

Should I grow wildflowers? information kit

Reprint – information current in 2000



REPRINT INFORMATION – PLEASE READ!

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This publication has been reprinted as a digital book without any changes to the content published in 2000. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research:

- Chemical recommendations—check with an agronomist or APVMA www.apvma.gov.au
- Financial information—costs and returns listed in this publication are out of date. Please contact an adviser or industry body to assist with identifying more current figures.
- Varieties—new varieties are likely to be available and some older varieties may no longer be recommended. Check with an agronomist, call the Business Information Centre on 13 25 23, visit our website www.deedi.qld.gov.au or contact the industry body.
- Contacts—many of the contact details may have changed and there could be several new contacts available. The industry organisation may be able to assist you to find the information or services you require.
- Organisation names—most government agencies referred to in this publication have had name changes. Contact the Business Information Centre on 13 25 23 or the industry organisation to find out the current name and contact details for these agencies.
- Additional information—many other sources of information are now available for each crop. Contact an agronomist, Business Information Centre on 13 25 23 or the industry organisation for other suggested reading.

Even with these limitations we believe this information kit provides important and valuable information for intending and existing growers.

This publication was last revised in 2000. The information is not current and the accuracy of the information cannot be guaranteed by the State of Queensland.

This information has been made available to assist users to identify issues involved in wildflower production. This information is not to be used or relied upon by users for any purpose which may expose the user or any other person to loss or damage. Users should conduct their own inquiries and rely on their own independent professional advice.

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained in this publication.



Queensland Government

Economics of **PRODUCTION**

If you want to earn a living from growing wildflowers you must run the enterprise as a business, not a hobby. Six cash flow budgets and sensitivity analyses for growing eucalypt buds and flowers, eucalypt foliage, kangaroo paw, Protea 'Pink Ice', rice flower and waxflower are presented as a guide. Intending growers should seek specialist horticultural and financial advice before starting their enterprise.

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Cash flow budgets

One way of assessing the costs of wildflower production is to construct a cash flow budget, and to examine the difference between variable or operating costs (expenditure) and gross return (income) over time (cumulative net return).

Variable or operating costs include growing, harvesting and domestic freight costs. The calculation does not consider fixed or overhead costs such as rates, capital items, interest repayments, electricity, insurance and living costs. Nor does it include business labour (management) and administrative overheads such as telephone, facsimile, stationery and postage, licensing costs and accountant's fees. These costs must be taken into account when calculating a whole farm budget.

The following six budgets are intended as guides only. The budget framework—rather than the figures provided—may be useful for developing appropriate cash flow budgets for your own circumstances. All data included in these budgets are based on information provided to the authors. On both the domestic and export markets, product prices are subject to market volatility, as are input costs. Expect unexpected changes.

No responsibility is taken for accuracy of the data. It should be confirmed and changed where necessary by the user before any decisions based on the results are made. Talk to your accountant and engage the services of a qualified horticultural consultant, preferably specialising in wildflower production, before starting any business venture.

Assumptions

The budgets are based on a 1 ha monoculture, however, a wildflower farm will often have a wide mix of flower crops in smaller units of production. All machinery operations include costs for fuel and oil, but not for repairs and maintenance. It is common practice for growers to replace young plants lost during establishment with new plants. None of the budgets make provision for this, however, replacement plants can improve overall net returns in some situations.

In these budgets production labour costs are included. In many instances a crop is only made profitable by the extensive use of the owner-operator's own labour. Less profitable crops are often grown for other reasons, such as to extend the overall product range or to ensure continuous employment throughout the year. The management, administrative and marketing expertise of the owner-operator has not been costed.

The gross return to grower is the price received at the drop-off point within Australia. For domestic production this will usually be the flower wholesaler—for overseas sales the exporter or freight forwarder. The costs of export are absorbed into the average unit price returned to the grower. The off-farm overheads associated with exporting include: insurance;

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Export markets
Marketing
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Australian Quarantine and Inspection Service (AQIS) fees; freight and distribution costs overseas; and auction, importer and exporter commissions.

