

Strawberry information kit

Reprint – information current in 1997



REPRINT INFORMATION – PLEASE READ!

For updated information please call 13 25 23 or visit the website www.deedi.qld.gov.au

This publication has been reprinted as a digital book without any changes to the content published in 1997. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research: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 Infopest www.infopest.qld.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- Financial information—costs and returns listed in this publication are out of date.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 1997. 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 the strawberry 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



Before you **START**

If you have never grown strawberries before, you will find this section very useful. It is a checklist of the things you need to know before you start. It will help you make the right decision about growing strawberries. The information here is brief and to the point. More detail on important areas is provided in other sections of the kit. Symbols on the left of the page will help you make these links.

more info



Hydroponic
strawberry growing
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more info



Organic strawberry
growing
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NOTE: Most strawberries are grown in the ground using a mixture of organic and manufactured fertilisers and pesticides. This is the production system referred to in this section. For growers with alternative production systems such as hydroponics and organics, some of the information will still be relevant but it should be read in conjunction with the special notes on these systems in Section 4.

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An overview of the Queensland strawberry industry

Queensland grows about 350 hectares of strawberries each year mainly along the coastal strip from Caboolture to Gympie. Small areas of strawberries are also grown further north along the coast, on the Atherton Tableland, around Brisbane, in the Lockyer Valley and on the Darling Downs and Granite Belt.

The industry supplies fruit from about May to October when the warmer winter and spring conditions of coastal Queensland enable strawberry plants to grow and produce fruit. There is little competition from the traditional temperate strawberry growing areas of southern Australia at this time. Most Queensland strawberry production occurs from August to October, as climate and existing technology limit the production of significant quantities of early fruit from May to July.

Strawberries are grown from runners which are mainly produced on special runner farms. These 'certified' runners are available for planting on fruit-producing farms in March/April.

About 30 million punnets of fruit are produced each year with most consigned to metropolitan wholesale markets in Brisbane, Sydney, Melbourne and Adelaide. Smaller amounts are produced for export overseas, local sales and 'pick-your-own' operations.

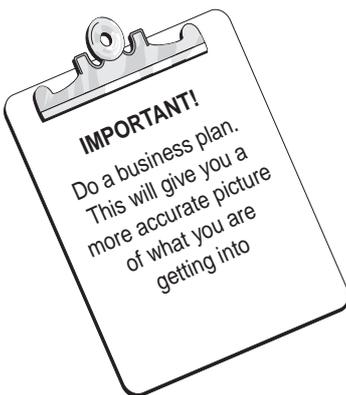


Understanding the strawberry plant
Section 4 Page 2

Know what you are getting into

Strawberries are a popular crop because quick returns can be made from small areas of land with relatively little capital investment. Here are the important things you need to know.

- It takes a season or two to gain the experience necessary to properly manage the specialised strawberry production and marketing system. During this period, it is difficult to make a profit.
- Strawberry prices can vary significantly from season to season as a result of sudden large increases in plantings. Don't be misled by high prices in one season. This may encourage a lot of speculators to enter the industry next season causing a dramatic fall in prices. You will need to grow strawberries for a number of years to achieve good overall returns. Also, don't be misled by high supermarket prices for out of season fruit. The average price across the whole season will be much lower.
- Strawberries have a high intensive labour requirement for harvesting and packing. Reliable casual labour is becoming both expensive and difficult to obtain. For the grower, the crop also involves intense physical work for a relatively long period.
- As the strawberry market becomes more and more quality conscious, it will demand fruit of exacting standards. High prices in the future will depend on your ability to meet these standards. You will



need to embrace the philosophy of quality management and quickly gain the expertise to implement quality systems on your farm.

For these reasons, be cautious about going into strawberry growing. Research the subject thoroughly and do a business plan. Plant no more than 5000 plants in the first 'learning' season.

What you can expect to make

Yields

Experienced growers produce about two to three punnets (500 to 750 g) of marketable fruit per plant per season (May to October). These figures assume an average planting density of about 40 000 to 45 000 plants per hectare. Higher yields are possible with efficient management of such things as varieties, pests and diseases, nutrition and watering. Beginner growers should expect to take a couple of seasons to achieve a yield of two to three punnets per plant.

