

Potato information kit—update

Reprint – information current in 1998



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 1998. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research: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- Financial information—costs and returns listed in this publication are out of date.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 1998. 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.

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Queensland Government

Potato Information Kit Annual Update 1998

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Introduction

Welcome to the August 1998 edition of the *Agrilink Potato Information Kit Annual Update*. This is a special service provided to registered purchasers of the *Agrilink Potato Information Kit* published in July 1997.

This 1998 update provides you with any significant changes to the content of the Agrilink information kit since it was published. It does this by giving you a broad overview of the changes in each section, and then providing the specific changes page by page.

The booklet is designed to fit into the front pocket of the Agrilink information kit so that it is available for reference whenever you use the kit.

Thank you for being an Agrilink customer. We look forward to continuing to serve you with quality information products.

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Before you
START

Overview of the 1997/98 season

Although official production figures are not available it is expected that the area of potatoes grown in Queensland was greater than in previous years. It is estimated that upwards of 5000 ha were sown with an estimated tonnage of about 120 000 tonnes. The Bundaberg district is becoming increasingly important for potato production.

About 28 000 tonnes of crisping potatoes were processed in Queensland. Although most of this is grown in Queensland some of it represents production from New South Wales. All contracted processing potatoes in Queensland are grown for the crisping industry, which comprises about 25% of the potato industry.

Lockyer Valley

An unseasonably wet spring in the Lockyer Valley hampered harvesting of the 1997 spring crop so that potatoes were still being dug in early December. Despite the good rain received in the spring it was not sufficient to create flows in the creeks of the Lockyer Valley. The last major flow was in May 1996 and though water supplies are adequate a further flow in the creek would be useful in replenishing underground water reserves.

North Queensland

The north Queensland crop had a favourable growing season with slightly above average yields. Despite this, market demand was only just being met. Overall, prices tended to be good with some high prices received in November when rain stopped south Queensland harvests. Potato tuber moth became a major problem towards the end of the season. Potato moth was a problem in

seed kept for early 1998 planting. At the tail end of the season, high temperatures in early December resulted in some heat damage to produce. Continual rain since Christmas virtually stopped harvest of late crops. Export of processing potatoes to South-East Asia has continued at a low level.

Darling Downs

Crop yields on the eastern Darling Downs, harvested in January and February, were considerably lower than expected and in some instances whole crops were lost. Furthermore, for some processing crops the specific gravity values were down 10 points. Crop emergence and vigour in the Darling Downs (planted January and February) and Lockyer and Fassifern Valleys (planted February and March) crops was reduced; in some instances up to 50%.

Hot summer

The 1997/98 summer was unusually hot in south-eastern Queensland; these hot conditions extended well into early April. Growers cannot recall a summer of such consistently hot and humid weather. The minimum daily soil temperatures recorded for March were about 26°C, while maximum daily soil temperatures consistently ranged from 30 to 34°C. Late summer rain created small flows in the upper parts of the Lockyer Creek, but flows did not reach the middle to lower parts of the Lockyer. This flow did relieve some pressure on underground water supplies, however, substantial flows are further required. This crop was harvested in late June to July and yield was very poor, some crops only yielding 5 to 6 t/ha. This poor yield was related to the extreme conditions under which crops were planted.

In northern Queensland crops were planted in February under hot and dry conditions using one-off certified seed. The March rainfall was 30% of the long-term average. Crops grown from certified seed were planted under hot dry conditions beginning in April.

Retail outlets

Between 70 and 80% of the fresh potatoes grown in Queensland are sold through the major supermarket chains. Their buyers are rationalising supplies in each state to ensure continuity of supply of a consistent, quality product. Many supermarket chains have introduced a quality assurance (QA) system

for all vegetables. Irrespective of the size of their farm, growers must be either an approved supplier to the wholesale buyer, or alternatively meet the more stringent quality standards set by the supermarkets.

Other things to consider

The major retail chains are now developing their own name varieties. Growers need to be aware that in the future they may need to focus on producing these varieties to supply into this substantial part of the market. The major chains will not directly accept produce packed in 50 kg units; only 20 kg units are acceptable. As part of their QA program growers need to be aware that produce should be tested for cadmium and other residues to demonstrate their produce is within the maximum residue levels (MRLs).

Specific updates

Prices and throughputs (page 3)

Prices and throughputs for the 1997 season in the Brisbane and Sydney markets are shown in Figures 1 to 3. For comparison, the three-year average for 1994 to 1996 is also graphed.

