

The Orchard.

THE CULTIVATION AND USES OF THE ROSELLA.

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THE Rosella (*Hibiscus Sabdariffa*) is one of our most valuable fruits, and, from the standpoint of the thrifty housekeeper, few edibles in the range of domestic cookery lend themselves more usefully to the stocking of a housewife's cupboard. In dealing with this fruit, I shall, as briefly as possible, refer to the cultivation of the plant as well as indicate a few methods of preparing the fruit for domestic needs.

SEED.

The most important matter to attend to, in the first instance, is to procure sound, fertile seed. Seed grown in the Northern part of the colony is usually safer to use than that grown in our Southern districts, it being on the whole better developed and more likely to be fertile. The Northern growers having a longer maturing season, owing to the absence of frost, a fuller germination and hence a better quality of seed is produced by them. Nevertheless, in certain seasons in our Moreton districts, it is possible to save seed fully equal to that grown in more tropical parts, as I have experienced; yet it is by no means certain that the season may prove propitious, and the local seed may turn out barren, although, to the inexperienced eye, it may appear otherwise.

SOIL.

Any moderately good soil will grow rosellas well. Land with a clay subsoil, if the latter be near the surface, had better be avoided if cultivating on a large scale; but for an allotment garden, where only a few trees are grown, the plant, with an average amount of attention, can be cultivated well enough to give returns sufficient to fill the cupboard for family needs, though perhaps not on so lavish a scale as if grown under more favourable conditions.

The shrub being hardy and, as a rule, fairly ornamental, given fair treatment, is calculated to adorn and prove useful in the kitchen garden no less than in the field.

SOWING.

My practice was to fix upon small patches of clean soil for a seed bed contiguous to the area proposed to be set out. For instance, when planting several acres, I found, by my method of setting, I could treat a much larger area with less labour, and do it more efficiently, by drawing from the nearest seed beds as the transplanting proceeded. For the ordinary kitchen garden it will suffice to mark out a plot a few feet square and lightly cover the seeds, well watering them and keeping the plot free of weeds until the plants are about 6 inches high, and then set them out in rows about 6 feet apart. If the grower is not disposed to start his seed from beds, the latter can be sown where the bushes are to remain, and thus the trouble of transplanting is saved; but precaution must be taken to have a few spare plants to meet the contingency of having some destroyed by grubs or other causes, so that the vacant spaces can be filled up. The best time to establish seed beds is during the month of October. Early sowing is recommended in the Southern parts of the colony, as, in the event of early frosts coming on, the maturing of the fruit will be seriously affected.

I have observed that late plantings in November generally prove fruitful, but, owing to the shortened period for attaining maturity, the plants will only be imperfectly grown, and produce but a proportionately limited crop. Hence, to obtain the most satisfactory results, early propagation of the plant is imperative. Of course, in our Northern regions and in part of our Southern coastal districts, which are comparatively immune from early frosts, the planting season can be safely put off until November or the early part of December without undue risk to the crop.

TRANSPLANTING.

In the ordinary course of garden work, the transplanting is usually performed by the simple removal of the plants from the seed bed, without unduly tearing the tender root. A small hand fork for loosening the soil, so that the plant can be lifted in good order, is all that is needful. The plants having been raised, set the plants out in regular rows, and in well-firmed fertile soil, giving due heed to the equal extension of the root fibres, which not only helps to hold the plant firm as against strong winds which often seriously affect the shrub when in vigorous growth, as it acquires a head considerably out of proportion to its foothold, but it also enables the roots by the regular radiation to find more plant food for the sustenance and early development of the bush—all of which, though apparently trivial precautions, nevertheless have a very important bearing on the cultivation of this fruit. Perhaps my own practice in handling this crop as a feature of field and orchard operations may now be brought in. During my early orchard efforts, while my young trees were being planted out, it became necessary to discover what catch crop could be cultivated with advantage between the rows of orchard trees. My choice, for some seasons, fell on the rosella as being a crop which would not unduly interfere either with the cultivation of my fruit trees or exhaust the soil to any serious extent. The first lesson in orchard operations, more especially with young trees, is to have and keep your land clean from weeds at the least possible cost, which at once suggests the employment of labour-saving machinery. I determined to try a system of my own devising, which proved very successful.

As my planting operations necessarily spread over several acres of orchard, and at most two rows of plants could be set in between each row of fruit trees, in order to facilitate transplanting over this area, I, as before stated, selected suitable spaces contiguous to my proposed planting areas for seed beds, sowing the seed not so thickly as ordinary for reasons hereafter given. These beds were well watered and kept clean, so that in the transfer of plants no weeds would be conveyed to the orchard land. Most persons acquainted with the routine of orchard work will appreciate the necessity for keeping the land clean to the very last possible moment by the aid of horse implements. Immediately after running the harrows or scarifier over the land and as soon as the soil was in a satisfactory condition, I pegged out my line of drills between the rows of fruit trees, and with an American post-hole digger, with one drive of the implement, raised the necessary amount of soil to enable the transplanted plant to occupy the space, and thus rapidly traversed my length of drill. My next operation was to pick up the plant and soil with the digger from the nearest seed bed, and transfer plant and soil into the hole prepared for it.