These budgets do not include provision for Goods and Services Tax (GST) or inflation and may contain slight rounding discrepancies.

Eucalypt buds and flowers budget

Assumptions

One hectare of eucalypt buds and flowers in south-east Queensland, 400 plants, autumn planting, assuming 7% losses in the first year and 2% losses in subsequent years. Freight from Toowoomba to Brisbane or Gatton to Sydney.

Cultivated eucalypt bud and flower is a new crop with limited data available. There are indications that some species may only produce every second year after reaching full production. This has been factored in as an average annual yield in the budget. The productive commercial life of the trees is yet to be determined, however, if the plants remain in good health this could be prolonged beyond the nine years assumed in this budget. Some species need replacement after 10 years.

New plants are produced from seed, however, obtaining seed from lines selected for commercial use helps to avoid problems of variability within a species and unsuitable forms.

Viable farm size

Farm size should be determined from studying estimated returns as listed and also by consultation with people already involved in the industry.

Long term economic prospects

Long term prospects for the marketing of eucalypt buds and flowers are positive. Overseas buyers have responded with enthusiasm to what they see as an exciting new product. Ausbud is marketing buds and flowers successfully in both the domestic and export markets.

Table 1. Cash flow budget for eucalypt buds and flowers

	Year 1	Year 2	Year 3	Year 4
Year 5	Year 6	Year 7	Year 8	Year 9

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Wildflower grower as-
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Income \$

Yield (saleable stems/plant)	0	0	10	30	60	60	60	60	60
Surviving plants (number)	372	365	357	350	343	336	330	323	316
Yield (stems/hectare)	0	0	3 573	10 503	20 587	20 176	19 772	19 377	18 989
Gross return (@ \$0.75/stem)	0	0	2 680	7 878	15 440	15 132	14 829	14 532	14 242

Expenditure \$**Establishment**

Plants (400 @ \$1.20/plant)	480
Irrigation	400
Guards, weedmat	600
Soil preparation	250
Labour (preparation, planting, irrigation)	600
Contingencies	150

Operating

Fertiliser (@\$0.30/plant)*	120	112	109	107	105	103	101	99	97
Chemicals/spraying (@\$0.35/plant)*	140	130	128	125	123	120	118	115	113
Harvesting and packing (@ \$0.12/stem)			429	1 260	2 470	2 421	2 372	2 325	2 279
Packaging (@ \$0.08/stem)			286	840	1 647	1 614	1 582	1 550	1 519
Freight to market (@ \$3.00 box; 24 bunches/box; 5 stems/bunch)			89	263	515	504	494	485	475
Pruning (@ \$2.00 plant)*	800	744	729	715	700	686	673	659	646
Contingencies	150	300	300	300	300	300	300	300	300
Total expenditure	3 690	1 286	2 070	3 610	5 860	5 749	5 640	5 533	5 428
Net return	-3 690	-1 286	610	4 268	9 580	9 383	9 189	8 999	8 813
Cumulative net return	-3 690	-4 976	-4 366	-99	9 482	18 865	28 054	37 053	45 867

* This item costed for the number of plants at the start of the year, (rather than for plants surviving at the end of the year).

Eucalypt foliage budget

Assumptions

One hectare of eucalypt foliage in south-east Queensland, 1500 plants, autumn planting, assuming 7% losses in the first year and 2% losses in subsequent years. Freight from Toowoomba to Brisbane or Gatton to Sydney.

The productive commercial life of the trees is yet to be determined, however, if the plants remain in good health this could be prolonged beyond the nine years assumed in this budget. Some species need replacement after 10 years.

Viable farm size

Farm size should be determined from studying estimated returns as listed and also by consultation with people already involved in the industry.

Long term economic prospects

Long term prospects for the marketing of eucalypt foliage are positive. Eucalypt foliage is grown widely throughout Australia and the world. The export potential for silver foliage, however, is very limited.

