

Potato 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 We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research: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- Financial information—costs and returns listed in this publication are out of date.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 potato 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 potatoes before, then you will find this section very useful. It is a brief checklist of the essential things you need to know before you start. It will help you to make the right decision about growing potatoes.

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.

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An overview of the Queensland potato industry

The Queensland potato industry is relatively static, producing approximately 120 000 tonnes annually, worth an estimated \$35 million at the farm level. Essentially, the Queensland industry concentrates on the production of potatoes for the fresh market, although a small (18 000 tonnes) crisping industry has been established. Contracted growers supply potatoes for crisps to processing companies.

Production is concentrated in the south east Queensland region, with the Lockyer, Brisbane and Fassifern Valleys being major production areas. The Southern Downs, Redland Bay, Caboolture and Bundaberg districts also produce large quantities of potatoes in this region. Significant production also occurs in north Queensland on the Atherton Tableland and more recently in the Charters Towers district.

Potatoes are produced all year round in Queensland, but due to the diversification of the growing districts, the major production phase is the spring crop which is planted in June/July and harvested in October/November. Growers in milder coastal areas can plant in April/May and harvest in September. In the Lockyer Valley, an autumn crop planted in February and harvested in May/June is also grown.

Queensland potatoes supply Brisbane, Sydney and Melbourne markets. Most fresh market potatoes are sold brushed (unwashed) but a steadily increasing quantity is being sold washed. A small export market industry for Malaysia is being developed by growers on the Atherton Tableland. The industry in the Lockyer Valley has declined slightly in recent years, mainly as a result of competition from new growing districts in southern Australia that can produce at a similar time.

Know what you are getting into

Here are the important things you need to know.

- Commercial potato growing requires a large capital investment in equipment and specialised machinery. This could be as much as \$250 000 for an average sized enterprise with six hectares of crop.
- Markets for the fresh potato industry are very volatile and prices paid are influenced by the quality of potatoes presented for sale. To obtain premium prices, potatoes must be handled with care throughout the harvesting and marketing process to limit mechanical damage, bruising and infection by disease organisms. As the fresh market becomes more and more dependent on washed potatoes, tuber appearance will assume even greater importance in determining the price received.
- Seasonal weather conditions can significantly affect both yields achieved and prices paid. Yields will be lower if prolonged wet conditions result in leaf diseases or tuber breakdown in the soil. Wet weather may also make it difficult or impossible to harvest the crop,



preventing you from exploiting any seasonal price advantages that exist. Hot weather can lead to an increase in the demand for salad vegetables at the expense of other vegetables such as potatoes.

- Success in potato growing requires both a good knowledge of the crop and a high level of management skill. This will take some time to acquire and below-average returns may be expected during this period.

What you can expect to make

Yields

Expected yields may vary from 15 to 40 tonnes per hectare (t/ha). An average yield is 20 to 30 t/ha. Yield depends on many factors including variety, location, season, nutrition, and the level of pest and disease problems.

Prices

In recent years, the price paid for unwashed potatoes has varied between \$150 and \$1000 per tonne, but \$250 to \$400 is the normal range. Washed potatoes attract a higher price. Graphs of average prices and market throughput for the Brisbane and Sydney markets for 1993 to 1995 are shown in Figures 1 to 6.

Note: Washed potatoes are generally sold in 20 kg packages, while unwashed potatoes are sold in 50 kg bags. Market prices are quoted for these package sizes. To make it easier to compare washed and unwashed prices, they have been converted to a 'per tonne price' for the following graphs. The bigger the variation above or below the average price, the greater the opportunity or risk involved.

more info



Providers of detailed market price information
Section 6 Page 5

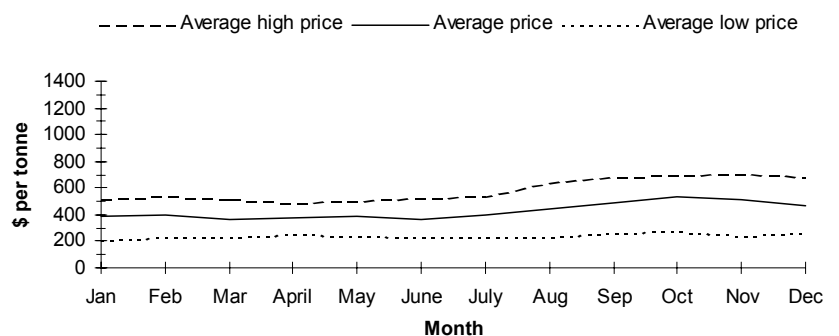


Figure 1. Unwashed potatoes: average monthly price at the **Brisbane** market 1993 to 1995.