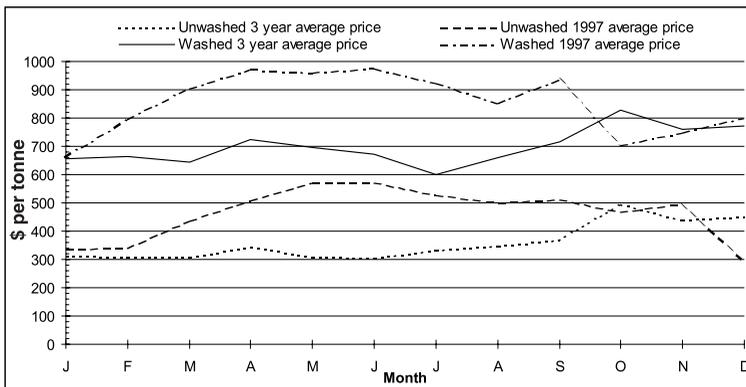


Figure 1. Average price, 1994 to 1996 and 1997 average price per tonne on the **Brisbane** market for washed and unwashed potatoes

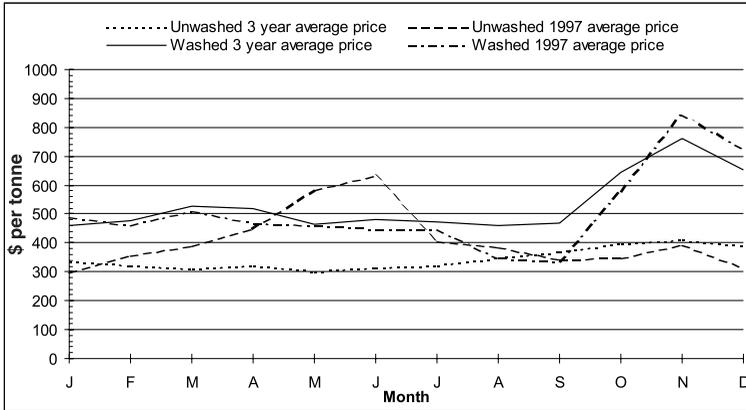


Figure 2. Average price, 1994 to 1996 and 1997 average price per tonne on the **Sydney** market for washed and unwashed potatoes

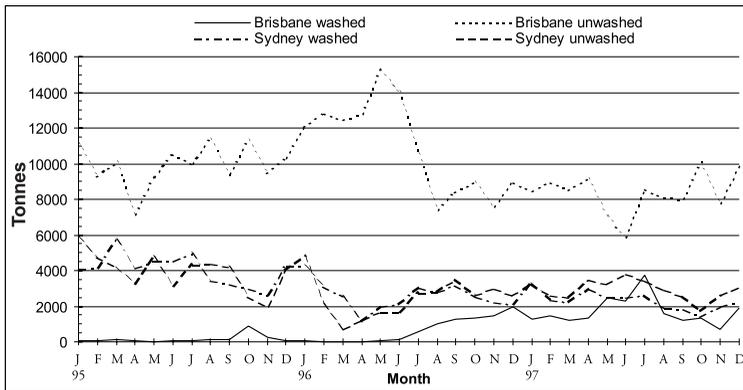


Figure 3. Throughput for 1995 to 1997 on the **Brisbane** and **Sydney** markets for washed and unwashed potatoes



Common **QUESTIONS**

Overview

Some additional questions, particularly related to chemical use, harvesting, quality standards and marketing, have been raised since the *Agrilink Potato Information Kit* was first published. Following are some questions that the Department of Primary Industries' extension officers have been asked recently and their answers.

What is the ideal soil temperature for planting potatoes?

The ideal temperature for potato growth is between 15 and 18°C. Planting at temperatures below 10°C and above 26.5°C should be avoided.

What are good rotations for potatoes?

Sweet corn, forage sorghum, grain sorghum, maize and lucerne are all good rotations.

Can I use poultry and other manures on my crop?

There is now some concern about the suitability of manures for vegetable production due to the possibility of microbiological contamination of the produce. This has mainly affected crops that are eaten fresh. Crops like potatoes that are cooked before eating are less of a concern. As with all QA and food safety issues it is important, however, to have a good understanding of what your customer requires and expects.

How do I manage cadmium levels?

In some areas of Australia cadmium, a heavy metal, can occur at or above the current food standards level in potatoes. Risk factors include acidic soil; high chloride levels in irrigation water; use of phosphate fertilisers with high

cadmium levels; and low levels of organic matter. If you do not know what cadmium level is present in your produce you should send a sample to a laboratory for testing. Depending on the outcome of this sample you will then be in a better position to work out how to manage your cadmium levels.

How do I get spray accreditation?

Spray accreditations can be obtained by attending a course provided by an accredited Chemsafe Training Queensland trainer. *Contacts and references* on page 26 gives a contact to help you find your nearest trainer.

Do I need training in the safe use of chemicals?

In some states you cannot buy chemicals unless you have a current spray accreditation. Currently, by law in Queensland, you only need training in safe use of chemicals if you are a contractor spraying on other people's land or you want to buy restricted chemicals.

