485 | 46,655 | 28,050 | 31,966 | 37,346 | 37,467 | 19,373 | 20,077 | 12,111 | 19,676 | 508,342 | 554,145 |
| 1925 | 20,177 | 20,200 | 20,374 | 35,864 | 56,020 | 55,633 | 33,803 | 38,117 | 45,006 | 44,677 | 23,347 | 23,940 | 14,595 | 23,462 | 612,606 | 660,784 |
| 1926 | 5,777 | 5,585 | 15,882 | 29,238 | 40,764 | 40,754 | 24,059 | 27,737 | 26,388 | 26,163 | 18,207 | 17,681 | 13,266 | 20,422 | 409,702 | 450,373 |
| 1927 | 5,380 | 5,548 | 15,406 | 29,274 | 40,249 | 40,221 | 22,629 | 26,418 | 27,388 | 28,626 | 11,162 | 10,745 | 13,609 | 21,878 | 374,849 | 420,822 |
| 1928 | 7,301 | 7,424 | 20,938 | 37,035 | 53,152 | 53,313 | 32,670 | 37,791 | 36,995 | 36,653 | 12,402 | 12,160 | 15,350 | 25,346 | 468,581 | 520,986 |
| 1929 | 7,770 | 7,623 | 25,466 | 44,262 | 42,155 | 42,180 | 34,860 | 40,399 | 37,650 | 37,355 | 8,997 | 9,147 | 17,161 | 28,986 | 468,006 | 528,548 |
| 1930 | 9,719 | 9,737 | 25,456 | 45,725 | 44,827 | 44,962 | 38,956 | 42,872 | 44,004 | 43,734 | 10,282 | 10,360 | 17,781 | 30,332 | 506,434 | 565,408 |
| 1931 | 7,723 | 7,751 | 23,187 | 45,234 | 45,145 | 45,192 | 38,451 | 44,380 | 27,628 | 27,696 | 10,668 | 10,409 | 17,546 | 32,411 | 489,148 | 559,251 |
| 1932 | 9,337 | 9,322 | 18,354 | 44,632 | 36,957 | 37,186 | 34,265 | 41,769 | 26,915 | 27,286 | 12,078 | 11,967 | 13,645 | 30,290 | 449,537 | 534,252 |

TABLE No. XXXII.
RETURN FOR TEN YEARS SHOWING THE NUMBER OF CATTLE AND SHEEP IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE.

| Year ended 31st Dec. | BURKE. | | BURNETT. | | COOK. | | DARLING DOWNS. | | GREGORY NORTH. | | GREGORY SOUTH. | | LEICHHARDT. | | MARANO. | |
|-------------------------|-----------|-----------|----------|--------|----------------|--------|----------------|-----------|----------------|-----------|----------------|-----------|-------------|-----------|-----------|------------|
| | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. |
| 1923 | 811,024 | 2,385,859 | 469,649 | 4,219 | 518,085 | 210 | 421,869 | 1,066,076 | 322,762 | 1,689,221 | 188,440 | 253,166 | 788,237 | 1,117,746 | 800,785 | 2,075,053 |
| 1924 | 844,987 | 2,654,350 | 467,061 | 5,296 | 502,716 | 695 | 430,626 | 1,478,163 | 330,000 | 1,885,035 | 201,684 | 292,280 | 761,349 | 947,043 | 811,141 | 2,416,984 |
| 1925 | 825,822 | 2,928,780 | 467,086 | 5,263 | 527,624 | 270 | 463,389 | 1,862,217 | 297,335 | 1,964,021 | 176,275 | 286,189 | 761,676 | 979,070 | 273,224 | 2,785,128 |
| 1926 | 685,267 | 1,978,074 | 440,562 | 7,487 | 520,708 | 12,580 | 414,433 | 2,045,745 | 212,735 | 1,086,545 | 135,915 | 344,859 | 568,449 | 840,487 | 235,658 | 3,366,810 |
| 1927 | 640,707 | 2,523,372 | 463,258 | 9,815 | 495,975 | 3,355 | 414,658 | 2,495,527 | 135,913 | 1,054,398 | 152,891 | 292,261 | 533,485 | 1,050,723 | 213,221 | 2,951,182 |
| 1928 | 582,748 | 2,313,118 | 483,320 | 7,762 | 489,935 | 3,042 | 429,716 | 2,637,366 | 58,147 | 702,502 | 112,514 | 221,216 | 562,465 | 1,172,793 | 188,546 | 3,366,073 |
| 1929 | 586,242 | 2,772,704 | 506,443 | 8,161 | 472,041 | 2,506 | 450,071 | 2,945,532 | 65,545 | 1,215,608 | 83,170 | 203,830 | 595,395 | 1,252,201 | 176,690 | 3,542,002 |
| 1930 | 624,489 | 3,118,929 | 547,920 | 7,884 | 480,650 | 1,818 | 469,690 | 2,757,931 | 76,530 | 1,708,231 | 65,443 | 327,585 | 646,023 | 1,264,970 | 167,801 | 3,559,542 |
| 1931 | 612,691 | 3,006,501 | 568,567 | 7,092 | 513,174 | 1,246 | 491,550 | 2,697,272 | 95,671 | 1,963,870 | 87,917 | 409,808 | 656,041 | 931,260 | 164,581 | 3,476,600 |
| 1932 | 553,984 | 2,180,585 | 543,849 | 5,644 | 501,147 | 751 | 509,785 | 2,570,075 | 122,354 | 1,802,425 | 93,710 | 446,819 | 657,561 | 873,221 | 170,335 | 3,606,726 |
| Year ended 31st Dec. | MITCHELL. | | MORETON. | | NORTH KENNEDY. | | PORT CURTIS. | | SOUTH KENNEDY. | | WARREGO. | | WIDE BAY. | | TOTAL. | |
| | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. | Cattle. | Sheep. |
| 1923 | 220,175 | 5,514,654 | 460,539 | 10,849 | 487,222 | 5,999 | 448,096 | 23,788 | 447,363 | 199,051 | 230,701 | 2,401,746 | 330,967 | 8,464 | 6,396,514 | 16,756,101 |
| 1924 | 202,130 | 6,384,802 | 473,197 | 18,047 | 491,309 | 4,069 | 439,046 | 24,671 | 435,105 | 143,657 | 237,541 | 2,765,960 | 326,761 | 7,250 | 6,454,653 | 19,028,252 |
| 1925 | 196,115 | 6,696,458 | 502,658 | 25,257 | 503,296 | 4,528 | 449,203 | 27,462 | 432,297 | 154,642 | 236,587 | 2,938,281 | 319,108 | 5,757 | 6,436,645 | 20,663,323 |
| 1926 | 114,015 | 4,135,681 | 476,828 | 22,022 | 454,412 | 22,214 | 383,711 | 28,040 | 328,545 | 165,182 | 191,168 | 2,799,535 | 302,439 | 5,511 | 5,464,845 | 16,860,772 |
| 1927 | 90,554 | 3,715,045 | 496,342 | 22,133 | 442,700 | 9,928 | 387,349 | 29,320 | 304,395 | 176,627 | 152,377 | 2,303,993 | 301,979 | 4,706 | 5,225,804 | 16,642,385 |
| 1928 | 68,569 | 4,893,564 | 520,775 | 20,190 | 461,951 | 6,589 | 415,192 | 29,830 | 317,997 | 213,677 | 128,118 | 2,915,641 | 308,348 | 5,838 | 5,128,341 | 18,509,201 |
| 1929 | 67,762 | 5,337,072 | 561,463 | 18,097 | 454,220 | 6,718 | 429,675 | 33,206 | 334,775 | 245,928 | 101,148 | 2,735,225 | 323,943 | 5,513 | 5,208,588 | 20,324,303 |
| 1930 | 74,767 | 6,280,786 | 584,841 | 16,145 | 462,832 | 6,950 | 463,750 | 31,701 | 367,446 | 245,222 | 96,445 | 3,208,332 | 335,097 | 6,017 | 5,463,724 | 22,542,043 |
| 1931 | 72,340 | 6,126,561 | 608,304 | 13,396 | 435,463 | 4,195 | 482,234 | 28,083 | 299,127 | 171,189 | 103,682 | 3,481,826 | 359,050 | 5,379 | 5,550,399 | 22,324,278 |
| 1932 | 85,763 | 6,071,563 | 601,566 | 9,968 | 437,422 | 6,140 | 464,323 | 27,439 | 317,989 | 152,443 | 113,281 | 3,554,528 | 351,996 | 4,538 | 5,535,065 | 21,312,865 |

Table No. XXXIII.

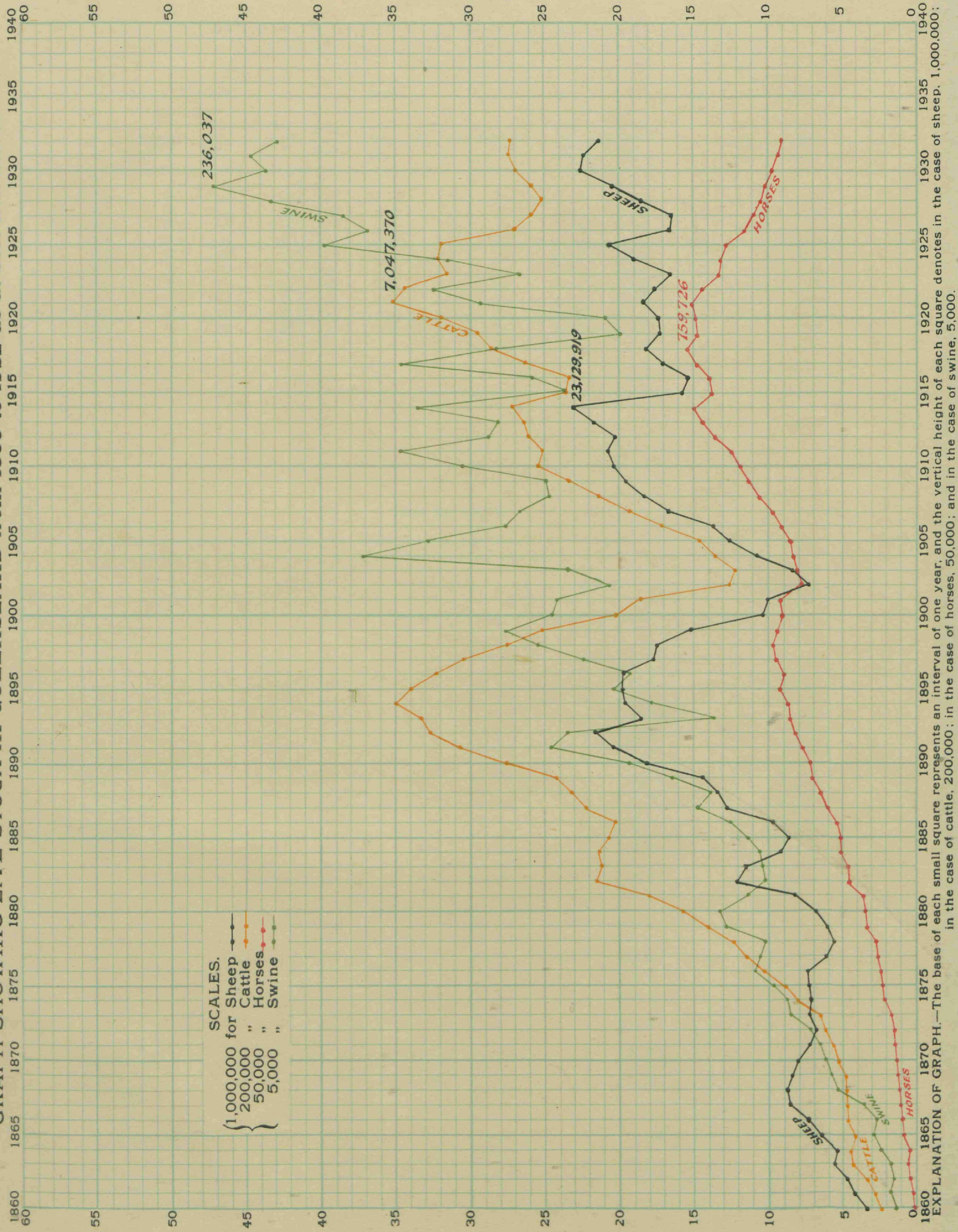
RETURN OF THE NUMBER OF HORSES, CATTLE, SHEEP, AND SWINE IN THE VARIOUS PASTORAL DISTRICTS OF THE STATE AS AT 31ST DECEMBER, 1931 AND 1932, TOGETHER WITH THE NUMERICAL AND CENTESIMAL INCREASE OR DECREASE IN THE LATTER YEAR.