The opening and closing mechanism of the digger lends itself most perfectly to this work, and a pressure of the foot on each side of the plant is all that is needed to permanently fix it in its place. Thus the plant is set with the soil at its root undisturbed, and it continues to grow without check. This system I have successfully adopted in transplanting melons and other plants of a delicate nature that usually do not thrive under harsher treatment. For filling up misses in the rows I have found with many crops this instrument quite as valuable as in its legitimate use as a post-hole digger. But an implement that will satisfactorily perform in some soils may prove a comparative failure in others, hence I do not claim that in all soils success will necessarily follow. I am quite aware that the waxy black soils or heavy clays are not best adapted for my system, but on such soils as I then worked—red loam of a sandy nature

—or any of our light scrub soils I know of no better system to adopt. The propagation of this plant by cuttings is not commonly adopted, and indeed is not as satisfactory as from seedling plants; still there are times when the system will prove worthy of a trial. It may be that from failure of the seed to germinate there are not enough plants to fill the area or to supply misses in the rows transplanted. As it is, however, imperative to replace them, propagation from cuttings, or, more properly, branches, will be expedient. When the shrubs are 1 foot or 18 inches high, select from your most vigorous and bushy shrub a couple of the lower branches. Do not cut them, but, with a gentle snatch, break off the wood close to the main stem of the shrub. It will break off very easily, and on examination of the branch you will observe the edging of the break will indicate a strong rim of bark which will, on transplanting, quickly become callous and soon provide a good root-hold for the shrub. Bushes propagated in this way in some seasons bear when the more vigorous and earlier shrubs carry little or no fruit, but they are invariably more stunted in growth, yet usually yield a fair crop. Thus, by adopting any of the systems here described, the prospective grower can hardly fail. With a moderate rainfall, rosellas will grow luxuriantly in any locality where the soil is suitable, and when winter frosts do not set in too early to allow of the proper maturing of fruit. Too exposed situations should, if possible, be avoided, as high winds, blowing on the bush with its luxuriant foliage, often break down the branches, and, in times of continued wet weather, blow the shrubs over.

PICKING THE FRUIT.

This is a rather monotonous occupation for adults, and is more suitable for the young folks. As soon as the fruit is matured, it is advisable to lose no time in gathering. When this work is delayed, I have observed a tendency on the part of the fruit stalk to so toughen as to be an impediment to quick gathering, and, moreover, it leaves the fruit exposed after maturity on the shrubs to become to some extent deteriorated by the attacks of aphids, which often affect it at this stage. In picking for market, care should be observed to pick the fruit as free as possible from stalks, leaves, &c., as, when required by jam factories, the presence of such superfluous matter will militate against its sale.

SHELLING.

The removal of the edible covering from the seed pod is a somewhat wearisome business, more especially when it depends on hand labour. Usually, the pod is taken in the hand and the covering is dragged off piecemeal, and a knife is employed to sever the base of the pod, which facilitates the removal of the covering, both of which operations are rather slow. Here comes in the truth of the old adage that "necessity is the mother of invention," and, as a result, an invention is to be obtained from some of our city seedsmen that overcomes the difficulty of separating the pods from the fruit, and, the cost of the instrument being moderate, any grower on a large scale who requires to separate the fruit will do well to purchase one. The diagram shows two forms

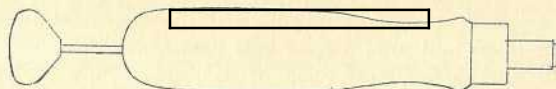


FIG. 1.

of the instrument. Fig. 1 was invented and patented by Mr. T. Chalk, of Coorparoo; and Fig. 2 is an improvement on it, which I made for my own use.

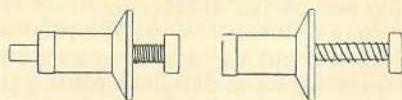


FIG. 2.

The difference in the two instruments is that the piston in mine is moveable and is supplied with a spring, and, that being so short, it can be worked with one hand whilst the fruit is held in the other. Those who care to construct the apparatus for themselves can easily do so with little trouble or cost. My appliance was home-made, and, although crude in appearance, answered its purpose very well. To describe the article, simple though it be, is not very easy; but the outlines being given, the ingenious grower will perhaps be able to, by help of the illustration here given, seize upon the design. It can be made by taking a common cotton-reel and whittling down one end to receive a ferrule, for which I used a small brass cartridge-case. This fits on the end of the reel and acts as a cutter, which is worked by taking the pod in one hand and pressing the ferrule into the stalk-end of the pod and giving it at the same time a slight turn, which causes the cutter to pass clean through the covering, and so relieves the pod. To expel the latter from its covering, you make a small pusher from a piece of round wood that will just work through the hole in the centre of the reel. This piece of wood is made with a flat head, so that it rests against the palm of the hand without hurting it when pressing the pod out, while between the top of the pusher and the reel-head is put a small spiral spring made out of any light wire. This is put on to draw back the pusher after it has driven out the pod, and thus you can quickly and easily prepare this fruit for use.