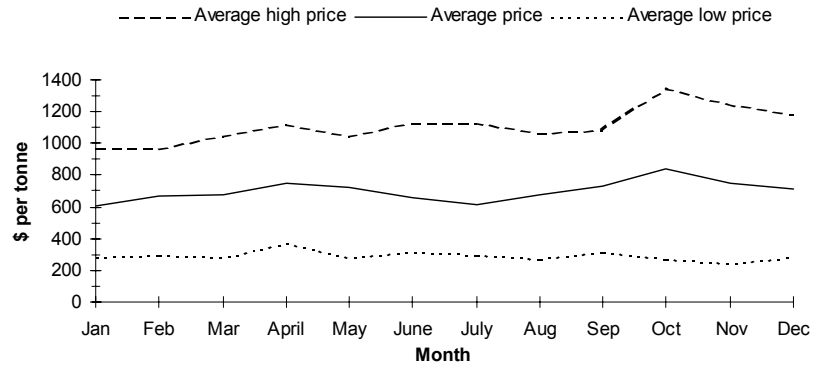


Figure 2. Washed potatoes: average monthly price at the **Brisbane** market 1993 to 1995.

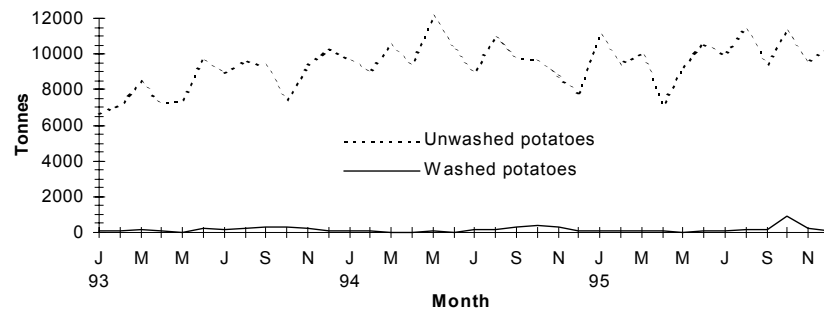


Figure 3. Throughput of potatoes at the **Brisbane** market 1993 to 1995.

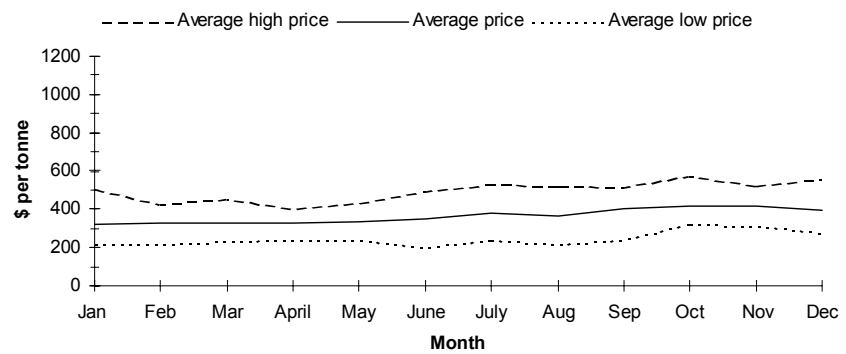


Figure 4. Unwashed potatoes: average monthly price at the **Sydney** market 1993 to 1995.

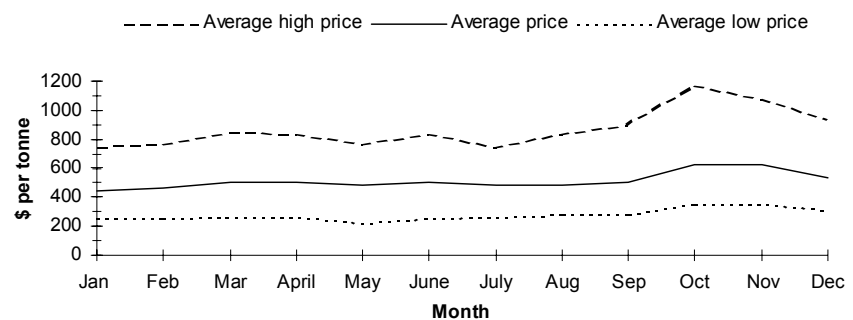


Figure 5. Washed potatoes: average monthly price at the **Sydney** market 1993 to 1995.