| Pastoral District. | Year. | Horses. | Cattle. | Sheep. | Swine. | Numerical Increase or Decrease — | | | | Centesimal Increase or Decrease — | | | |
|--------------------|-------|---------|---------|-----------|--------|----------------------------------|----------|-----------|---------|-----------------------------------|---------|---------|---------|
| | | | | | | Horses. | Cattle. | Sheep. | Swine. | Horses. | Cattle. | Sheep. | Swine. |
| Burke ... | 1931 | 34,926 | 612,691 | 3,006,501 | 794 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 31,785 | 558,984 | 2,180,585 | 580 | - 3,141 | - 53,707 | - 825,916 | - 214 | - 8.99 | - 8.77 | - 27.47 | 26.95 |
| Burnett ... | 1931 | 36,570 | 568,567 | 7,092 | 45,728 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 35,549 | 548,849 | 5,644 | 42,457 | - 1,021 | - 19,718 | - 1,448 | - 3,271 | - 2.79 | - 3.47 | - 20.42 | 7.15 |
| Cook ... | 1931 | 34,726 | 513,174 | 1,246 | 8,957 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 34,278 | 501,147 | 751 | 6,979 | - 448 | - 12,027 | - 495 | - 1,978 | - 1.29 | - 2.34 | - 39.73 | 22.08 |
| Darling Downs | 1931 | 64,427 | 491,550 | 2,697,272 | 48,940 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 61,140 | 509,785 | 2,570,075 | 49,383 | - 3,287 | 18,235 | - 127,197 | 443 | - 5.10 | 3.71 | - 4.72 | 0.91 |
| Gregory North | 1931 | 10,072 | 95,671 | 1,963,870 | 101 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 10,754 | 122,354 | 1,802,425 | 72 | 682 | 26,683 | - 161,445 | - 29 | 6.77 | 27.89 | - 8.22 | - 28.71 |
| Gregory South | 1931 | 6,052 | 87,917 | 409,808 | 3 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 5,621 | 93,710 | 446,819 | 14 | - 431 | 5,793 | 37,011 | 11 | - 7.12 | 6.59 | 9.03 | 366.67 |
| Leichhardt ... | 1931 | 39,949 | 656,041 | 931,260 | 1,610 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 38,205 | 657,561 | 873,221 | 1,407 | - 1,744 | 1,520 | - 58,039 | - 203 | - 4.37 | 0.23 | - 6.23 | - 12.61 |
| Maranoa ... | 1931 | 21,750 | 164,581 | 3,476,600 | 1,133 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 21,473 | 170,335 | 3,606,726 | 881 | - 277 | 5,754 | 130,126 | - 252 | - 1.27 | 3.50 | 3.74 | - 22.24 |
| Mitchell ... | 1931 | 24,063 | 72,340 | 6,126,561 | 553 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 23,217 | 85,763 | 6,071,563 | 534 | - 846 | 13,423 | - 54,998 | - 19 | - 3.52 | 18.56 | - 0.90 | - 3.44 |
| Moreton ... | 1931 | 56,807 | 608,304 | 13,396 | 84,004 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 56,668 | 601,566 | 9,968 | 82,356 | - 139 | - 6,738 | - 3,428 | - 1,648 | - 0.24 | - 1.11 | - 25.59 | - 1.96 |
| North Kennedy | 1931 | 47,150 | 435,463 | 4,195 | 4,070 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 45,669 | 437,422 | 6,140 | 3,775 | - 1,481 | 1,959 | 1,945 | - 295 | - 3.14 | 0.45 | 46.36 | - 7.25 |
| Port Curtis ... | 1931 | 27,845 | 482,234 | 28,083 | 5,875 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 26,636 | 464,323 | 27,439 | 5,351 | - 1,209 | - 17,911 | - 644 | - 524 | - 4.34 | - 3.71 | - 2.29 | - 8.92 |
| South Kennedy | 1931 | 22,995 | 299,127 | 171,189 | 1,168 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 21,729 | 317,989 | 152,443 | 1,101 | - 1,266 | 18,862 | - 18,746 | - 67 | - 5.51 | 6.31 | - 10.95 | - 5.74 |
| Warrego ... | 1931 | 14,603 | 103,689 | 3,481,826 | 417 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 13,543 | 113,281 | 3,554,528 | 274 | - 1,060 | 9,592 | 72,702 | - 143 | - 7.26 | 9.25 | 2.09 | - 34.29 |
| Wide Bay ... | 1931 | 27,539 | 359,050 | 5,379 | 19,333 | ... | ... | ... | ... | ... | ... | ... | ... |
| | 1932 | 26,219 | 351,996 | 4,538 | 18,085 | - 1,320 | - 7,054 | - 841 | - 1,248 | - 4.79 | - 1.96 | - 15.63 | - 6.46 |

Pastoral and Petty Sessions Districts.

| Pastoral District. | Petty Sessions District. | Pastoral District. | Petty Sessions District. | Pastoral District. | Petty Sessions District. | Pastoral District. | Petty Sessions District. |
|--------------------|--|--|--|--|---|--|--|
| Burke ... | Burke Camooweal Mt. Isa Richmond Cloncurry, part of Croydon, part of Hughenden, part of Julia Creek, part of Norman, part of | Darling Downs —contd. | Pittsworth Stanthorpe Texas Warwick Crow's Nest, part of Oakey, part of Toowoomba, part of Boulia Winton | Mitchell —contd. | Isisford Longreach Alpha, part of Blackall, part of Hughenden, part of Jundah, part of Muttaborra, part of Tambo, part of | North Kennedy —contd. | Proserpine Ravenswood Townsville Cape River, part of Collinsville, part of Herberton, part of |
| | Burnett | | Eidsvold Gayndah Monto Mount Perry Wienholt Biggenden, part of Gin Gin, part of Nanango, part of | | Gregory North Cloncurry, part of Diamantina, part of Julia Creek, part of Jundah, part of Windorah, part of Adavale, part of Diamantina, part of Quilpie, part of Thargomindah, part of Windorah, part of | | Beaudesert Brisbane Caboolture Cleveland Dugandan Esk Gatton Goodna Harrisville Ipswich Kilcoy Laidley Logan | Port Curtis Gladstone Bundaberg, part of Mackay, part of Mount Morgan, part of Rockhampton, part of St. Lawrence, part of Alpha, part of Cape River, part of Clermont, part of Collinsville, part of Mackay, part of Muttaborra, part of |
| Cook ... | | Atherton Cairns Chillagoe Coen Cook Douglas Etheridge Innisfail Somerset Croydon, part of Herberton, part of Norman, part of Allora Chinchilla Clifton | Leichhardt | Banana Emerald Springsure Taroom Clermont, part of Mackay, part of Mount Morgan, part of Rockhampton, part of Roma, part of St. Lawrence, part of | Moreton | Marburg Rosewood Redcliffe Southport Toogoolawah Wynnum Crow's Nest, part of Maroochy, part of Nanango, part of Oakey, part of Toowoomba, part of Woodford, part of | Warrego | Augathella Eulo Hungerford Adavale, part of Blackall, part of Charleville, part of Cunnamulla, part of Quilpie, part of Tambo, part of Thargomindah, part of Childers Gympie Kilkivan Maryborough |
| | Darling Downs | Condamine Dalby Goondiwindi Inglewood Killarney | | Maranoa Charleville, part of Cunnamulla, part of Roma, part of | | North Kennedy Bowen Cardwell Charters Towers Ingham |  | Wide Bay Tiaro Biggenden, part of Bundaberg, part of Gin Gin, part of Maroochy, part of Woodford, part of |
| | | | Mitchell | Barcaldine | | | |

GRAPH SHOWING LIVE STOCK IN QUEENSLAND from 1860 to 1932 as at 31st December.



SCALES.
 { 1,000,000 for Sheep
 200,000 " Cattle
 50,000 " Horses
 5,000 " Swine

EXPLANATION OF GRAPH.—The base of each small square represents an interval of one year, and the vertical height of each square denotes in the case of sheep, 1,000,000; in the case of cattle, 200,000; in the case of horses, 50,000; and in the case of swine, 5,000.

Table No. XXXIV.

RETURN FOR TEN YEARS SHOWING THE DENSITY OF LIVE STOCK IN THE STATE.
(In Converting Horses and Cattle to terms of Sheep, Ten Head of Sheep are taken as Equal to One Horse or Head of Cattle.)

| Year. | HORSES. | | | CATTLE. | | | SHEEP. | | | ALL KINDS IN TERMS OF SHEEP. | | |
|---------|-----------------|-------------------------|-------------------------------|-----------------|-------------------------|-------------------------------|-----------------|-------------------------|-------------------------------|------------------------------|-------------------------|-------------------------------|
| | Acres per Head. | Number per Square Mile. | Number per Capita Population. | Acres per Head. | Number per Square Mile. | Number per Capita Population. | Acres per Head. | Number per Square Mile. | Number per Capita Population. | Acres per Head. | Number per Square Mile. | Number per Capita Population. |
| 1923... | 649 | 0.99 | 0.82 | 67 | 19.54 | 7.89 | 26 | 24.99 | 20.66 | 4.91 | 130.26 | 107.67 |
| 1924... | 650 | 0.98 | 0.79 | 66 | 9.63 | 7.73 | 23 | 28.38 | 22.79 | 4.76 | 134.49 | 108.01 |
| 1925... | 672 | 0.95 | 0.74 | 67 | 9.60 | 7.47 | 21 | 30.82 | 23.99 | 4.69 | 136.34 | 106.15 |
| 1926... | 751 | 0.85 | 0.65 | 79 | 8.15 | 6.19 | 25 | 25.15 | 19.11 | 5.56 | 115.18 | 87.54 |
| 1927... | 783 | 0.82 | 0.61 | 82 | 7.79 | 5.81 | 26 | 24.82 | 18.51 | 5.77 | 110.94 | 82.72 |
| 1928... | 821 | 0.78 | 0.57 | 84 | 7.65 | 5.59 | 23 | 27.61 | 20.19 | 5.72 | 111.88 | 81.84 |
| 1929... | 858 | 0.75 | 0.54 | 82 | 7.77 | 5.60 | 21 | 30.31 | 21.83 | 5.54 | 115.45 | 83.16 |
| 1930... | 891 | 0.72 | 0.51 | 79 | 8.15 | 5.76 | 19 | 33.62 | 23.77 | 5.23 | 122.29 | 86.48 |
| 1931... | 914 | 0.70 | 0.49 | 77 | 8.28 | 5.76 | 19 | 33.29 | 23.16 | 5.20 | 123.08 | 85.63 |
| 1932 .. | 948 | 0.67 | 0.46 | 78 | 8.26 | 5.67 | 20 | 31.79 | 21.84 | 5.29 | 121.09 | 83.21 |

Table No. XXXV.

RETURN SHOWING THE NUMBER OF OWNERS AND THE SIZES OF HERDS OF CATTLE UNDER VARIOUS GROUPINGS IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE AS AT 31ST DECEMBER, 1932.