Table 2. Cash flow budget for eucalypt foliage

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Income \$									
Yield (saleable stems/plant)	5	30	50	50	50	50	50	50	50
Surviving plants (number)	1 395	1 367	1 340	1 313	1 287	1 261	1 236	1 211	1 187
Yield (stems/hectare)	6 975	41 013	66 988	65 648	64 335	63 048	61 788	60 552	59 341
Gross return (@ \$0.25/stem)	1 744	10 253	16 747	16 412	16 083	15 762	15 447	15 138	14 835
Expenditure \$									
Establishment									
Plants (1500 @ \$1.20/plant)	1 800								
Irrigation (@ \$1.00/plant)	1 500								
Weedmat (@ \$1.00/plant)	1 500								
Soil preparation*	750								
Labour (preparation, planting, irrigation @ \$1.50/plant)	2 250								
Contingencies	150								
Operating									
Fertiliser (@ \$0.30/plant)**	450	419	410	402	394	386	378	371	363
Chemicals/spraying (@ \$0.35/plant)**	525	488	478	469	460	450	441	433	424
Harvesting and packing (@ \$0.12/stem)	837	4 922	8 039	7 878	7 720	7 566	7 415	7 266	7 121
Packaging (@ \$0.05/stem)	349	2051	3349	3282	3217	3152	3089	3028	2967
Freight to market @ \$0.02/stem	140	820	1340	1313	1287	1261	1236	1211	1187
Pruning (@ \$0.50 plant)**	750	698	684	670	656	643	630	618	606
Contingencies	150	300	300	300	300	300	300	300	300
Total expenditure	11 150	9 697	14 600	14 314	14 034	13 759	13 490	13 226	12 967
Net return	-9 407	557	2 147	2 098	2 050	2 003	1 957	1 912	1 868
Cumulative net return	-9 407	-8 850	-6703	-4 605	-2 554	-551	1 406	3 318	5 186

* Hilling needed, hence more expensive than the lower density planting of eucalypt buds and flowers.

** This item costed for the number of plants at the start of the year, (rather than for plants surviving at the end of the year).

Kangaroo paw budget

Assumptions

One hectare of kangaroo paw in south-east Queensland, 7330 plants, autumn planting, 10% plant loss per annum. Refrigerated transport from south-east Queensland to Sydney. Plants under weedmat have a life expectancy of five to six years. In the fifth and sixth year stem quality declines, resulting in a lower average price per stem.

Plant losses are inevitable over time; therefore this budget includes provision for a normal rate of plant loss. Refer to the sensitivity analysis on page 63 to see the impact of improved plant survival on cash flow.

Viable farm size

Two hectares of unencumbered property, assuming optimum production and market prices and minimum plant losses.

Long term economic prospects

The industry is fairly stable. New varieties are needed to initiate further growth in the industry.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Income \$						
Yield (stems/plant)	5	25	35	30	30	30
Surviving plants (number)	6 597	5 937	5 344	4 809	4 328	3 895
Yield (stems/hectare)	32 985	148 433	187 025	144 276	129 849	116 864
Gross return (@ \$0.35/stem in years 1–4 and \$0.25/stem in years 5–6)	11 545	51 951	65 459	50 497	32 462	29 216
Expenditure \$						
Establishment						
Plants (7330 @ \$1.50/plant)	10 995					
Irrigation	3 000					
Weedmat	4 000					
Soil preparation	1 200					
Labour (planting)	1 400					
Contingencies	1 000					
Operating						
Fertiliser	150	300	400	500	500	500
Chemicals	250	350	400	400	400	400
Maintenance (slashing, etc.)	1 250	1 250	1 250	1 250	1 250	1 250
Spraying	500	1 000	1 250	1 400	1 400	1 400
Harvesting, packing and packaging (@\$0.16/stem)	5 278	23 749	29 924	23 084	20 776	18 698
Freight to market (@ \$0.02/stem)	660	2 969	3 740	2 886	2 597	2 337
Contingencies	750	750	750	750	750	750
Total expenditure	30 432	30 368	37 714	30 270	27 673	25 335
Net return	-18 888	21 584	27 744	20 227	4 789	3 880
Cumulative net return	-18 888	2 696	30 440	50 667	55 457	59 337