However, most customers now see it as highly desirable for their growers to be able to demonstrate safe responsible use of chemicals. One of the best ways to demonstrate this is to obtain a Chemsafe accreditation. Remember spray accreditations must be renewed every five years.

How do I store my chemicals?

Chemicals need to be stored in accordance with the AS2507 standard. This does not mean you will have to spend a fortune on elaborate storage facilities. You do, however, need to be aware of several safety, environmental and food safety factors whenever you deal with chemicals. Further information on correct use of chemicals is covered in the chemical user course. Agsafe or Chemsafe accredited trainers also understand these requirements and employees of farm chemical resellers with Agsafe accreditations are also a useful source of information.

How do I calibrate my spray equipment?

To work efficiently equipment needs to be calibrated and results of this calibration should be documented. You will learn the correct method of calibration at the spray accreditation course.

Do I need to keep a diary of spraying records?

Yes, you do! Records of chemical application are now one of the most important pieces of documentation you will need to be able to prove what you have done with chemicals. All the potato merchants and agents supplying the retail sector now expect you to keep spray records showing **at least** what was applied, how much, by whom, and when the application took place.

What level of quality assurance (QA) do I need?

You will need different levels of QA depending on to whom you supply your potatoes. If you supply direct to a retailer in some instances you may need a full quality management system which is accredited by a third party. If you supply to a processor you will need to meet their requirements. There is more information on QA under *Key issues* on page 19.

Specific updates

How do I label the bags? (page 8)

Refer to *Growing the crop* on page 15 for more information on labelling your product.



Growing the

CROP

Overview

This section briefly updates changes to *Growing the crop*, relating to planting, crop rotation, irrigation, bags and marketing. More information on some of these areas appears in *Key issues* on page 17.

Specific updates

Decide when to plant (page 3)

In excessively hot weather, if the minimum soil temperature at planting is greater than 26°C (for example in late February to early March) delay planting. Remember, if you plant too late you could get frost damage to crops.

Select varieties (page 5)

Major retail chains are now promoting their own name varieties, which are different to the standard varieties grown in the past. Check to see that you are growing varieties that meet your customers' requirements.

Crop rotation (page 8)

To prevent the build-up of diseases and pests, good crop rotation practices need to be adopted. The frequency of rotation largely depends on the availability of land.

For example, in the Lockyer and Fassifern Valleys and Bundaberg, crop rotations are very tight, and growers may plant a crop every one to two years

in the same block. In the Redland Bay area crop rotations may be tighter still. However, in the Killarney district where farms are larger, rotations of up to one crop in every five years can be adopted. In this district crops are rotated into a long-term pasture phase. On short-term rotations, as adopted in the Lockyer and Fassifern Valleys, Redland Bay and Atherton Tablelands, sweet corn, forage sorghum, grain sorghum, maize and lucerne are all useful rotations.

Grain sorghum and maize are particularly good on the heavy textured soils of the Lockyer Valley as they ensure the soil remains very open. The maintenance of this robust stubble improves the quality and yield of potatoes produced by reducing soil retention on tubers, improving the bloom and improving harvesting. Furthermore, problems with seed emergence and soil-borne diseases are reduced by the presence of these residues, which help produce a healthy soil microbe balance.

Develop an irrigation plan and choose equipment (page 9)

Trickle irrigation, though not widely used, is an alternative way to irrigate, particularly in areas where frost is not a problem and water resources are limited. For this reason trickle irrigation in potato production has received wide acceptance in the Bundaberg district.

Planting (page 11)

Crops planted in autumn in 1997 (late February to early March), in the Lockyer, Fassifern and eastern Darling Downs had severe problems with high soil temperatures at planting. The minimum soil temperatures across the Lockyer for March did not go below 26°C and this resulted in poor crop yields. The ideal soil temperature for planting is 18°C. You should avoid planting when soil temperature is less than 10°C or above 26.5°C. We recommend that growers do not plant potato sets until maximum daily soil temperature is below about 26°C.

Table 4. *Herbicides for controlling weeds in potatoes (page 15)*

Include:

Chemical	Trade name	Controls
2,2-DPA sodium	Atlapon	Grasses
clethodim	Select	Grasses
diquat	Reglone	Weeds
EPTC	EPTAM	Grasses/broadleaf
prometryn	Gesaguard, Promesip	Grasses/broadleaf

Bag (page 30)

Refer to *Key issues* on page 20 for changes in bagging.

Mark the bags (page 30)

A key food safety requirement is traceability. All potatoes need to be identified and documentation maintained to support a trace-back system. Traceability is important as a means of finding the cause of a problem when it occurs, so those growers know how their produce has been handled once it has left the farm.