| Pastoral Districts. | 1 to 100. | | 101 to 300. | | 301 to 500. | | 501 to 1,000. | |
|---------------------|-----------|-----------|-------------|---------|-------------|---------|---------------|---------|
| | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. |
| Burke | 371 | 10,231 | 72 | 12,792 | 28 | 10,993 | 37 | 25,718 |
| Burnett | 4,283 | 182,412 | 830 | 133,874 | 120 | 46,862 | 100 | 70,793 |
| Cook | 1,657 | 49,674 | 158 | 24,732 | 32 | 12,479 | 17 | 12,848 |
| Darling Downs | 7,273 | 246,093 | 899 | 144,104 | 90 | 34,177 | 54 | 37,081 |
| Gregory North | 147 | 3,198 | 18 | 3,194 | 9 | 3,580 | 11 | 7,622 |
| Gregory South | 56 | 1,898 | 21 | 3,459 | 11 | 4,354 | 9 | 6,276 |
| Leichhardt | 2,229 | 46,245 | 310 | 57,839 | 116 | 44,992 | 145 | 103,877 |
| Maranoa | 1,369 | 38,108 | 188 | 32,937 | 30 | 11,931 | 24 | 17,537 |
| Mitchell | 688 | 17,478 | 69 | 12,062 | 27 | 10,974 | 18 | 11,734 |
| Moreton | 10,643 | 341,098 | 1,006 | 157,580 | 106 | 39,213 | 61 | 40,017 |
| North Kennedy | 2,029 | 39,968 | 158 | 27,376 | 56 | 21,907 | 50 | 34,729 |
| Port Curtis | 2,317 | 81,820 | 470 | 77,729 | 100 | 38,959 | 86 | 59,553 |
| South Kennedy | 915 | 22,556 | 101 | 18,396 | 40 | 15,756 | 47 | 31,690 |
| Warrego | 464 | 13,509 | 83 | 15,007 | 14 | 5,087 | 12 | 8,755 |
| Wide Bay | 5,364 | 159,824 | 595 | 91,885 | 77 | 29,091 | 37 | 27,710 |
| Totals | 39,805 | 1,254,112 | 4,978 | 812,966 | 856 | 330,355 | 708 | 495,940 |

| Pastoral Districts. | 1,001 to 5,000. | | 5,001 to 10,000. | | 10,001 and upwards. | | Totals. | |
|---------------------|-----------------|-----------|------------------|---------|---------------------|---------|---------|-----------|
| | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. |
| Burke | 32 | 71,669 | 24 | 171,643 | 15 | 255,938 | 579 | 558,984 |
| Burnett | 50 | 94,306 | 3 | 20,602 | .. | .. | 5,386 | 548,849 |
| Cook | 49 | 121,912 | 9 | 70,875 | 10 | 208,627 | 1,932 | 501,147 |
| Darling Downs | 27 | 48,330 | .. | .. | .. | .. | 8,343 | 509,785 |
| Gregory North | 17 | 41,139 | 4 | 24,548 | 3 | 39,073 | 209 | 122,354 |
| Gregory South | 16 | 37,832 | 4 | 28,150 | 1 | 11,741 | 118 | 93,710 |
| Leichhardt | 129 | 284,002 | 16 | 109,319 | 1 | 11,287 | 2,946 | 657,561 |
| Maranoa | 19 | 35,092 | 5 | 34,730 | .. | .. | 1,635 | 170,335 |
| Mitchell | 13 | 26,913 | 1 | 6,602 | .. | .. | 816 | 85,763 |
| Moreton | 17 | 23,658 | .. | .. | .. | .. | 11,833 | 601,566 |
| North Kennedy | 68 | 156,338 | 12 | 85,403 | 4 | 71,701 | 2,377 | 437,422 |
| Port Curtis | 83 | 156,711 | 8 | 49,551 | .. | .. | 3,064 | 464,323 |
| South Kennedy | 47 | 103,327 | 13 | 92,487 | 2 | 33,777 | 1,165 | 317,989 |
| Warrego | 22 | 41,404 | 2 | 14,608 | 1 | 14,911 | 598 | 113,281 |
| Wide Bay | 22 | 43,486 | .. | .. | .. | .. | 6,095 | 351,996 |
| Totals | 611 | 1,286,119 | 101 | 708,518 | 37 | 647,055 | 47,096 | 5,535,065 |

Table No. XXXVI.

RETURN SHOWING THE NUMBER OF OWNERS AND THE SIZES OF HERDS OF CATTLE UNDER VARIOUS GROUPINGS IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE AS AT 31ST DECEMBER, 1932.

| Division. | 1-100. | | 101-300. | | 301-500. | | 501-1,000. | | 1,001-5,000. | | 5,001-10,000. | | 10,001 and Upwards. | | Totals. | |
|-------------|---------|-----------|----------|---------|----------|---------|------------|---------|--------------|-----------|---------------|---------|---------------------|---------|---------|-----------|
| | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. | Owners. | Cattle. |
| Southern .. | 29,761 | 994,408 | 3,738 | 599,939 | 485 | 185,306 | 324 | 227,823 | 194 | 371,257 | 17 | 119,670 | 3 | 37,939 | 34,522 | 2,536,342 |
| Central .. | 5,200 | 140,711 | 787 | 136,541 | 232 | 90,496 | 258 | 180,623 | 246 | 521,604 | 32 | 210,323 | 3 | 39,073 | 6,758 | 1,319,371 |
| Northern .. | *4,844 | 118,993 | 453 | 76,486 | 139 | 54,553 | 126 | 87,494 | 171 | 393,258 | 52 | 378,525 | 31 | 570,043 | 5,816 | 1,679,352 |
| Totals .. | 39,805 | 1,254,112 | 4,978 | 812,966 | 856 | 330,355 | 708 | 495,940 | 611 | 1,286,119 | 101 | 708,518 | 37 | 647,055 | 47,096 | 5,535,065 |

Table No. XXXVII.

RETURN SHOWING THE NUMBER OF OWNERS AND THE SIZES OF FLOCKS OF SHEEP UNDER VARIOUS GROUPINGS IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE AS AT 31ST DECEMBER, 1932.

| Pastoral Districts | 1 to 500. | | 501 to 1,000. | | 1,001 to 2,000. | | 2,001 to 5,000. | | 5,001 to 10,000. | | 10,001 to 20,000. | | 20,001 to 50,000. | | 50,001 to 100,000. | | 100,001 and Upwards. | | Totals. | |
|--------------------|-----------|---------|---------------|---------|-----------------|-----------|-----------------|-----------|------------------|-----------|-------------------|-----------|-------------------|-----------|--------------------|-----------|----------------------|-----------|---------|------------|
| | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. |
| Burke .. | 40 | 5,545 | 17 | 12,708 | 38 | 62,488 | 116 | 424,174 | 105 | 739,544 | 39 | 534,669 | 10 | 325,764 | 1 | 75,683 | 366 | 2,180,585 | 118 | 5,644 |
| Burnett .. | 116 | 3,944 | 2 | 1,700 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 17 | 751 | 17 | 751 |
| Cook .. | 17 | 751 | 263 | 194,504 | 258 | 382,708 | 246 | 773,216 | 65 | 435,466 | 26 | 329,843 | 10 | 327,907 | ... | ... | ... | ... | ... | ... |
| Darling Downs .. | 758 | 126,431 | 4 | 3,064 | 12 | 17,072 | 72 | 273,874 | 48 | 326,810 | 18 | 233,281 | 16 | 482,503 | 7 | 463,730 | 190 | 1,802,425 | 60 | 446,819 |
| Gregory North .. | 13 | 2,091 | 4 | 1,575 | 4 | 6,504 | 21 | 72,686 | 17 | 121,741 | 8 | 111,888 | 3 | 74,200 | 1 | 57,509 | 60 | 446,819 | 377 | 873,221 |
| Gregory South .. | 4 | 716 | 2 | 1,575 | 67 | 101,702 | 75 | 223,033 | 20 | 135,456 | 8 | 119,485 | 7 | 223,889 | ... | ... | ... | ... | ... | ... |
| Leichhardt .. | 132 | 18,425 | 68 | 51,231 | 200 | 298,092 | 287 | 975,517 | 131 | 915,989 | 51 | 704,255 | 17 | 505,492 | 1 | 77,868 | 959 | 3,606,726 | 737 | 6,071,563 |
| Maranca .. | 136 | 24,824 | 136 | 104,689 | 200 | 298,092 | 287 | 975,517 | 131 | 915,989 | 51 | 704,255 | 17 | 505,492 | 15 | 1,008,756 | 737 | 6,071,563 | 258 | 9,968 |
| Mitchell .. | 36 | 5,317 | 33 | 25,497 | 47 | 75,357 | 230 | 818,845 | 251 | 1,755,095 | 97 | 1,356,199 | 26 | 759,956 | ... | ... | ... | ... | ... | ... |
| Moreton .. | 251 | 7,141 | ... | ... | 2 | 2,827 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| North Kennedy .. | 37 | 3,201 | 4 | 2,939 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Port Curtis .. | 90 | 5,331 | 5 | 3,606 | 2 | 3,502 | ... | 6,500 | 1 | 8,500 | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| South Kennedy .. | 22 | 3,191 | 9 | 7,177 | 4 | 5,260 | 16 | 50,817 | 7 | 49,000 | ... | ... | 1 | 36,998 | ... | ... | ... | ... | ... | |
| Warrego .. | 30 | 4,339 | 8 | 6,386 | 44 | 69,103 | 185 | 643,964 | 122 | 854,344 | 55 | 742,827 | 19 | 593,273 | 10 | 640,382 | 473 | 3,554,528 | 59 | 152,443 |
| Wide Bay .. | 106 | 2,903 | ... | ... | 1 | 1,635 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Totals .. | 1,788 | 214,150 | 551 | 415,076 | 679 | 1,026,160 | 1,250 | 4,262,626 | 767 | 5,841,945 | 302 | 4,132,447 | 109 | 3,329,982 | 35 | 2,323,988 | 2 | 266,541 | 5,483 | 21,312,865 |

Table No. XXXVIII.
 RETURN SHOWING THE NUMBER OF OWNERS AND THE SIZES OF FLOCKS OF SHEEP UNDER VARIOUS GROUPINGS IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE AS AT 31ST DECEMBER, 1932.

| Division. | 1-500. | | 501-1,000. | | 1,001-2,000. | | 2,001-5,000. | | 5,001-10,000. | | 10,001-20,000. | | 20,001-50,000. | | 50,001-100,000. | | 100,001 and Upwards. | | TOTALS. | |
|-----------|---------|---------|------------|---------|--------------|-----------|--------------|-----------|---------------|-----------|----------------|-----------|----------------|-----------|-----------------|-----------|----------------------|---------|---------|------------|
| | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. | Owners. | Sheep. |
| Southern | 1,441 | 176,502 | 423 | 318,324 | 515 | 770,466 | 753 | 2,504,671 | 337 | 2,339,265 | 140 | 1,888,813 | 49 | 1,500,872 | 12 | 775,759 | .. | .. | 3,670 | 10,274,672 |
| Central | 240 | 26,854 | 103 | 77,696 | 121 | 184,834 | 375 | 1,317,276 | 323 | 2,248,365 | 119 | 1,655,815 | 50 | 1,503,346 | 22 | 1,472,486 | .. | 2 | 1,355 | 8,753,213 |
| Northern | 107 | 10,794 | 25 | 19,056 | 43 | 70,860 | 122 | 440,679 | 107 | 754,315 | 43 | 587,819 | 10 | 325,764 | 1 | 75,693 | .. | .. | 458 | 2,284,980 |
| Totals | 1,788 | 214,150 | 551 | 415,076 | 679 | 1,026,160 | 1,250 | 4,262,626 | 767 | 5,341,945 | 302 | 4,132,447 | 109 | 3,329,982 | 35 | 2,323,938 | 2 | 266,541 | 5,483 | 21,312,865 |

Table No. XXXIX.
 RETURN FOR TEN YEARS SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, AND SWINE, IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE.

| YEAR ENDED 31ST DEC. | SOUTHERN. | | | | CENTRAL. | | | | NORTHERN. | | | |
|----------------------|-----------|-----------|------------|---------|----------|-----------|-----------|--------|-----------|-----------|-----------|--------|
| | Horses. | Cattle. | Sheep. | Swine. | Horses. | Cattle. | Sheep. | Swine. | Horses. | Cattle. | Sheep. | Swine. |
| 1923 | 286,444 | 2,530,820 | 5,836,059 | 115,128 | 165,849 | 1,829,072 | 8,488,284 | 6,388 | 209,300 | 2,036,622 | 2,436,758 | 10,727 |
| 1924 | 282,832 | 2,579,890 | 7,002,123 | 135,095 | 164,953 | 1,814,023 | 9,330,342 | 8,416 | 212,308 | 2,060,740 | 2,695,787 | 12,652 |
| 1925 | 281,290 | 2,580,216 | 7,930,357 | 173,948 | 153,725 | 1,777,503 | 9,757,837 | 10,651 | 203,357 | 2,078,926 | 2,975,129 | 14,999 |
| 1926 | 268,496 | 2,327,553 | 8,620,821 | 158,517 | 125,561 | 1,292,426 | 6,187,385 | 9,658 | 177,565 | 1,844,866 | 2,052,616 | 15,487 |
| 1927 | 258,952 | 2,322,633 | 8,118,128 | 166,178 | 114,805 | 1,149,911 | 5,928,454 | 10,155 | 174,576 | 1,753,260 | 2,595,808 | 15,614 |
| 1928 | 253,377 | 2,299,516 | 8,224,903 | 187,582 | 109,510 | 1,115,865 | 6,886,846 | 10,852 | 159,603 | 1,712,960 | 2,397,452 | 17,330 |
| 1929 | 244,604 | 2,332,195 | 9,320,339 | 204,291 | 104,807 | 1,184,999 | 7,948,392 | 11,571 | 150,693 | 1,691,394 | 2,860,572 | 20,175 |
| 1930 | 235,769 | 2,408,854 | 9,957,562 | 189,248 | 101,806 | 1,290,133 | 9,353,534 | 9,270 | 144,040 | 1,764,737 | 3,230,947 | 19,010 |
| 1931 | 233,390 | 2,524,266 | 10,160,434 | 199,717 | 103,419 | 1,310,131 | 9,072,850 | 8,095 | 132,665 | 1,716,002 | 3,090,994 | 14,874 |
| 1932 | 225,662 | 2,536,342 | 10,274,672 | 193,652 | 100,097 | 1,319,371 | 8,753,213 | 7,177 | 126,727 | 1,679,352 | 2,284,980 | 12,420 |