Table 4. Sensitivity analysis—cumulative cash flow (excluding capital costs) of 1 ha (7330 plants) of kangaroo paw in years 1 to 6 at two loss rates and two freight rates. All other assumptions as per Table 3

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
No plant losses						
	Cumulative cash flow (excluding capital costs) per hectare					
Freight costs						
\$0.02/stem e.g. south-east Queensland to Sydney	-\$18 265	\$9 238	\$48 802	\$81 885	\$92 978	\$104 071
\$0.08/stem e.g. Emerald (central Queensland) to Sydney	-\$20 464	-\$3 956	\$20 215	\$40 104	\$38 003	\$35 902
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
10% annual plant losses						
	Cumulative cash flow (excluding capital costs) per hectare					
Freight costs						
\$0.02/stem e.g. south-east Queensland to Sydney	-\$18 888	\$2 696	\$30 440	\$50 667	\$55 457	\$59 337
\$0.08/stem e.g. Emerald (central Queensland) to Sydney	-\$20 867	-\$8 189	\$8 334	\$19 904	\$16 903	\$13 771

Protea 'Pink Ice' budget

Assumptions

One hectare of 'Pink Ice' in south-east Queensland, 1500 plants, spring planting, plant losses totalling 10% (cumulative) over the first three years and at 2% per year thereafter. First harvest in second year. Refrigerated transport from south-east Queensland to Sydney.

Income figures assume a well-maintained plantation with quality long stemmed flowers. Top production will be reached around the fifth or sixth year, at about 40 to 50 stems per bush. In the seventh to ninth years quality (and hence returns per stem) will decline. Plants will normally need to be replaced after nine years.

Viable farm size

For proteas such as 'Pink Ice', 5 ha (absolute minimum).

Long term economic prospects

Domestic: Gluts of 'Pink Ice' after Valentines Day in February through to May cause a drop in price from \$1.00 to \$0.30 per stem. Early 'Pink Ice' (November to December) blooms sell at a price premium.

Export: Reasonable for top quality 'Pink Ice' only.

Table 5. Cash flow budget for Protea 'Pink Ice'

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Income \$									
Yield (stems/plant) (Range)	0	5	12.5 (10 – 15)	25 (20 – 30)	45 (40 – 50)	45 (40 – 50)	45 (40 – 50)	45 (40 – 50)	45 (40 – 50)
Surviving plants (number)	1 448	1 398	1 350	1 323	1 297	1 271	1 245	1 220	1 196
Yield (stems/hectare)	0	6 990	16 875	33 075	58 365	57 195	56 025	54 900	53 820
Gross return* (@ \$0.75/stem in years 1–6 and \$0.60/stem in years 7–9)	0	5 243	12 656	24 806	43 774	42 896	33 615	32 940	32 292
Expenditure \$									
Establishment									
Plants (1500 @ \$5/pot for 15 cm pots)**	7 500								
Irrigation	2 500								
Soil preparation	1 000								
Mulching		4 500							
Labour (planting, mulching)	690	310							
Contingencies	500								
Operating									
Fertiliser	75	75	75	75	75	75	75	75	75
Maintenance (weeding, slashing, etc. including labour)	500	500	500	500	500	500	500	500	500
Spraying	450	450	450	450	450	450	450	450	450
Harvesting and packing labour (@ \$0.10/stem)		699	1 688	3 308	5 837	5 720	5 603	5 490	5 382
Packaging (@ \$0.10/stem)		699	1 688	3 308	5 837	5 720	5 603	5 490	5 382
Freight to market (@ \$3/carton; 50 stems/carton)		419	1 013	1 985	3 502	3 432	3 362	3 294	3 229
Pruning***		559	1 350	2 646	2 594	2 542	2 490	2 440	2 392
Contingencies	500	500	500	500	500	500	500	500	500
Total expenditure	13 715	8 712	7 263	12 771	19 294	18 938	18 582	18 239	17 910
Net return	-13 715	-3 469	5 394	12 036	24 480	23 959	15 034	14 701	14 382
Cumulative net return	-13 715	-17 184	-11 790	245	24 725	48 684	63 717	78 418	92 800

* High prices early in season, oversupplied in April and May. This budget is based on a high quality long-stemmed product in years 1 to 6, with a deterioration in product quality (and hence price) in years 7 to 9. Prices normally range from \$0.30 to \$1.00 per stem, averaging \$3.00 for a five stem bunch. Returns are low for short-stemmed and late season product.