Prices

For the Queensland production season, prices generally start at about \$2.50 to \$3.00 per punnet in May when fruit is scarce, declining to about 50c to \$1.20 at the peak of the season in late August or early September. Higher prices are generally paid for large fruit of premium quality. Small and medium size fruit is always at the lower end of the range and is harder to sell. Fruit of low quality is difficult to sell at all times.

Graphs of average prices and market throughput for the Brisbane and Sydney wholesale markets for the 1994 to 1996 seasons are shown in Figures 1 to 4.



Sources of detailed market price data
Section 6 Page 8

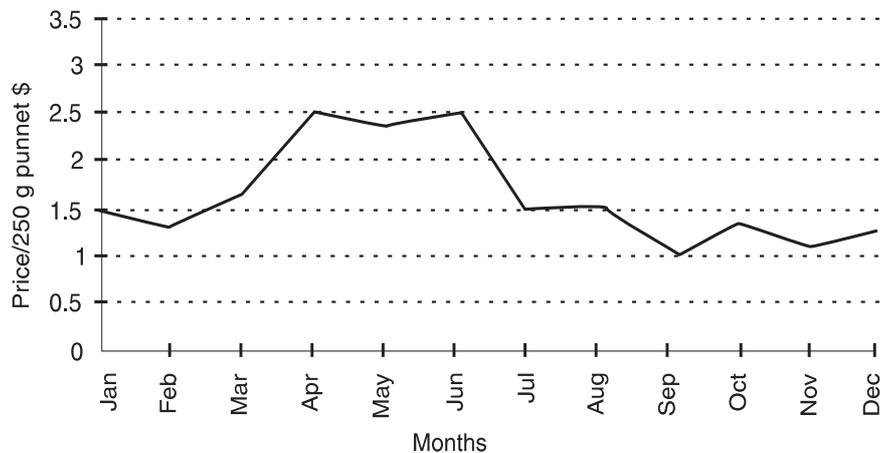


Figure 1. Average monthly price per 250 g punnet at the **Brisbane** market 1994 to 1996

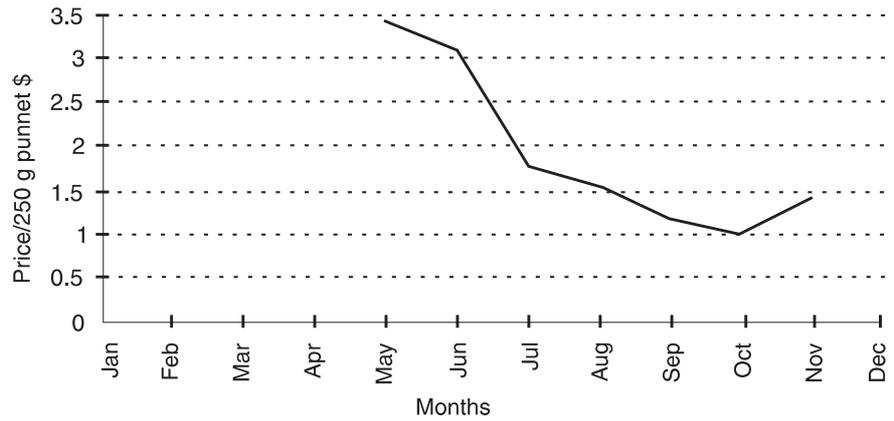


Figure 2. Average monthly price per 250 g punnet of Queensland strawberries at the **Sydney** market 1994 to 1996