Table No. XL.
 RETURN FOR TEN YEARS SHOWING THE ESTIMATED NUMBER OF CATTLE, SHEEP, ETC., SLAUGHTERED FOR CONSUMPTION AS FOOD IN THE STATE, TOGETHER WITH THE AVERAGE DRESSED WEIGHT OF EACH ANIMAL AND THE ESTIMATED QUANTITY CONSUMED PER CAPITA (EXCLUSIVE OF MEATWORKS ENGAGED IN SLAUGHTERING FOR PRESERVATION).

| Year. | Mean Population for the Year. | NUMBER SLAUGHTERED. | | | | AVERAGE DRESSED WEIGHT. | | | | CONSUMPTION PER CAPITA. | | | | | | | | | | |
|--------|-------------------------------|---------------------|-----------|---------|--------|-------------------------|--------|---------|--------|-------------------------|-------|---------|-------|-------|--------|--------|------|------|------|--------|
| | | Cattle. | Sheep. | Calves. | Lambs. | Cattle. | Sheep. | Calves. | Lambs. | Swine. | Beef. | Mutton. | Veal. | Lamb. | Pork. | Total. | | | | |
| 1923 | 802,748 | 281,760 | 538,770 | 38,916 | 24,298 | 63,019 | 525 | 40 | 77 | 30 | 30 | 30 | 30 | 85 | 184.13 | 26.89 | 3.73 | 0.91 | 6.66 | 222.32 |
| 1924 | 825,151 | 282,516 | 421,874 | 42,330 | 23,843 | 57,402 | 547 | 43 | 51 | 30 | 30 | 30 | 30 | 88 | 187.19 | 22.18 | 2.62 | 0.87 | 6.10 | 218.96 |
| 1925* | 851,419 | 333,095 | 580,566 | 49,691 | 19,969 | 66,398 | 543 | 42 | 50 | 30 | 30 | 30 | 30 | 82 | 212.28 | 28.98 | 2.90 | 0.71 | 6.43 | 251.30 |
| 1926* | 875,187 | 321,795 | 656,458 | 51,170 | 19,866 | 72,145 | 550 | 44 | 79 | 31 | 31 | 31 | 31 | 83 | 202.07 | 33.06 | 4.59 | 0.69 | 6.84 | 247.25 |
| 1927* | 891,908 | 316,661 | 641,636 | 48,122 | 24,329 | 68,580 | 572 | 42 | 83 | 30 | 30 | 30 | 30 | 83 | 203.23 | 30.49 | 4.01 | 0.82 | 6.36 | 244.91 |
| 1928* | 909,141 | 307,791 | 725,375 | 45,793 | 19,570 | 73,917 | 540 | 42 | 76 | 30 | 30 | 30 | 30 | 83 | 182.77 | 33.54 | 3.84 | 0.65 | 6.78 | 227.58 |
| 1929* | 924,864 | 287,023 | 858,563 | 43,527 | 26,403 | 83,526 | 539 | 43 | 47 | 31 | 31 | 31 | 31 | 89 | 167.19 | 39.52 | 2.21 | 0.89 | 8.06 | 217.87 |
| 1930* | 940,455 | 260,522 | 1,110,997 | 46,286 | 31,058 | 79,407 | 525 | 41 | 52 | 30 | 30 | 30 | 30 | 87 | 145.66 | 48.81 | 2.56 | 0.99 | 7.36 | 205.38 |
| 1931* | 957,559 | 255,213 | 1,210,090 | 47,662 | 38,509 | 96,616 | 532 | 42 | 52 | 30 | 30 | 30 | 30 | 84 | 141.67 | 52.82 | 2.61 | 1.21 | 8.52 | 206.83 |
| 1932*† | 970,855 | 271,809 | 1,186,476 | 54,598 | 62,542 | 95,631 | 522 | 42 | 60 | 30 | 30 | 30 | 30 | 84 | 146.02 | 51.63 | 3.40 | 1.91 | 8.28 | 211.24 |

NOTE.—Total value of By-Products as returned by Slaughter-houses for 1932 is £353,350.
 * Figures based on actual collection.
 † Includes 28,791 Cattle, 268,376 Sheep, and 8,915 Swine killed on Farms and Stations.
 N.B.—The average dressed weight of animals slaughtered (on Farms and Stations, at Slaughter-Houses and Meatworks) was as follows:—Cattle, 565 lb.; Calves, 30 lb.; Lambs, 30 lb.; and Swine, 97 lb.

Table No. XLII.
RETURN FOR TEN YEARS OF LIVE STOCK SLAUGHTERED AT MEATWORKS AND BACON FACTORIES FOR PRESERVATION AS FOOD, OR FREEZING, OR FOR TALLOW, IN THE STATE,
WITH THE QUANTITY AND VALUE OF MEAT, TALLOW, LARD, ETC., PRODUCED.

| Year. | MEAT PRESERVED OR FROZEN. | | | | | | | | | | Quantity of Tallow Produced. | Quantity of Lard Produced. | Total Value of all Products shown here. | | | | | | | | | |
|---------|---------------------------|-------|---------|--------|--------|---------------------------|-------|---------|--------|---------|------------------------------|----------------------------|---|-----------------------|----------------|-----------|------------|---------|------------|---------|-----------|-----------|
| | NUMBER SLAUGHTERED. | | | | | MEAT PRESERVED OR FROZEN. | | | | | | | | | | | | | | | | |
| | Cattle. | | Sheep. | | Lambs. | Beef. | | Mutton. | | Lamb. | | | | Pork, Salt and Fresh. | Bacon and Ham. | | | | | | | |
| 1922 | 17 | 3,161 | 169,687 | 14,527 | 2,234 | 60,588 | 327 | 13 | 7,488 | 181,108 | 115,883,280 | 12,077,237 | 23,764 | | | 2,755,296 | 14,514 | 268,342 | 15,130,545 | 901,894 | 107,817 | 6,020 | 781,650 | 2,190,512 |
| 1923 | 17 | 3,007 | 225,297 | 16,807 | 3,672 | 54,002 | 476 | 263 | 3,118 | 200,234 | 126,584,907 | 10,721,227 | 7,410 | 1,992,922 | 18,846 | 11,130 | 16,219,969 | 541,923 | 107,921 | 4,825 | 833,159 | 2,494,136 |
| 1924-25 | 19 | 4,371 | 539,185 | 25,144 | 4,044 | 452 | 78 | ... | ... | 206,454 | 295,294,239 | 23,042,674 | 77,600 | 17,082 | 7,877 | ... | 15,334,549 | 463,553 | 182,503 | 10,931 | 766,360 | 4,921,665 |
| 1925-26 | 19 | 4,211 | 363,011 | 29,480 | 2,513 | 34,702 | 35 | ... | ... | 243,505 | 201,983,990 | 15,570,166 | 32,800 | 1,265,319 | 1,451 | 2,205 | 18,013,086 | 491,302 | 141,283 | 7,767 | 895,925 | 4,107,662 |
| 1926-27 | 20 | 3,594 | 179,694 | 14,043 | 938 | 2,942 | ... | ... | ... | 208,016 | 100,744,934 | 9,859,202 | 27,662 | 121,956 | ... | ... | 17,971,692 | 464,137 | 60,516 | 3,042 | 767,376 | 2,320,059 |
| 1927-28 | 19 | 3,813 | 364,860 | 14,919 | 433 | 3,777 | ... | ... | ... | 241,871 | 215,856,923 | 9,053,287 | 70,263 | 161,757 | ... | ... | 17,986,523 | 464,078 | 77,764 | 5,302 | 839,959 | 3,847,224 |
| 1928-29 | 18 | 3,872 | 316,677 | 14,322 | 1,213 | 58,936 | ... | ... | ... | 307,371 | 194,444,901 | 9,293,369 | 345,125 | 2,923,254 | ... | ... | 21,710,900 | 464,078 | 84,283 | 6,455 | 1,112,954 | 4,179,275 |
| 1929-30 | 17 | 3,454 | 287,239 | 14,803 | 1,168 | 179,550 | 7,060 | 133 | 18,269 | 283,065 | 174,004,657 | 7,752,595 | 25,897 | 7,568,955 | 262,169 | 535,898 | 18,924,040 | 464,078 | 78,843 | 3,682 | 989,890 | 4,003,892 |
| 1930-31 | 17 | 3,225 | 328,790 | 11,676 | 1,199 | 486,463 | 828 | 465 | 41,434 | 323,649 | 199,529,633 | 5,810,442 | 380,549 | 20,746,284 | 29,695 | 1,289,983 | 19,842,633 | 464,078 | 65,894 | 4,158 | 993,936 | 3,838,161 |
| 1931-32 | 16 | 2,747 | 227,204 | 9,051 | 1,519 | 466,292 | 7,922 | 4,588 | 34,573 | 311,599 | 132,573,771 | 3,654,234 | 3,000 | 20,563,645 | 249,958 | 1,110,969 | 19,639,692 | 464,078 | 81,743 | 3,457 | 1,083,818 | 2,438,257 |

† Not including farmers' bacon and pork.

N.B.—9,592 swine killed by farmers and 965,799 lb. of pork and bacon made therefrom during 1931 are not included in this table.

Table No. XLIII.

RETURN FOR TEN YEARS SHOWING THE QUANTITY AND VALUE OF OTHER PRODUCTS OF MEAT PRESERVING, ETC., ESTABLISHMENTS IN THE STATE.

| Year. | No. | Hides. | | Skins. | | Edible Fats. | | Bones. | | Hoofs and Horns. | | Hair. | | Oils, &c. | | Manure. | | All Other Products. | Total Value. |
|---------|-----|---------|---------|---------|--------|--------------|---------|--------|--------|------------------|---------|--------|--------|-----------|-------|---------|---------|---------------------|--------------|
| | | Number. | £ | Number. | £ | Lb. | £ | Tons. | £ | £ | £ | Tons. | £ | Tons. | £ | £ | £ | | |
| 1922 | 17 | 215,397 | 290,921 | 68,396 | 16,603 | 5,481,686 | 84,076 | 288 | 3,630 | 7,945 | 156,889 | 3,009 | 12,590 | 3,163 | 4,071 | 44,610 | 314,876 | 758,883 | |
| 1923 | 17 | 245,843 | 313,978 | 55,059 | 27,391 | 5,373,914 | 137,750 | 385 | 7,692 | 11,861 | 169,874 | 10,098 | 17,894 | 4,933 | 4,718 | 50,657 | 340,600 | 904,860 | |
| 1924-25 | 19 | 568,134 | 678,377 | 559 | 337 | 4,465,038 | 280,525 | 845 | 12,801 | 27,956 | 188,801 | 16,452 | 45,700 | 10,363 | 9,191 | 80,224 | 536,070 | 1,643,105 | |
| 1925-26 | 19 | 394,110 | 471,505 | 34,800 | 26,081 | 10,753,803 | 213,596 | 570 | 5,867 | 20,144 | 173,899 | 5,218 | 34,134 | 7,633 | 5,970 | 50,198 | 453,734 | 1,253,976 | |
| 1926-27 | 20 | 194,641 | 260,470 | 2,942 | 1,189 | 5,926,129 | 113,821 | 223 | 2,122 | 7,929 | 129,149 | 2,927 | 14,797 | 3,424 | 4,761 | 43,963 | 424,203 | 860,049 | |
| 1927-28 | 19 | 369,927 | 718,253 | 4,048 | 1,849 | 9,070,227 | 197,418 | 348 | 3,379 | 9,397 | 159,603 | 4,602 | 19,899 | 4,735 | 5,626 | 54,959 | 579,453 | 1,574,045 | |
| 1928-29 | 18 | 329,162 | 463,693 | 63,146 | 22,857 | 10,574,003 | 231,239 | 306 | 3,324 | 11,211 | 101,132 | 4,033 | 18,584 | 5,242 | 4,831 | 49,046 | 552,685 | 1,343,330 | |
| 1929-30 | 17 | 298,455 | 298,953 | 209,757 | 35,619 | 10,862,045 | 203,281 | 194 | 2,156 | 8,466 | 56,523 | 2,395 | 13,832 | 3,142 | 4,066 | 45,096 | 488,046 | 1,087,154 | |
| 1930-31 | 17 | 338,653 | 325,698 | 532,484 | 73,520 | 13,031,743 | 182,898 | 316 | 3,541 | 10,239 | 46,460 | 2,773 | 18,125 | 3,817 | 4,935 | 48,653 | 411,552 | 1,062,991 | |
| 1931-32 | 16 | 233,985 | 189,009 | 456,858 | 87,305 | 8,771,038 | 99,432 | 159 | 1,834 | 4,546 | 23,170 | 1,172 | 11,902 | 2,363 | 3,616 | 29,821 | 365,949 | 781,431 | |

NOTE.—The Total Value of Production of the Cattle Industry for 1931-32 has been estimated at, approximately, £4,534,590.