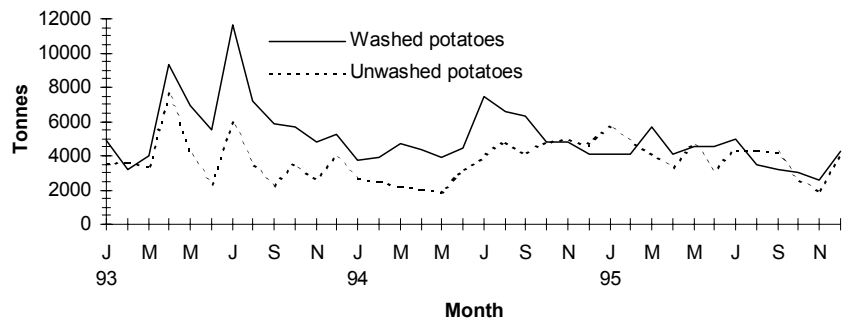


Figure 6. Throughput of potatoes at the Sydney market 1993 to 1995.

Production costs

Production costs, including harvesting and marketing, amount to between \$4000 and \$6000 per hectare.

Income

Income can vary between a loss of \$4000 and an income of \$30 000 per hectare. At an average yield of 25 t/ha and an average price of \$20 per 50 kg bag (\$400 per tonne), the gross return would be \$10 000 per hectare. To arrive at your net income, you would need to deduct growing and marketing costs plus fixed costs such as rates, depreciation, electricity and living expenses.



Economics of potato production
Section 4 Page 7

The capital you require

Approximately \$250 000 is required to set up an average enterprise with about six hectares of crop. This includes about \$60 000 for irrigation equipment and infrastructure (\$10 000 per hectare), and another \$200 000 or so for machinery. This assumes all equipment is purchased new. Second-hand prices are normally about 50% of new prices.

The farm you need

Soil

A free-draining, deep, friable (crumbly) loam is preferred. However, potatoes can be grown successfully in a wide range of soils.

Climate

Potatoes can be grown in a wide range of climates, although ideally it should not be too hot or too cold. High temperatures at maturity of the crop can severely affect tuber quality. If this coincides with a period of heavy rain, the problem is worse. Crops need to be scheduled to avoid maturing during these high risk periods.

As good yields depend on an even supply of water, supplementary irrigation will be required in most areas. As the risk of disease increases with rainfall, growers in high rainfall areas will need to manage their spray programs more carefully.

Avoid windy sites.

Slope

Slope is not a serious limitation, but slopes above 5% require soil conservation practices. Slopes above 10% make operations involving machinery, such as harvesting, hazardous.

Water

Depending on soil moisture at planting, up to four megalitres (ML) of water per hectare may be required to grow a crop. Plant use of water is around 3.5 ML per hectare. Check the quality of your irrigation water. Lower yields can be expected if water conductivity (salt content) is above 1800 $\mu\text{S}/\text{cm}$ (microSiemens per cm)

The machinery you need

Essential

Table 1 lists the machinery and equipment considered essential and optional for potato production. The prices listed are estimates only. Second-hand prices are normally about 50% of new prices.

Table 1. Machinery and equipment needs

Equipment	New prices \$
Essential	
Tractor (around 45 kW)	45 000
Solid set irrigation equipment /ha	10 000
Planter / fertiliser applicator	10 000 – 14 000
Fertiliser equipment (spreader)	3 500
Spray equipment (air assisted)	30 000
Cultivation equipment / hiller	2 000
Tipping device fitted to tractor	13 000
Shed fork lift	35 000
Digger / harvester (single row)	10 000
Digger / harvester (double row)	85 000 – 120 000
Scales	2 000
Bag sewing machine	1 500
Half tonne bins (each)	70
Grader	40 000 – 50 000
Optional	
Seed cutter	7 000
Jib crane	2 500

The labour you need

The amount of labour required depends on the level of mechanisation on the farm. As a guide, for an average sized enterprise with six hectares of crop, two people are required for planting, one good worker can grow the crop, and up to five are required for an efficient harvesting operation. Extra labour should be available at planting and harvest times.

Other considerations

Growing potatoes is hard physical work as it involves handling heavy produce, machinery, irrigation equipment and fertiliser bags. For this, you need to be strong and fit.

You will need the skills to competently manage the crop, your staff and the farm finances. You will also need skills in machinery operation and maintenance. The ability to read and understand chemical labels is essential.

An integrated pest management (IPM) approach is recommended. Either employ a pest consultant or acquire the necessary skills and knowledge yourself.

As the market is very quality conscious, you will need to develop a commitment to quality throughout your entire production and marketing system.



Understanding IPM
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Notes