** 7.5 cm pots are \$3.00 each, but the first commercial harvest is delayed an additional year. Freight may add an additional \$1.00 per pot.

*** The requirement for pruning increases as the plants grow larger; hence no pruning year 1, two minutes per plant year 2, five minutes per plant year 3 and 10 minutes per plant in all subsequent years. Labour costed at \$12.00 per hour for the number of plants surviving at the end of the year.

Table 6. Protea 'Pink Ice'—Effect of sustained lower prices* over a nine-year period on cumulative net return, if marketable stems decline from 45 to 35 stems per plant in years 8 and 9. All other assumptions as per Table 5

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
Stems per plant	0	5	12.5	25	45	45	45	35	35
Net return @ \$0.60 per stem	-13 715	-4 518	2 863	7 075	15 725	15 379	15 034	10 553	10 315
Cumulative net return	-13 715	-18 233	-15 370	-8 296	7 430	22 809	37 842	48 395	58 711

* This may result from poor timing within the market or lower quality flowers from poor plantation management or postharvest practices.

Rice flower budget

Assumptions

One hectare of rice flower in south-east Queensland, 4000 plants, autumn planting, with 10% losses each year for the first three years and 20% losses in the fourth and fifth years. Harvested stems are sold to the export market (75%) and the domestic market (25%). Refrigerated transport from south-east Queensland to Sydney. Rice flower can remain commercially productive for three to four years; however, many growers are now replacing plants after two years. In this example, productivity is well down by the fifth year.

Viable farm size

Five hectares of unencumbered property, assuming optimum production and market prices and a minimum of plant losses.

Long term economic prospects

Rice flower has experienced problems in the market due to variable product quality. The long-term future of the crop will depend on the rigid adherence of growers to quality (including maturity) standards. Growers will need to succeed in the often-difficult task of locating commercial cultivars suited to the conditions experienced on their property. The underlying market demand for quality rice flower, particularly in Asian markets, should be sustained if these challenges can be overcome.

A sensitivity analysis illustrating the effect of high, medium and low prices and high, medium and low plant losses on cumulative net returns has been published in the book *Rice flower—integrating production and marketing* by Carson, C. and Lewis, J.



Publications—rice
flower
References page 116

Table 7. Cash flow budget for rice flower

	Year 1	Year 2	Year 3	Year 4	Year 5
Income \$					
Yield (stems/plant)	10	25	30	35	35
Surviving plants (number)	3 600	3 240	2 916	2 333	1 866
Yield (stems/hectare)	36 000	81 000	87 480	81 648	65 318
Gross return (75% @ \$0.42/stem export and 25% @ \$0.20/stem domestic)	13 140	29 565	31 930	29 802	23 841
Expenditure \$					
Establishment					
Plants (4000 @ \$2.00/plant)	8 000				
Irrigation	2 770				
Weedmat or plastic	4 000				
Soil preparation	1 350				
Basal fertiliser	300				
Labour (planting)	880				
Contingencies	1 000				
Operating					
Fertiliser	100	400	440	440	440
Irrigation	300	500	550	550	550
Chemicals and packing	400	440	500	500	500
Maintenance (including pruning, spraying and weed control)	1 364	1 374	1 164	1 164	1 164
Harvesting, packing and packaging (@ \$0.15/stem)	5 400	12 150	13 122	12 247	9 798
Freight to market (@ \$0.02/stem)	720	1 620	1 750	1 633	1 306
Contingencies	1 000	1 000	1 000	1 000	1 000
Total expenditure	27 584	17 484	18 526	17 534	14 758
Net return	-14 444	12 081	13 405	12 267	9 083
Cumulative net return	-14 444	-2 363	11 042	23 309	32 392

Waxflower budget

Assumptions

One hectare of waxflower in south-east Queensland, 2200 plants, autumn planting, 10% plant loss per annum. Refrigerated transport from south-east Queensland to Sydney. The commercially productive life of waxflower is seven to ten years depending on variety and whether the colour and form is still in demand in the market place. Although the plants become larger with age, the yield of marketable stems declines. Plant losses are inevitable over time; therefore this budget includes provision for a normal rate of plant loss. Refer to the sensitivity analysis on page 69 to see the impact of improved plant survival on cash flow.