Table No. XLIII.
RETURN SHOWING THE PURE BREEDS OF CATTLE AS RETURNED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE FOR THE YEAR ENDED 31ST DECEMBER, 1932.

| Petty Sessions District. | Aberdeen Angus. | Ayrshire. | Devon. | Friesian. | Guernsey. | Hereford. | Jersey. | Milking Shorthorn and Aust. Illawarra Shorthorn. | Red Polled. | Shorthorn. | Crossed and Unspecified. | Total. |
|--------------------------|-----------------|-----------|--------|-----------|-----------|-----------|---------|--|-------------|------------|--------------------------|---------|
| Adavale | .. | .. | .. | .. | .. | .. 56 | .. 18 | .. 45 | .. | 1,753 | 2,994 | 4,747 |
| Allora | .. 379 | .. | .. | .. | .. | .. | .. | .. 19 | .. | 220 | 12,704 | 13,422 |
| Alpha | .. 54 | .. | .. | .. | .. | .. | .. | .. 19 | .. | 16,788 | 34,231 | 51,019 |
| Aramac | .. | .. | .. | .. 11 | .. 16 | .. | .. 827 | 2,591 | .. | 332 | 2,624 | 3,029 |
| Atherton | .. | .. | .. 3 | .. 66 | .. | .. 25 | .. 38 | .. 514 | .. 457 | 877 | 48,436 | 52,761 |
| Augathella | .. | .. 17 | .. | .. | .. | .. | .. | .. | .. | 897 | 24,516 | 25,504 |
| Ayt | .. | .. | .. | .. | .. | .. | .. | .. | .. | 11,479 | 20,207 | 32,712 |
| Banana | .. | .. | .. | .. 60 | .. | 14,623 | 58 | 100 | .. | 237 | 34,767 | 49,845 |
| Baraldine | .. | .. | .. | .. | .. | .. | 35 | 130 | .. 11 | 1,886 | 2,985 | 5,047 |
| Beaudesert | .. 1 | .. 20 | .. | .. 22 | .. | .. 351 | 847 | 1,646 | .. | 529 | 77,216 | 80,632 |
| Biggenden | .. 6 | .. 12 | .. | .. 11 | .. 31 | .. 4 | 776 | 796 | .. | 1 | 43,715 | 45,352 |
| Blackall | .. | .. 102 | .. | .. | .. | .. 40 | 14 | 1 | .. | 2,146 | 4,553 | 6,856 |
| Bollon | .. | .. | .. | .. | .. | .. 70 | 54 | .. | .. | 3,846 | 11,445 | 15,415 |
| Boulia | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4,960 | 15,911 | 20,871 |
| Bowen | .. | .. 3 | .. | .. | .. | .. 1 | .. 2 | .. 10 | .. 12 | 1,258 | 21,059 | 22,345 |
| Brisbane | .. | .. 144 | .. | .. 18 | .. | .. | 536 | 153 | .. | 7 | 21,634 | 22,492 |
| Bundaberg | .. | .. 72 | .. | .. 12 | .. | 1,137 | 468 | 326 | .. | 13 | 56,195 | 58,223 |
| Burke | .. | .. | .. | .. | .. | .. | .. | .. | .. 50 | 125 | 108,094 | 108,269 |
| Caboolture | .. | .. | .. | .. | .. | .. 2 | 143 | 25 | .. | 1 | 9,137 | 9,320 |
| Cairns | .. 4 | .. 8 | .. | .. | .. | .. | 27 | .. | .. | 21 | 4,014 | 4,068 |
| Camooowal | .. | .. 6 | .. | .. | .. | .. | .. | .. | .. | 34,391 | 19,135 | 53,526 |
| Cape River | .. | .. | .. 6 | .. | .. | 1,639 | .. 15 | .. | .. 15 | 9,528 | 74,054 | 85,257 |
| Cardwell | .. | .. | .. | .. | .. | .. | .. | .. 71 | .. 5 | .. | 5,711 | 5,782 |
| Charleville | .. | .. 20 | .. | .. | .. | .. 179 | .. 22 | 42 | .. | 10,304 | 16,106 | 26,678 |
| Charters Towers | .. 12 | .. 1 | .. 378 | .. | .. | .. | 221 | 66 | .. | 20,017 | 115,265 | 135,960 |
| Childers | .. | .. 1 | .. | .. | .. | 630 | 80 | 97 | .. | .. | 13,120 | 13,928 |
| Chillagoe | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 38,617 | 38,617 |
| Chinchilla | .. | .. 1 | .. | .. | .. | 777 | 184 | 1,223 | .. 12 | 391 | 31,615 | 34,331 |
| Clermont | .. 102 | .. | .. | .. 26 | .. | 194 | 23 | 5 | .. | 57,742 | 61,361 | 119,456 |
| Cleveland | .. 131 | .. | .. | .. | .. | .. | 23 | 4 | .. | .. | 1,358 | 1,364 |
| Clofton | .. | .. | .. | .. | .. | .. | 23 | 239 | .. 1 | .. | 19,473 | 19,766 |
| Cloncurry | .. | .. | .. | .. | .. 1 | .. | .. | 25 | .. | 57,206 | 128,328 | 185,559 |
| Coen | .. | .. | .. 30 | .. | .. | .. | .. | .. | .. | 6 | 23,814 | 23,850 |
| Collinsville | .. | .. 1 | .. | .. | .. | .. 11 | .. | .. | .. 25 | 12,134 | 114,139 | 126,310 |
| Condamine | .. | .. 14 | .. | .. 1 | .. | 1,097 | .. 2 | 225 | .. | 564 | 47,660 | 49,563 |
| Cook | .. 2 | .. 6 | .. | .. 2 | .. | .. | 370 | 115 | .. 1 | 8,762 | 73,125 | 81,889 |
| Crow's Nest | .. | .. | .. | .. | .. | .. | .. | .. | .. | 111 | 27,247 | 27,852 |
| Croydon | .. | .. | .. 60 | .. | .. | .. | .. 40 | .. | .. | 18 | 22,208 | 22,226 |
| Cunnamulla | .. 2 | .. | .. | .. | .. | 164 | .. | .. | .. | 9,042 | 5,878 | 15,186 |
| Dalby | .. 32 | .. 207 | .. | .. 85 | .. | 3,594 | 375 | 468 | 280 | *8,510 | 101,374 | 114,925 |
| Diamantina | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3,236 | 20,002 | 23,238 |
| Douglas | .. | .. | .. | .. | .. | .. | .. | .. 3 | .. | .. | 3,740 | 3,743 |
| Dugandan | .. | .. | .. | .. 105 | .. 2 | .. 204 | .. 382 | 713 | .. 2 | .. 10 | 41,943 | 43,361 |
| Eidsvold | .. 80 | .. 1 | .. | .. 2 | .. | 12,458 | 3 | 141 | .. | 38 | 35,565 | 48,288 |
| Emerald | .. 2 | .. | .. | .. 1 | .. | †1,841 | 1 | 4 | .. | 3,335 | 43,723 | 48,907 |
| Esk | .. | .. | .. | .. | .. | 319 | 20 | 125 | .. | 132 | 30,556 | 31,152 |
| Etheridge | .. | .. | .. 95 | .. | .. | 860 | .. | .. | .. | 180 | 190,120 | 191,255 |

Table No. XLIII.—continued.

RETURN SHOWING THE PURE BREEDS OF CATTLE AS RETURNED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE FOR THE YEAR ENDED 31ST DECEMBER, 1932—continued.

| Petty Sessions District. | Aberdeen Angus. | Ayrshire. | Devon. | Friesian. | Guernsey. | Hereford. | Jersey. | Milking Shorthorn and Aust. Illawarra Shorthorn. | Red Polled. | Shorthorn. | Crossed and Unspecified. | Total. |
|--------------------------|-----------------|-----------|--------|-----------|-----------|-----------|---------|--|-------------|------------|--------------------------|---------|
| Eulo | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4,981 | 5,311 | 10,292 |
| Gatton | .. | 19 | .. | .. | .. | 13 | 221 | 236 | .. | 85 | 28,526 | 29,100 |
| Gayndah | .. | 3 | .. | 15 | 2 | 14,476 | 614 | 2,818 | 102 | 924 | 117,160 | 136,114 |
| Gin Gin | .. | .. | .. | 1 | .. | 1,647 | 278 | 9 | .. | 80 | 53,492 | 55,509 |
| Gladstone | 560 | 228 | .. | 26 | .. | 23,407 | 1,022 | 3,503 | 42 | 2,974 | 114,063 | 145,825 |
| Goodna | .. | .. | .. | .. | .. | .. | 86 | 5 | .. | .. | 2,379 | 2,470 |
| Goondiwindi | 163 | 2 | .. | .. | .. | 3,422 | 224 | 41 | .. | 6,117 | 30,878 | 40,847 |
| Gympie | 140 | 156 | .. | 92 | 101 | 2,036 | 2,112 | 4,221 | .. | 237 | 114,560 | 123,655 |
| Harrisville | .. | .. | .. | 1 | 5 | 200 | 63 | 574 | .. | 9 | 20,353 | 21,205 |
| Herberton | .. | .. | 151 | .. | 2 | .. | 293 | 12 | .. | 1,372 | 61,370 | 63,200 |
| Hughenden | .. | 29 | .. | .. | .. | 8,468 | 54 | 3 | 200 | 18,743 | 21,159 | 48,686 |
| Hungerford | .. | .. | .. | .. | .. | .. | 13 | .. | .. | 2,561 | 2,900 | 5,474 |
| Ingham | .. | .. | .. | 17 | .. | .. | 26 | 30 | .. | 40 | 35,167 | 35,280 |
| Inglewood | .. | .. | .. | 3 | .. | 655 | 39 | 573 | 30 | 1,752 | 19,514 | 22,627 |
| Innisfail | 61 | .. | .. | .. | .. | .. | 9 | .. | .. | 3 | 3,972 | 3,984 |
| Ipswich | .. | .. | .. | .. | .. | .. | 286 | 151 | .. | 1 | 14,874 | 15,328 |
| Isisford | .. | .. | .. | 16 | .. | .. | 8 | 7 | .. | 3,486 | 3,273 | 6,774 |
| Julia Creek | .. | .. | .. | .. | .. | .. | 7 | 7 | 249 | 23,230 | 29,728 | 53,221 |
| Jundah | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4,540 | 7,879 | 12,419 |
| Kilcoy | .. | .. | .. | 20 | 1 | .. | 34 | 348 | .. | .. | 17,853 | 18,256 |
| Kilkivan | .. | 4 | 2 | .. | .. | 644 | 233 | 234 | .. | 270 | 20,403 | 21,790 |
| Killarney | .. | .. | 518 | .. | .. | 50 | 194 | 283 | .. | 10 | 11,441 | 12,496 |
| Laidley | .. | .. | .. | 5 | .. | .. | 335 | 866 | .. | 24 | 18,614 | 19,844 |
| Logan | .. | 183 | .. | .. | .. | .. | 125 | 125 | .. | .. | 16,275 | 16,708 |
| Longreach | .. | .. | .. | .. | .. | .. | 96 | 59 | .. | 10,108 | 4,919 | 15,318 |
| Lowood | .. | .. | .. | .. | .. | 1,088 | 11 | 21 | .. | .. | 16,928 | 18,048 |
| Mackay | 1,161 | 18 | .. | 24 | 1 | 2,040 | 434 | 474 | 1 | 5,852 | 118,922 | 128,927 |
| Marburg | .. | .. | .. | .. | .. | .. | 33 | 50 | .. | .. | 8,396 | 8,479 |
| Maroochy | .. | 105 | .. | 30 | 120 | 3 | 1,633 | 2,354 | .. | 10 | 39,683 | 43,938 |
| Maryborough | .. | 255 | .. | 2 | .. | 388 | 283 | 188 | .. | 189 | 24,263 | 25,568 |
| Mitchell | .. | .. | .. | 19 | .. | 1,927 | 19 | 11 | 8 | 1,217 | 60,537 | 63,738 |
| Monto | 2 | .. | .. | 18 | .. | 3,710 | 260 | 1,050 | 124 | 305 | 47,156 | 52,625 |
| Mount Isa | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 485 | 485 |
| Mount Morgan | .. | 5 | .. | 88 | .. | 5,999 | 574 | 214 | 1,285 | 228 | 66,209 | 74,602 |
| Mount Perry | .. | .. | .. | 75 | .. | 83 | .. | 5 | .. | 80 | 35,250 | 35,418 |
| Muttaborra | 34 | .. | .. | .. | .. | .. | 42 | 2 | .. | 5,717 | 4,270 | 10,140 |
| Nanango | 810 | 163 | .. | 158 | 35 | 5,237 | 773 | 4,855 | 402 | 355 | 102,589 | 115,377 |
| Norman | .. | .. | .. | .. | .. | .. | .. | .. | .. | 91,358 | 103,807 | 195,165 |
| Oakey | 500 | 246 | .. | 64 | 37 | 1,030 | 718 | 1,125 | 203 | 239 | 74,396 | 78,558 |