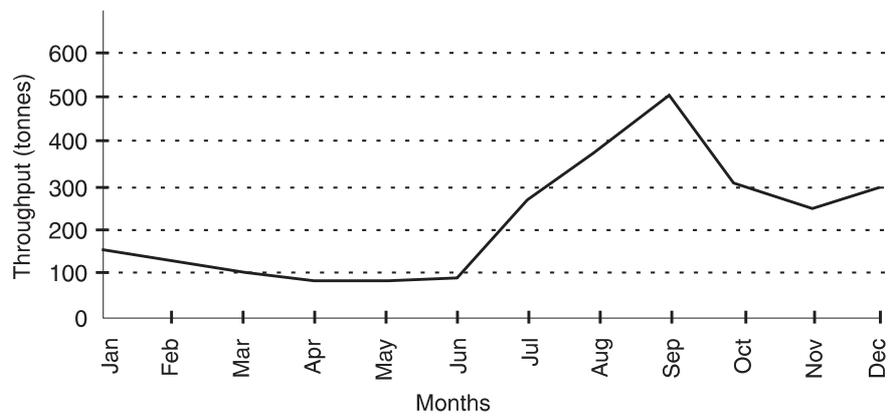


Figure 3. Average monthly throughput of strawberries at the **Brisbane** market 1994 to 1996

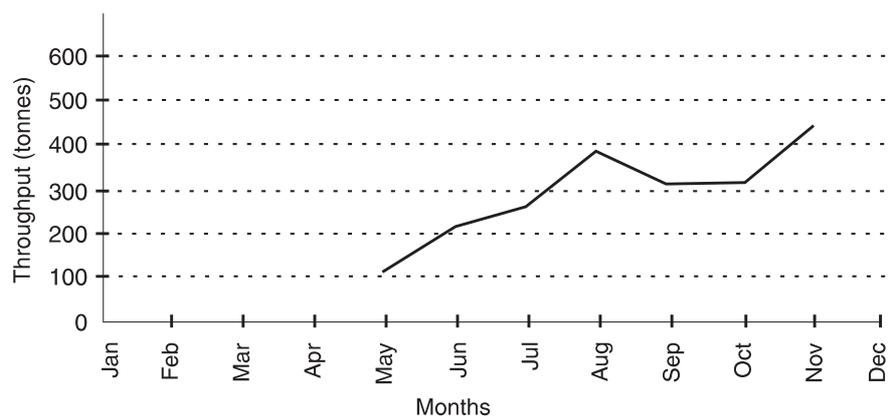


Figure 4. Average monthly throughput of strawberries at the **Sydney** market 1994 to 1996

Gross income

Assuming an average yield of 2 punnets per plant and an average price throughout the season of \$1.25 per punnet, a gross income of about \$2.50 per plant should be achieved. This is equivalent to about \$112 500 per hectare of 45 000 plants.

Production costs

A strawberry plant costs at least 60 cents to establish and maintain during the season. This covers the costs of land preparation, soil fumigation, fuel, plants, fertilisers, irrigation, pest and disease control and some casual labour for planting. The cost of the grower's own labour is not included in this figure.

Harvesting and marketing the fruit costs about \$1.50 per plant (equivalent to about 70 cents per punnet). This covers the costs of casual labour for harvesting and packing, packaging materials, refrigeration, freight and agent's commission. About one-half to two-thirds of this cost is labour. This figure assumes that all fruit is picked and packed using casual labour with the grower supervising the operation. This would normally occur on larger farms. The cost of the grower's own labour is not included in the calculation. On smaller farms, most if not all of the labour for picking and packing would be provided by the farm family. This would reduce the harvesting and marketing costs substantially.

So, on larger farms, these figures mean that the production and marketing costs total \$2.10 per plant for the average 2 punnet yield described above. This equates to about \$90 000 per hectare with a planting density of 45 000 plants per hectare. Fixed costs such as rates, depreciation and taxes are not included.

Gross margin

The gross margin (income after production and marketing costs) for the scenario described here is about 50 cents per plant or \$22 000 per hectare of 45 000 plants.

Remember that no allowance has been made for fixed costs, loan repayments or living expenses.

The capital you need

Excluding the cost of house and land, about \$50 000 would be required to purchase essential equipment for a small (10 000 to 20 000 plant) farm. This covers the cost of a small tractor, rotary hoe, bed former, irrigation system, slasher and sprayer. Costs could be reduced by buying second-hand equipment. The figures assume an undercover packing and storage area is already available and a cool room will be hired. No allowance has been made for the purchase of farm vehicles.