Viable farm size

Five hectares of unencumbered property, assuming optimum production and market prices and minimum plant losses.

Long term economic prospects

Waxflower is a global commodity that is commonly traded in the market and does not generally attract high (novelty) prices. Long term prospects remain sound if the cultivars grown provide a range of colours over an extended period. Growers need to continually adopt new varieties to maintain market share.

Table 8. Cash flow budget for waxflower

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Income \$										
Yield (420 gram bunches/plant for United States market)	2	8	10	12	12	12	12	12	8	6
Surviving plants (number)	1 980	1 782	1 604	1 443	1 299	1 169	1 052	947	852	767
Yield (bunches/hectare)	3 960	14 256	16 038	17 321	15 589	14 030	12 627	11 364	6 819	4 603
Gross return (@ \$2.30/bunch)	9 108	32 789	36 887	39 838	35 855	32 269	29 042	26 138	15 683	10 586
Expenditure \$										
Establishment										
Plants (2200 @ \$1.50 /plant)	3 300									
Irrigation	3 000									
Weedmat	4 000									
Soil preparation	1 200									
Labour (planting)	820									
Contingencies	1 000									
Operating										
Fertiliser	150	300	400	500	500	500	500	500	500	500
Chemicals	250	350	400	400	400	400	400	400	400	400
Maintenance (pruning, weed control)	1 250	1 250	1 250	1 250	1 250	1 250	1 250	1 250	1 250	1 250
Spraying	500	1 000	1 250	1 400	1 400	1 400	1 400	1 400	1 400	1 400
Harvesting, packing and packaging (@ \$0.85/bunch)	3 366	12 118	13 632	14 723	13 251	11 926	10 733	9 660	5 796	3 912
Freight to market (@\$0.10/bunch)	396	1 426	1 604	1 732	1 559	1 403	1 263	1 136	682	460
Contingencies	750	750	750	750	750	750	750	750	750	750
Total expenditure	19 982	17 193	19 286	20 755	19 109	17 629	16 296	15 096	10 778	8 672
Net return	-10 874	15 596	17 601	19 083	16 745	14 641	12 747	11 042	4 905	1 913
Cumulative net return	-10 874	4 722	22 323	41 406	58 151	72 792	85 538	96 580	101 485	103 399

Table 9. Sensitivity analysis—cumulative cash flow (excluding capital costs) of 1 ha (2200 plants) of waxflower in years 1 to 4 and years 6, 8 and 10 at two loss rates and two freight rates. All other assumptions as per Table 8

	Year 1	Year 2	Year 3	Year 4	Year 6	Year 8	Year 10
No plant losses							
Cumulative cash flow (excluding capital costs) per hectare							
Freight costs							
\$0.10 bunch e.g. south-east Queensland to Sydney	-10 280	9 830	35 480	66 820	129 500	192 180	225 160
\$0.36 bunch e.g. Emerald (central Queensland) to Sydney	-11 424	4 110	24 040	48 516	97 468	146 420	171 392
	Year 1	Year 2	Year 3	Year 4	Year 6	Year 8	Year 10
10% annual plant losses							
Cumulative cash flow (excluding capital costs) per hectare							
Freight costs							
\$0.10 bunch e.g. south-east Queensland to Sydney	-10 874	4 722	22 323	41 406	72 792	96 580	103 399
\$0.36 bunch e.g. Emerald (central Queensland) to Sydney	-11 904	-15	13 417	27 997	51 681	69 232	73 081