Table No. XLIII.—continued.
RETURN SHOWING THE PURE BREEDS OF CATTLE AS RETURNED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE FOR THE YEAR ENDED 31ST DECEMBER, 1932—continued.

| Petty Sessions District. | Aberdeen Angus. | Ayrshire. | Devon. | Friesian. | Guernsey. | Hereford. | Jersey. | Milking Shorthorn and Aust. Illawarra Shorthorn. | Red Polled. | Shorthorn. | Crossed and Unspecified. | Total. |
|--------------------------|-----------------|-----------|--------|-----------|-----------|-----------|---------|--|-------------|------------|--------------------------|-----------|
| Pittsworth | .. | 111 | 1 | 62 | 1 | 93 | 77 | 644 | .. | 790 | 37,589 | 39,368 |
| Proserpine | .. | 6 | .. | .. | .. | 20 | 85 | 45 | 50 | 178 | 11,899 | 12,333 |
| Quilpie | .. | .. | .. | .. | .. | .. | .. | .. | .. | 14,735 | 21,262 | 36,017 |
| Ravenswood | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | 15,625 | 15,627 |
| Redcliffe | .. | 73 | .. | .. | .. | 2 | 53 | 91 | .. | .. | 19,253 | 19,472 |
| Richmond | .. | 60 | .. | .. | .. | 8,213 | 63 | 19 | .. | 14,465 | 25,306 | 48,126 |
| Rockhampton | .. | 232 | 1,536 | 157 | .. | **40,452 | 1,005 | 1,465 | 300 | 5,491 | 285,791 | 335,674 |
| Roma | .. | .. | .. | .. | .. | ††278 | 324 | 398 | 1 | 16,020 | 54,814 | 72,058 |
| Rosewood | .. | .. | .. | 1 | 13 | .. | 310 | 92 | .. | 2 | 23,686 | 24,144 |
| St. George | .. | .. | 280 | .. | .. | 29 | 71 | .. | 450 | 4,454 | 10,745 | 16,034 |
| St. Lawrence | .. | .. | .. | .. | .. | 13,716 | 1 | 151 | .. | 2,998 | 95,702 | 113,091 |
| Somerset | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1,003 | 1,004 |
| Southport | .. | 9 | .. | 19 | 17 | .. | 356 | 859 | .. | 42 | 36,339 | 37,641 |
| Springsure | .. | .. | .. | .. | .. | 3,695 | 4 | .. | 2 | ††6,255 | 70,638 | 80,619 |
| Stanthorpe | .. | .. | 1 | .. | .. | 1,518 | 42 | 8 | .. | 44 | 8,391 | 10,539 |
| Surat | .. | .. | .. | .. | .. | 1,500 | 30 | .. | .. | 6,971 | 7,100 | 15,601 |
| Tambo | .. | .. | .. | .. | .. | .. | 22 | .. | .. | 4,719 | 11,934 | 16,675 |
| Taroom | .. | .. | 5 | .. | .. | 26,865 | .. | 39 | .. | 20,626 | 67,040 | 114,575 |
| Texas | .. | 70 | .. | .. | .. | 8 | 119 | .. | .. | 88 294 | 9,937 | 10,428 |
| Thargomindah | .. | .. | .. | .. | .. | 3 | .. | .. | .. | 5,390 | 45,041 | 50,434 |
| Tiaro | .. | .. | .. | .. | 1 | 1,136 | 724 | 1,802 | 150 | 64 | 50,551 | 54,680 |
| Toogoolawah | .. | 10 | .. | 429 | .. | 5,244 | 162 | 470 | .. | 99 | 48,893 | 57,162 |
| Toowoomba | .. | 25 | .. | 171 | 28 | .. | 798 | 894 | 47 | 340 | 42,575 | 44,944 |
| Toowoomba | .. | 88 | .. | .. | .. | .. | 82 | 141 | 30 | 1,426 | 23,451 | 25,147 |
| Townsville | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Warwick | .. | 55 | 1 | .. | 16 | 468 | 632 | 945 | 318 | 942 | 46,075 | 50,011 |
| Wienholt | .. | 5 | .. | 222 | .. | 5,641 | 1,093 | 3,969 | 468 | 264 | 128,816 | 141,032 |
| Windorah | .. | .. | .. | .. | .. | .. | .. | .. | .. | 14,762 | 19,978 | 34,740 |
| Winton | .. | .. | .. | .. | .. | .. | 98 | .. | .. | 12,666 | 18,215 | 31,980 |
| Woodford | .. | 41 | .. | 35 | 13 | .. | 444 | 378 | 1 | 3 | 23,532 | 24,516 |
| Wynnum | .. | 1 | .. | .. | .. | .. | 40 | 5 | .. | .. | 1,768 | 1,814 |
| Yeulba | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 8,191 | 8,191 |
| Totals | 9,483 | 2,709 | 3,067 | 2,193 | 443 | 225,683 | 23,394 | 46,792 | 5,334 | 604,199 | 4,611,768 | 5,535,065 |

* Including 61 Polled Durham.
 † Including 54 Polled Hereford.
 ‡ Including 126 Polled Hereford.
 § Including 1,100 Polled Durham.
 || Including 28 Polled Hereford.
 ¶ Including 5 Polled Hereford.
 ** Including 20 Polled Hereford.
 †† Including 72 Polled Hereford.
 ‡‡ Including 3 Polled Durham.
 §§ Including 15 Polled Durham.

Table No. XLIV.

RETURN SHOWING DETAILS OF SHEEP SHORN AND WOOL PRODUCED IN THE SEVERAL PASTORAL DISTRICTS OF QUEENSLAND DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1932.

| Pastoral District. | CLASSIFICATION OF SHEEP SHORN. | | | | | | RESULT OF CLIP. | | | | All Wool Expressed as Greasy.* | |
|---|--------------------------------|-----------|----------------------|-----------|---------|------------|-----------------|-------------|---------------|------------|--------------------------------|---------------|
| | Ewes. | Wethers. | Weaners and Hoggets. | Lambs. | Rams. | Total. | Greasy Wool. | | Scoured Wool. | | | |
| | | | | | | | Bales. | Lb. | Bales. | Lb. | | |
| Burke | 1,681,271 | 934,833 | 312,458 | 337,716 | 41,727 | 3,308,005 | 51,408 | 17,131,082 | 14,844 | 3,072,157 | 23,787,422 | |
| Burnett | 3,594 | 1,531 | 374 | 148 | 57 | 5,704 | 115 | 33,540 | .. | .. | 33,540 | |
| Cook | 100 | 300 | .. | .. | 2 | 402 | 8 | 2,100 | .. | .. | 2,100 | |
| Darling Downs | 990,896 | 1,145,804 | 283,260 | 158,462 | 17,028 | 2,595,450 | 65,621 | 19,683,487 | 39 | 8,679 | 19,702,292 | |
| Gregory North | 984,495 | 410,758 | 300,217 | 194,470 | 22,560 | 1,912,500 | 31,070 | 10,809,868 | 8,922 | 1,803,934 | 14,718,392 | |
| Gregory South | 261,643 | 63,104 | 69,258 | 51,585 | 6,434 | 452,024 | 9,448 | 3,200,655 | 940 | 184,498 | 3,600,401 | |
| Leichhardt | 413,825 | 488,578 | 64,787 | 34,571 | 9,857 | 1,011,618 | 19,540 | 6,235,792 | 229 | 50,750 | 6,345,750 | |
| Maranoa | 1,740,366 | 1,025,869 | 452,443 | 328,618 | 38,743 | 3,586,039 | 87,765 | 28,030,317 | 846 | 197,619 | 28,458,491 | |
| Mitchell | 3,398,783 | 1,511,726 | 909,690 | 541,684 | 93,206 | 6,455,089 | 123,044 | 41,184,588 | 14,379 | 2,988,573 | 47,659,829 | |
| Moreton | 3,205 | 7,121 | 416 | 828 | 74 | 11,644 | 307 | 80,382 | .. | .. | 80,382 | |
| North Kennedy | 1,610 | 948 | 229 | 327 | 60 | 3,174 | 62 | 16,179 | 5 | 822 | 17,960 | |
| Port Curtis | 10,675 | 6,812 | 3,425 | 1,862 | 279 | 23,053 | 601 | 142,976 | .. | .. | 142,976 | |
| South Kennedy | 70,034 | 93,701 | 4,822 | 5,170 | 1,257 | 174,984 | 3,188 | 1,047,926 | 19 | 3,862 | 1,056,294 | |
| Warrego | 1,808,358 | 785,220 | 529,866 | 466,419 | 51,925 | 3,641,788 | 85,507 | 28,588,297 | 4,139 | 893,426 | 30,524,053 | |
| Wide Bay | 1,338 | 680 | 105 | 88 | 20 | 2,231 | 40 | 12,802 | .. | .. | 12,802 | |
| Totals | 11,370,193 | 6,476,985 | 2,931,350 | 2,121,948 | 283,229 | 23,183,705 | 477,724 | 156,199,991 | 44,362 | 9,204,320 | 176,142,684 | |
| Quantity of wool returned as greasy by growers but subsequently scoured | .. | .. | .. | .. | .. | .. | 18,402 | - 6,016,976 | + | 13,385 | + 2,777,066 | .. |
| Total remaining greasy | .. | .. | .. | .. | .. | .. | 459,322 | 150,183,015 | .. | .. | .. | .. |
| Total scoured | .. | .. | .. | .. | .. | .. | .. | .. | 57,747 | 11,981,386 | .. | .. |
| Quantity of wool fellmongered | .. | .. | .. | .. | .. | .. | .. | .. | 10,818 | 2,244,566 | 4,863,226 | .. |
| Grand total scoured and fellmongered | .. | .. | .. | .. | .. | .. | .. | .. | 68,565 | 14,225,952 | .. | .. |
| Estimated quantity of wool on skins other than fellmongered | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3,669,780 | .. |
| Quantity of dead wool returned by owners excluded from clip | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 40,772 | .. |
| Grand total all wool produced expressed as greasy | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 184,716,462 | .. |
| Estimated value of total wool produced | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | + £6,626,703. |

* Scoured wool has been converted into its greasy equivalent on the basis of 2½ lb. greasy being required to produce 1 lb. scoured wool.
 † Based on Oversea Export Value.

Table No. XLV.