UTILISING THE FRUIT.

Most housewives are familiar with the various uses of the rosella. For jam-making it is well adapted, making a palatable, easily-kept product, if put up in earthenware or glass. Unfortunately, rosellas contain an acid principle which precludes putting up this class of fruit in ordinary tinware, and hence some failures have been experienced in this respect. For pickles the fruit is well adapted, and it makes an excellent condiment. In my own experience, I have found that the best method of handling the fruit was to dry it after removing the pod from the capsule, which, if done with the instrument before described, cuts out the covering nearly whole, which is thus better adapted for drying purposes. I have kept the dried fruit in jars and tins for two or three years in good order. Rosella-growers would do well to give this mode of preparing the fruit more attention, for I have found it far and away the best in saving the crop. All that is necessary to do in drying is to prepare the fruit as I have shown, and, in some roomy, airy position (not necessarily in the sun), place the fruit either on trays or sheets on the floor, allowing as much air to pass through and over the fruit as possible. In a few days all superfluous moisture will have evaporated, and the dried article can be packed away in jars. By this means rosellas can be had in good condition all the year round. All that is needful, when required for use for jam, tarts, &c., is to take the quantity necessary and pour over the fruit a little water, when it will absorb the water and resolve itself into apparently fresh fruit. The large grower has in this method a certain way of keeping such surplus fruit that may not be in immediate demand, or that the low prices ruling may deter him from marketing as ordinary fruit. I am of opinion that fruit put up in this form, and exported to the London market, should give better results than the already proved failures in the form of jams.

It is not commonly known that in the utilisation of the choko, now fast becoming a popular vegetable, that very pleasant tarts can be made by using that vegetable (*Sechium edule*) in conjunction with the rosella. It is well known that many object to what they term the excessive tartness of the rosella. Using it in conjunction with the choko this tartness is modified, and tends to make both these fruits more appetising. In fact, rosellas are specially adapted for blending with less tart fruit, as they give a flavour to many fruits and vegetables which otherwise would not be so acceptable for table use.

WINE-MAKING.

This is a further use for rosellas. Although I have no personal experience in this method of dealing with the fruit, I know that a good palatable beverage is made from rosellas. To those who care to try to utilise this fruit in this manner, I give here a recipe sent me by a friend who has a wide reputation as a maker of rosella wine:—

ROSELLA WINE.

Put your fruit into a cask that has one head out. Pour boiling water over the fruit, rather more than enough to cover it. Let this stand for about three days—stir now and again.

At the end of three days, strain the liquor into another cask—*this cask to have both heads in*. Then for every gallon of liquor take 3 lb. of sugar, and make a good thick syrup of same.

Pour this syrup while hot into the liquor, and stir well.

Leave the cask with the bung out until fermentation starts. Should this not occur, say, in twenty-four hours, add a bottle of yeast. Keep the cask in as even a temperature as possible, as this will help the fermentation.

In the process of fermentation, you will lose some of your liquor. Should it ferment thoroughly, save the liquor that overflows from the bung-hole, and put it back into the cask; but should you find this not enough to keep your cask full, add a little warm water.

When the liquor has almost finished fermenting—say when it stands at 3 degrees density by the saccharometer (Beaumè)—bung up the cask and leave for three months. Then bottle.

From *Hibiscus Sabdariffa*, fibre has been repeatedly made, specimens of which and of cloth manufactured from it are to be seen in the museum of the Agricultural Department, William street. Some few years ago, a local grower gave the matter of the production of this plant considerable attention, specially in view of the utilisation of his crop for fibre purposes. I am of opinion that his failure to go on with the matter was consequent on want of machinery to prepare the fibre, which is a drawback only too patent with regard to the development of many industries of this character in Queensland.

DISEASES.

The diseases affecting this plant are not usually very formidable, although in certain seasons a grub attacks the roots of the bushes, and a disease, apparently fungoid in character, sometimes affects the shrub. The common aphid is usually present in quantity on matured fruit; but, on the whole, while this crop is, in common with others, susceptible to occasional serious injury from pests, it is hardy, useful for many purposes, and profitable to grow.

FRUIT CULTURE IN QUEENSLAND.

By ALBERT H. BENSON.

CITRUS CULTURE.—PART I.

IN the various articles on Fruit Culture that have already appeared from time to time in this *Journal* I have directed my writing to what may be termed the cultural or primary branches of the industry, as, with the exception of a short paper on the Chickasaw Plum, I have dealt with the industry as a whole, and have not particularised the culture of individual fruits. I have endeavoured to show what land is suitable for fruit culture, and how it should be prepared, and have also given information respecting the various methods of propagating fruit trees; the laying out, planting, pruning, cultivation, and manuring of the orchard, as well as the best methods of keeping fruit pests in check.