Detailed economics of
strawberry growing
Section 4 Page 9

The farm you need

Soil

Sandy loam or light clay soils are best. There should be no heavy clay or rock within 300 mm of the surface. On sandy soils, it is difficult to maintain the supply of water and nutrients to the plants. Heavy clay soils stay too wet after rain, increasing the risk of disease and reducing yields.

Climate

Strawberries can be grown anywhere in Queensland but the warmer coastal areas are preferred for commercial production. These areas allow winter and early spring production when there is little competition from other growing areas in Australia. Care needs to be taken in the hotter north Queensland climate as some varieties perform poorly when growing conditions are too warm. This problem is offset on the Atherton Tableland where cooler conditions prevail. Colder inland areas of south Queensland are suitable but the cropping period is shorter and confined more to spring and early summer. This reduces potential profitability as this fruit competes with that from southern states which is grown at lower cost.

In all areas where frosts are likely to occur during flowering, an overhead sprinkler watering system and frost alarm are necessary to prevent damage to flowers and fruit. Frost-free sites are preferred as additional overhead sprinkling increases the risk of washing pesticides off the leaves and leaching fertiliser out of the root zone.

Slopes facing from north-east to north-west are best as these are warmer in winter and better protected from winds. Windbreaks are recommended for all farms but are essential for slopes facing south or west to avoid plant and fruit damage.

Slope

Slopes of up to 15% are suitable provided the farm is designed to minimise erosion. Steeper slopes present a major erosion risk and make it difficult to operate machinery safely.

Water

A reliable supply of good-quality water for irrigation is essential. A reserve of about 125 litres per plant is recommended. Strawberries can be severely damaged by salty water, so avoid waters with an electrical conductivity above 600 μ S (microsiemens) per centimetre.

Proximity to transport and markets

As strawberries are easily damaged, consider where you might market your fruit and how it will be transported. Remember that transport for

strawberries must be refrigerated to maintain fruit quality. It is no accident that the main areas of commercial production are close to either the major cities or refrigerated interstate transport services.

The machinery you need

Here is a list of the essential equipment required for a typical strawberry farm:

- permanent watering system including overhead sprinklers, pump, headworks and piping (a trickle irrigation system is a preferred optional extra once plants are established)
- tractor
- cultivation equipment—(rotaryhoe or rotary tines, set of discs or tines)
- pesticide sprayer—(hand knapsack for up to 2000 plants; powered knapsack for up to 10 000 plants; tractor operated air blast or boom sprayer for more than 10 000 plants)
- a separate small hand or machine powered sprayer for herbicides
- undercover packing and storage area
- cool room (high humidity, forced air cooling system preferred)
- farm vehicle to transport fruit and supplies
- frost alarm or solenoid controlled automatic watering system (for frost susceptible areas)
- picking trays
- weighing scales
- slasher
- bed former.

Here is a list of the optional equipment:

- picking trolleys
- fertiliser spreader
- plastic mulch layer
- sawdust applicator.

Contractors providing cultivation, fumigation and mulch laying services are available in some areas.

The labour you need

Two people should be able to handle 5000 plants with little outside help. A 10 000 plant farm would require one or two casual labourers to help with planting and up to five workers to help with harvesting and packing. A 40 000 plant farm would require four or five workers to help with planting and 15 to 20 workers for harvesting and packing. Reliable casual labour is becoming more expensive and difficult to find.

Other considerations

As strawberries are a high-risk crop and there is little room for error, you will need to be on the farm almost daily for the duration of the crop to monitor it closely and deal promptly with any problems. The demand will be greatest during the main production season from May to October.

As strawberry production and marketing technology is changing rapidly, it will help if you are prepared to experiment with new ideas. An integrated crop management approach is recommended. This requires a willingness to employ specialised consultants for pest monitoring, sap analysis and water management.

As the crop is very labour-intensive, you will need skills in labour management and the ability to train staff.

A knowledge of marketing and a commitment to quality throughout your entire production and marketing system are essential if you wish to maximise your returns. Regular communication with people in the market chain, as well as other growers, is an integral part of this process.

Weekly spraying for disease control is required for the duration of the crop. Harvesting strawberries is back-breaking work, for which you will need to be physically fit.