RETURN SHOWING THE AVERAGE WEIGHT PER FLEECE IN THE PASTORAL DISTRICTS OF QUEENSLAND FOR TEN YEARS.

| Pastoral District. | Average Weight of Clip per Sheep in Greasy Wool. | | | | | | | | | | Increase or Decrease 1932 on 1931. | |
|-----------------------|--|-------|---------|---------|---------|---------|---------|----------|---------|---------|------------------------------------|-----|
| | 1922. | 1923. | 1924-5. | 1925-6. | 1926-7. | 1927-8. | 1928-9. | 1929-30. | 1930-1. | 1931-2. | | |
| | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. | Lb. |
| Burke | 6.76 | 6.09 | 6.81 | 6.44 | 5.48 | 6.76 | 6.56 | 6.99 | 6.84 | 7.19 | 0.35 | |
| Burnett | 7.49 | 6.25 | 5.19 | 5.76 | 6.07 | 5.04 | 5.32 | 5.62 | 6.10 | 5.88 | - 0.22 | |
| Cook | .. | 7.00 | 3.68 | 6.72 | 4.15 | 4.76 | 4.21 | 5.01 | 5.84 | 5.22 | - 0.62 | |
| Darling Downs | 7.47 | 6.99 | 7.52 | 7.18 | 7.08 | 7.39 | 7.41 | 7.26 | 7.58 | 7.59 | 0.01 | |
| Gregory North | 6.67 | 6.23 | 6.95 | 6.73 | 5.72 | 7.05 | 6.60 | 7.91 | 7.82 | 7.70 | - 0.12 | |
| Gregory South | 6.79 | 7.04 | 7.76 | 7.39 | 7.83 | 7.07 | 7.60 | 7.79 | 8.27 | 7.97 | - 0.30 | |
| Leichhardt | 6.23 | 6.50 | 6.87 | 6.38 | 5.39 | 6.65 | 6.51 | 6.64 | 6.69 | 6.27 | - 0.42 | |
| Maranoa | 7.08 | 7.14 | 7.63 | 7.08 | 7.96 | 7.57 | 7.63 | 7.89 | 7.75 | 7.94 | 0.19 | |
| Mitchell | 7.15 | 6.41 | 7.52 | 7.11 | 5.88 | 7.38 | 7.59 | 7.79 | 8.04 | 7.38 | - 0.66 | |
| Moreton | 5.79 | 6.78 | 6.91 | 5.97 | 6.55 | 5.88 | 6.42 | 6.72 | 6.25 | 6.90 | 0.65 | |
| North Kennedy | 4.31 | 5.35 | 4.24 | 5.37 | 5.88 | 6.15 | 5.60 | 5.63 | 4.54 | 5.66 | 1.12 | |
| Port Curtis | 5.50 | 5.36 | 5.35 | 6.31 | 5.63 | 5.16 | 5.25 | 5.14 | 5.20 | 6.20 | 1.00 | |
| South Kennedy | 6.50 | 6.53 | 6.64 | 6.02 | 5.77 | 7.20 | 6.69 | 6.66 | 6.59 | 6.04 | - 0.55 | |
| Warrego | 7.14 | 7.30 | 7.99 | 7.46 | 7.51 | 7.32 | 7.63 | 7.63 | 8.08 | 8.38 | 0.30 | |
| Wide Bay | 4.81 | 7.14 | 5.77 | 4.50 | 5.28 | 5.13 | 5.32 | 6.23 | 5.54 | 5.74 | 0.20 | |
| Totals | 6.99 | 6.60 | 7.41 | 6.99 | 6.60 | 7.24 | 7.31 | 7.52 | 7.67 | 7.60 | - 0.07 | |

Table No. XLVI.

RETURN SHOWING SKINS AND DEAD WOOL OBTAINED ON SHEEP HOLDINGS, VALUE OF MACHINERY THEREON, AND AVERAGE WEIGHT OF GREASY AND SCAURED BALES IN THE VARIOUS PASTORAL DISTRICTS OF QUEENSLAND DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1932.

| Pastoral District. | Skins and Dead Wool Sold or Utilised by Wool Growers. | | Machinery on Sheep Holdings. | Average Weight per Bale of Wool Clip. | |
|-----------------------|---|------------|------------------------------|---------------------------------------|---------|
| | Sheep Skins. | Dead Wool. | | Value. | Greasy. | Scoured. |
| | No. | Lb. | £ | Lb. | Lb. |
| Burke | 14,562 | 772 | 284,523 | 333 | 207 |
| Burnett | 309 | 334 | 1,036 | 292 | .. |
| Cook | .. | .. | 100 | 262 | .. |
| Darling Downs | 24,354 | 20,679 | 373,656 | 300 | 223 |
| Gregory North | 11,368 | .. | 405,685 | 348 | 202 |
| Gregory South | 2,522 | 5,362 | 84,050 | 339 | 196 |
| Leichhardt | 6,283 | 1,321 | 211,510 | 319 | 222 |
| Maranoa | 20,521 | 1,442 | 326,336 | 319 | 234 |
| Mitchell | 36,941 | 8,213 | 750,747 | 335 | 208 |
| Moreton | 402 | 355 | 1,755 | 262 | .. |
| North Kennedy | 98 | 75 | 892 | 261 | 164 |
| Port Curtis | 227 | .. | 5,512 | 238 | .. |
| South Kennedy | 835 | 30 | 52,974 | 329 | 203 |
| Warrego | 21,129 | 2,189 | 293,047 | 334 | 216 |
| Wide Bay | 123 | .. | 128 | 320 | .. |
| Totals | 139,674 | 40,772 | £2,791,951 | 327 | 207 |

Table No. XLVII.

RETURN SHOWING THE TOTAL NUMBER OF SHEEP SHORN AND THE RESULT OF THE CLIP IN EACH OF THE THREE FINANCIAL DIVISIONS OF THE STATE FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1932.

| Division. | Total Number of Sheep Shorn. | RESULT OF THE CLIP. | | | | TOTAL CLIP. | | Average per Fleece in Grease. Lb. |
|------------------|------------------------------|---------------------|-------------|----------|-----------|--------------------------|-----------------------|-----------------------------------|
| | | Greasy. | | Scoured. | | Expressed as Greasy. Lb. | Per Centage to Total. | |
| | | Bales. | Lb. | Bales. | Lb. | | | |
| Southern | 10,367,952 | 250,391 | 80,077,418 | 5,964 | 1,284,222 | 82,859,899 | 47.04 | 7.99 |
| Central | 9,421,640 | 174,362 | 58,464,773 | 23,457 | 4,614,974 | 68,463,883 | 38.87 | 7.27 |
| Northern | 3,394,113 | 52,971 | 17,657,800 | 14,941 | 3,305,124 | 24,818,902 | 14.09 | 7.31 |
| Totals | 23,183,705 | 477,724 | 156,199,991 | 44,362 | 9,204,320 | 176,142,684 | 100.00 | 7.60 |

Table No. XLVIII.

RETURN SHOWING THE PROPORTION OF THE CLIP IN EACH OF THE THREE FINANCIAL DIVISIONS TO THE TOTAL CLIP FOR THE STATE FOR THE LAST SEVEN YEARS.

| Financial Division. | 1925-6. | 1926-7. | 1927-8. | 1928-9. | 1929-30. | 1930-1. | 1931-2. |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. | Per cent. |
| Southern | 39.20 | 55.20 | 50.08 | 50.60 | 46.89 | 44.71 | 47.04 |
| Central | 47.72 | 33.58 | 36.47 | 37.23 | 40.28 | 42.37 | 38.87 |
| Northern | 13.08 | 11.22 | 13.45 | 12.17 | 12.83 | 12.92 | 14.09 |

Table No. XLIX.

RETURN SHOWING THE BREEDS OF SHEEP IN QUEENSLAND ON 31ST DECEMBER, 1932; ALSO THE NUMBER OF SHEEP UNDER ONE YEAR, AND ONE YEAR AND OVER, ON THAT DATE.

| Pastoral District. | BREEDS. | | | | Total Sheep on 31st Dec., 1932. | AGES. | | |
|-----------------------------------|------------|--------------------------------|------------------|-------------------------------|---------------------------------|-----------------|--------------------|----------------|
| | Merino. | Pure Breeds other than Merino. | Merino Comeback. | Crossbreeds and *Unspecified. | | Under One Year. | One Year and Over. | Unspecified. * |
| Burke | 2,180,389 | | | 196 | 2,180,585 | 224,845 | 1,957,740 | |
| Burnett | 429 | a 346 | 1,150 | 3,719 | 5,644 | 693 | 3,930 | 1,021 |
| Cook | 250 | | | 501 | 751 | 75 | 346 | 330 |
| Darling Downs | 2,441,031 | b 4,292 | 72,228 | 52,524 | 2,570,075 | 388,706 | 2,169,630 | 11,739 |
| Gregory North | 1,790,000 | c 12,400 | | 25 | 1,802,425 | 326,312 | 1,473,580 | 2,533 |
| Gregory South | 446,783 | | | 36 | 446,819 | 89,563 | 357,175 | 81 |
| Leichhardt | 865,878 | | 5,054 | 2,289 | 873,221 | 78,543 | 794,678 | |
| Maranoa | 3,595,969 | d 300 | 7,539 | 2,918 | 3,606,726 | 692,998 | 2,911,684 | 2,044 |
| Mitchell | 6,067,563 | | 4,000 | | 6,071,563 | 1,131,400 | 4,940,163 | |
| Moreton | 1,666 | e 460 | 259 | 7,583 | 9,968 | 1,294 | 6,150 | 2,524 |
| North Kennedy | 1,513 | | 190 | 4,437 | 6,140 | 776 | 5,364 | |
| Port Curtis | 12,317 | d 1,206 | 2,972 | 10,944 | 27,439 | 3,157 | 23,796 | 486 |
| South Kennedy | 151,301 | | 84 | 1,058 | 152,443 | 4,567 | 147,876 | |
| Warrego | 3,554,429 | | | 99 | 3,554,528 | 741,405 | 2,813,123 | |
| Wide Bay | | f 133 | | 4,405 | 4,538 | 356 | 3,045 | 1,137 |
| Totals | 21,109,518 | g 19,137 | 93,476 | 90,734 | 21,312,865 | 3,684,690 | 17,606,280 | 21,895 |
| Percentage to Total Sheep | 99.05 | 0.09 | 0.44 | 0.42 | 100.00 | 17.29 | 82.61 | 0.10 |

* Mainly butchers' and ration sheep.

a Corriedale 343, Romney Marsh 3; b Border Leicester 98, Corriedale 3,843; Dorset Horn 35; Lincoln 160, Romney Marsh 135, South Down 21; c Polwarth; d Corriedale; e Border Leicester 2, Corriedale 236, Romney Marsh 222; f Romney Marsh; g Border Leicester 100, Corriedale 5,928, Dorset Horn 35, Lincoln 160, Polwarth 12,400, Romney Marsh 493, South Down 21.

Table No. L.

RETURN SHOWING THE RESULTS OF LAMBING, LOSSES, SHEEP KILLED FOR FOOD ON HOLDINGS, ETC., IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE DURING THE YEAR 1932.

| Pastoral District. | Total Sheep as per Stock Returns on 1st Jan., 1932. | Ewes Mated with Rams. | Lambs Marked. | Percentage of Lambing. | Purchases and Transfers. | Sales and Transfers. | Total Losses. * | Killed for Food on Holding. | Total Sheep as per Stock Returns on 31st Dec., 1932. | Skins Obtained. † |
|-----------------------|---|-----------------------|---------------|------------------------|--------------------------|----------------------|-----------------|-----------------------------|--|-------------------|
| Burke | 3,006,501 | 1,066,258 | 266,188 | 24.96 | 277,210 | 603,124 | 742,015 | 24,175 | 2,180,585 | 14,562 |
| Burnett | 7,092 | 1,288 | 723 | 56.13 | 1,198 | 1,849 | 1,100 | 420 | 5,644 | 309 |
| Cook | 1,246 | 107 | 75 | 70.09 | 353 | 848 | 55 | 20 | 751 | |
| Darling Downs | 2,697,272 | 650,732 | 386,457 | 59.39 | 514,031 | 704,397 | 278,828 | 44,460 | 2,570,075 | 24,354 |
| Gregory North | 1,963,870 | 862,181 | 333,405 | 38.67 | 247,207 | 395,249 | 330,614 | 16,194 | 1,802,425 | 11,368 |
| Gregory South | 409,808 | 261,053 | 136,273 | 52.20 | 50,385 | 94,480 | 49,770 | 5,397 | 446,819 | 2,522 |
| Leichhardt | 931,260 | 312,698 | 86,879 | 27.78 | 93,088 | 86,633 | 138,786 | 12,587 | 873,221 | 6,283 |
| Maranoa | 3,476,600 | 1,452,052 | 811,492 | 55.89 | 855,638 | 1,143,552 | 339,120 | 54,332 | 3,606,726 | 20,521 |
| Mitchell | 6,126,561 | 2,766,397 | 1,342,275 | 45.52 | 575,670 | 1,222,671 | 684,688 | 65,584 | 6,071,563 | 36,941 |
| Moreton | 13,396 | 1,975 | 1,418 | 71.80 | 4,589 | 7,102 | 1,531 | 802 | 9,968 | 402 |
| North Kennedy | 4,195 | 1,627 | 849 | 52.18 | 2,748 | 706 | 850 | 96 | 6,140 | 98 |
| Port Curtis | 28,083 | 9,308 | 3,796 | 40.78 | 1,938 | 1,487 | 4,208 | 683 | 27,439 | 227 |
| South Kennedy | 171,189 | 54,099 | 5,287 | 9.77 | 29,468 | 17,208 | 33,901 | 2,392 | 152,443 | 835 |
| Warrego | 3,481,826 | 1,437,098 | 867,914 | 60.39 | 420,407 | 859,567 | 314,682 | 41,370 | 3,554,528 | 21,129 |
| Wide Bay | 5,379 | 472 | 325 | 68.86 | 2,229 | 2,634 | 397 | 364 | 4,538 | 123 |
| Totals | 22,324,278 | 8,877,345 | 4,243,356 | 47.80 | 3,076,159 | 5,141,507 | 2,920,545 | 268,876 | 21,312,865 | 139,674 |

* For details, see Table LI.

† Year ended 30th June, 1932.

Table No. LI.
RETURN SHOWING DETAILS OF LOSSES IN SHEEP DURING THE YEAR 1932.

| Pastoral District. | * LOSSES AND THE CAUSES AS RETURNED BY OWNERS AND THE PERCENTAGE OF EACH CAUSE TO TOTAL LOSSES. | | | | | | | | | | | | | | | | | | TOTAL LOSSES AND PERCENTAGE TO TOTAL SHEEP ON 31ST DECEMBER. | | | |
|--------------------|---|------|----------|-------|-----------|-------|--------|------|---------|-------|----------|------|----------|-------|-----------|-------|---------|-------|--|-------|-----------|-------|
| | Cancer. (Senile Necrosis) | | Dingoes. | | Drought. | | Flood. | | Fly. | | Lambing. | | Old Age. | | Shearing. | | †Other. | | 1932. | | 1931. | |
| | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % | No. | % |
| Burke | 10,165 | 1.37 | 11,065 | 1.49 | 626,785 | 84.47 | 6,195 | 0.84 | 7,082 | 0.95 | 14,947 | 2.01 | 40,155 | 5.41 | 15,853 | 2.14 | 9,768 | 1.32 | 742,015 | 34.03 | 465,462 | 15.48 |
| Burnett | 15 | 1.36 | 368 | 33.45 | 292 | 26.55 | .. | .. | 152 | 13.82 | 29 | 2.64 | 65 | 5.91 | 38 | 3.45 | 141 | 12.82 | 1,100 | 19.49 | 1,199 | 16.91 |
| Cook | .. | .. | 12 | 21.82 | .. | .. | .. | .. | 3 | 5.45 | 1 | 1.82 | 6 | 10.91 | .. | .. | 33 | 60.00 | 55 | 7.32 | 45 | 3.61 |
| Darling Downs | 2,423 | 0.87 | 14,541 | 5.21 | 88,616 | 31.78 | 1,699 | 0.61 | 22,852 | 8.02 | 15,688 | 5.63 | 32,089 | 11.51 | 48,378 | 17.35 | 53,042 | 19.02 | 278,828 | 10.85 | 189,223 | 7.02 |
| Gregory North | 5,818 | 1.76 | 13,970 | 4.22 | 199,549 | 60.36 | 1,559 | 0.47 | 14,716 | 4.45 | 20,848 | 6.31 | 52,303 | 15.82 | 14,453 | 4.37 | 7,398 | 2.24 | 330,614 | 18.34 | 174,498 | 8.89 |
| Gregory South | 727 | 1.46 | 3,385 | 6.80 | 18,682 | 37.54 | 3,067 | 6.16 | 7,044 | 14.15 | 2,464 | 4.95 | 12,533 | 25.18 | 1,018 | 2.05 | 850 | 1.71 | 49,770 | 11.14 | 41,236 | 10.06 |
| Leichhardt | 997 | 0.72 | 13,597 | 9.80 | 86,207 | 62.11 | 272 | 0.20 | 6,786 | 4.89 | 5,304 | 3.82 | 19,066 | 13.74 | 3,247 | 2.34 | 3,310 | 2.38 | 138,786 | 15.89 | 299,218 | 32.13 |
| Maranoa | 2,440 | 0.72 | 9,328 | 2.75 | 175,691 | 51.81 | 1,207 | 0.35 | 34,926 | 10.30 | 31,546 | 9.31 | 52,046 | 15.35 | 9,905 | 2.92 | 22,013 | 6.49 | 339,120 | 9.40 | 310,570 | 8.93 |
| Mitchell | 12,647 | 1.85 | 19,560 | 2.86 | 383,663 | 56.03 | 3,055 | 0.44 | 49,245 | 7.19 | 53,656 | 7.84 | 126,333 | 18.45 | 16,972 | 2.48 | 19,557 | 2.86 | 684,688 | 11.28 | 675,455 | 11.03 |
| Moreton | 15 | 0.98 | 540 | 35.27 | 165 | 10.78 | 3 | 0.20 | 64 | 4.18 | 60 | 3.92 | 292 | 19.07 | 62 | 4.05 | 330 | 21.55 | 1,531 | 15.36 | 1,770 | 13.21 |
| North Kennedy | 10 | 1.18 | 84 | 9.88 | 38 | 4.47 | .. | .. | 60 | 7.06 | 19 | 2.24 | 218 | 25.65 | 66 | 7.76 | 355 | 41.76 | 850 | 13.84 | 1,267 | 30.20 |
| Port Curtis | 32 | 0.76 | 246 | 5.84 | 2,831 | 67.28 | .. | .. | 91 | 2.16 | 92 | 2.19 | 488 | 11.60 | 271 | 6.44 | 157 | 3.73 | 4,208 | 15.34 | 5,595 | 19.92 |
| South Kennedy | 527 | 1.55 | 5,190 | 15.31 | 21,009 | 61.97 | .. | .. | 1,426 | 4.21 | 173 | 0.51 | 3,180 | 9.38 | 1,213 | 3.58 | 1,183 | 3.49 | 33,901 | 22.24 | 65,476 | 38.25 |
| Warrego | 4,438 | 1.41 | 9,364 | 2.98 | 168,190 | 53.45 | 1,536 | 0.49 | 34,675 | 11.02 | 26,720 | 8.49 | 52,286 | 16.61 | 10,164 | 3.23 | 7,309 | 2.32 | 314,682 | 8.85 | 218,082 | 6.26 |
| Wide Bay | 4 | 1.01 | 93 | 23.43 | 46 | 11.59 | 8 | 2.01 | 112 | 28.21 | 13 | 3.27 | 53 | 13.35 | .. | .. | 68 | 17.13 | 397 | 8.75 | 688 | 12.79 |
| Totals | 40,258 | 1.38 | 101,343 | 3.47 | 1,771,764 | 60.67 | 18,601 | 0.64 | 173,734 | 6.12 | 171,578 | 5.87 | 391,113 | 13.39 | 121,640 | 4.16 | 125,514 | 4.30 | 2,920,545 | 13.70 | 2,449,784 | 10.97 |

* Losses of unmarked lambs are not taken into consideration.

- † Causes included in Other—
a Boggling, grass seed, marking, poison weed.
b Worms.
c Bloat, cold and rain, crows and hawks, dipping, domestic dogs, foxes, grass seed, pink eye, poison weed, travelling, worms.
d Boggling, poison weed, travelling.
e Boggling, droving, marking.
f Domestic dogs, poison weed, travelling, worms.
g Domestic dogs, droving, eaglehawks, foxes, poison weed, worms.
h Boggling, crows and hawks, marking, poison weed, travelling, worms.
j Blown on lucerne, domestic dogs, scrub ticks, worms.
k Crows, grass seed, worms.
l Boggling, domestic dogs, droving, foxes, poison weed, worms.

Table No. LII.

RETURN SHOWING NUMBER OF HOLDINGS IN VARIOUS GROUPINGS AND SHEEP THEREON IN THE SEVERAL PASTORAL DISTRICTS AS AT 31ST DECEMBER, 1932.

| Pastoral District. | 1 AND UNDER 50 ACRES. | | 50 AND UNDER 100 ACRES. | | 100 AND UNDER 500 ACRES. | | 500 AND UNDER 1,000 ACRES. | | 1,000 AND UNDER 5,000 ACRES. | | 5,000 AND UNDER 10,000 ACRES. | | 10,000 AND UNDER 20,000 ACRES. | | 20,000 AND UNDER 50,000 ACRES. | | 50,000 AND UNDER 100,000 ACRES. | | 100,000 ACRES AND UPWARDS. | | TRAVELLING. | | TOTAL. | | | | |
|------------------------|-----------------------|--------|-------------------------|--------|--------------------------|--------|----------------------------|---------|------------------------------|-----------|-------------------------------|-----------|--------------------------------|-----------|--------------------------------|-----------|---------------------------------|-----------|----------------------------|-----------|-------------|--------|---------|--------|------------|------------|----|
| | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Hold-ings. | Sheep. | Flocks. | Sheep. | Hold-ings. | Sheep. | |
| Burke | 7 | 49 | 1 | 5 | 4 | 605 | 1 | 25 | 9 | 21,277 | 18 | 36,274 | 108 | 360,662 | 152 | 774,816 | 40 | 420,385 | 26 | 566,487 | .. | .. | .. | .. | 366 | 2,180,585 | |
| Burnett | 84 | 791 | 18 | 1,088 | 12 | 1,453 | 4 | 2,312 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 118 | 5,644 | |
| Cook | 13 | 322 | 2 | 109 | 2 | 260 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 17 | 751 | |
| Darling Downs | 199 | 3,478 | 57 | 3,451 | 253 | 57,398 | 222 | 110,332 | 660 | 946,945 | 144 | 503,043 | 61 | 404,140 | 27 | 410,964 | 2 | 82,264 | 1 | 48,060 | .. | .. | .. | .. | 1,626 | 2,570,075 | |
| Gregory North | 3 | 44 | 1 | 56 | .. | .. | .. | .. | 5 | 5,671 | 6 | 14,668 | 45 | 156,693 | 75 | 386,374 | 24 | 239,860 | 30 | 995,059 | 1 | 4,000 | .. | .. | 190 | 1,802,425 | |
| Gregory South | 1 | 12 | 1 | 69 | .. | .. | .. | .. | 1 | 1,800 | 1 | 1,800 | 12 | 32,578 | 19 | 86,348 | 12 | 95,139 | 13 | 230,660 | .. | .. | .. | .. | 60 | 446,819 | |
| Leichhardt | 30 | 420 | 13 | 640 | 27 | 2,605 | 27 | 8,226 | 109 | 96,020 | 82 | 155,560 | 49 | 156,650 | 30 | 194,270 | 9 | 222,040 | 1 | 36,790 | .. | .. | .. | .. | 377 | 873,221 | |
| Maranoa | 45 | 1,144 | 12 | 601 | 32 | 6,214 | 43 | 23,213 | 264 | 340,696 | 172 | 469,062 | 182 | 695,618 | 140 | 957,586 | 42 | 475,351 | 26 | 620,741 | 1 | 16,500 | .. | .. | 959 | 3,606,726 | |
| Mitchell | 11 | 216 | 1 | 50 | 7 | 1,070 | 3 | 1,059 | 40 | 51,717 | 54 | 110,330 | 210 | 913,997 | 278 | 1,894,278 | 90 | 1,268,137 | 38 | 1,804,803 | 5 | 25,906 | .. | .. | 737 | 6,071,563 | |
| Moreton | 206 | 3,132 | 19 | 928 | 19 | 1,721 | 3 | 637 | 4 | 723 | 2 | 2,827 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 253 | 9,968 | |
| North Kennedy | 23 | 650 | 2 | 95 | 6 | 775 | 3 | 1,170 | 7 | 3,450 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 41 | 6,140 | |
| Port Curtis | 47 | 803 | 15 | 718 | 19 | 2,689 | 5 | 628 | 9 | 5,129 | 2 | 2,472 | 3 | 15,000 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 100 | 27,439 | |
| South Kennedy | 8 | 213 | 1 | 146 | 4 | 610 | 1 | 134 | 10 | 3,633 | 5 | 8,995 | 15 | 30,865 | 9 | 36,567 | 5 | 34,282 | 1 | 36,998 | .. | .. | .. | .. | 59 | 152,443 | |
| Warrego | 6 | 102 | 2 | 46 | 6 | 541 | 3 | 743 | 8 | 4,005 | 26 | 52,279 | 123 | 386,778 | 183 | 1,025,347 | 71 | 667,522 | 44 | 1,412,417 | 1 | 4,748 | .. | .. | 473 | 3,554,528 | |
| Wide Bay | 84 | 1,059 | 11 | 723 | 11 | 2,670 | 1 | 86 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 107 | 4,588 | |
| Totals— | 767 | .. | 156 | .. | 402 | .. | 316 | .. | 1,126 | .. | 512 | .. | 808 | .. | 913 | .. | 295 | .. | 180 | .. | .. | .. | 8 | .. | 5,483 | .. | |
| Holdings | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Sheep | .. | 12,745 | .. | 8,785 | .. | 78,611 | .. | 148,565 | .. | 1,479,479 | .. | 1,357,310 | .. | 3,152,981 | .. | 5,766,550 | .. | 3,504,980 | .. | 5,752,015 | .. | .. | .. | 51,154 | .. | 21,312,865 | |
| Average Size of Flocks | 16 | .. | 56 | .. | 196 | .. | 470 | .. | 1,314 | .. | 2,651 | .. | 3,902 | .. | 6,316 | .. | 11,881 | .. | 31,956 | .. | .. | .. | 6,394 | .. | .. | 3,887 | |

Registrar-General.

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