Traceability is helpful for:

- tracing the source of a possible contamination
- pinpointing areas of poor stock rotation in the marketing chain
- allowing isolation of only a small amount of the farm if there is a problem.

Apart from grower details such as name and address, a ‘traceability’ code, for example a ‘packed on’ date, harvest code or batch number needs to be incorporated so the date of harvesting/grading can be established for any size package sold.

Figure 8. *A sample label including a traceability code*



Market (page 30)

There have been major changes in potato marketing recently, refer to *Key issues* on page 20 for more information.

Interstate quarantine requirements (page 31)

These requirements change frequently, so we have included the contact details for each state on page 30.



Key **ISSUES**

Overview

The gross margin for south-east Queensland has been updated and treatment for boron deficiency included. The major changes have been in marketing and these have been covered in some depth.

Specific updates

Gross margin information for south-east Queensland (page 9)

The gross margin for brushed Sebago potatoes grown in south-east Queensland has been re-worked at a price of \$360 per tonne for a 25 t/ha crop. The results are shown below.

Gross margin per hectare	\$2 432.77
Break-even yield at \$360 per tonne	14 tonnes per hectare
Break-even price at 25 t/ha	\$197.69 per tonne
Gross per megalitre of irrigation water	\$608 /ML

Actual gross margin when price or yield changes

Yield	t/ha	Price per tonne					
		Low		Medium		High	Premium
		\$150	\$200	\$250	\$300	\$400	\$800
Low	20	-\$2 342	-\$1 467	-\$592	\$283	\$2 033	\$9 033
	25	-\$2 161	-\$1 067	\$27	\$1 120	\$3 308	\$12 058
Medium	30	-\$1 980	-\$667	\$645	\$1 958	\$4 583	\$15 083
	35	-\$1 798	-\$267	\$1 264	\$2 795	\$5 858	\$18 108
High	40	-\$1 617	\$133	\$1 883	\$3 633	\$7 133	\$21 133

Gross margin information for Sebago potatoes grown on the Atherton Tableland (page 12)

This gross margin for Sebago potatoes grown on the Atherton Tableland has also been updated. The gross margin is now \$2003.56 per hectare for a 30 t/ha crop at \$15 per bag. The gross margin varies with yield and price received.

Sebago potato gross margins (\$/ha) for a range of prices and yields

Price (\$/bag)	Yield (t/ha)					
	15	20	25	30	35	40
5	- 5 121	- 4 746	- 4 371	- 3 996	- 3 621	- 3 246
10	- 3 621	- 2 746	- 1 871	- 996	- 121	754
15	- 2 121	- 746	629	2 004	3 379	4 754
20	-621	1 254	3 129	5 004	6 879	8 754
25	879	3 254	5 629	8 004	10 379	12 754
30	2 379	5 254	8 129	11 004	13 879	16 754
35	3 879	7 254	10 629	14 004	17 379	20 754
40	5 379	9 254	13 129	17 004	20 879	24 754
45	6 879	11 254	15 629	20 004	24 379	28 754
50	8 379	13 254	18 129	23 004	27 879	32 754
55	9 879	15 254	20 629	26 004	31 379	36 754

Other nutrients (page 25)

Boron deficiency

Application of boron may be required where soil levels are below 2.0 mg/kg (in CaCl₂). This should be confirmed by tissue testing at the three to five leaf stage. Boron deficiency may be corrected by two foliar applications of Solubor or other boron fertiliser as per label directions.

Trends in the potato market (page 38)

There has been a move towards buyers demanding some level of QA in potato marketing. Some possible levels of QA designed to meet the requirements of different customers are detailed below:

1. Approved supplier to certified packing shed/merchant/marketing group

This level will require several measures to be documented, some of which may already be in place. These may include:

- property map
- crop history (spray diary)
- calibration and records
- chemical user training
- correct storage of chemicals
- pest control
- packing record
- product specification
- completed food safety check-list.

2. Supply via a certified merchant

A merchant may have a quality management/food safety system and you will need to be an approved supplier to this system. If you have a large packing/washing operation you may also need an HACCP plan in place for the shed to cover food safety.

3. Direct supply

If you supply someone like a retailer who requires a full Quality/Food Safety Management System (Q/FSMS) such as SQF 2000, ISO 9002, HACCP or Woolworths Vendor Quality Management Scheme (WVQMS), you will need to implement one of these systems and be certified by a third party organisation. Likewise, if you intend to do this in the future, you will need to meet your particular customers' supply requirements.

20 kg bags compared with 50 kg bags (page 38)

Washed potato lines are normally sold in 20 kg bags while unwashed lines have traditionally been sold in 50 kg bags. In line with changes to the manual handling standards of the Workplace Health and Safety Act 1995, many companies, in particular retailers, have reduced the weight of packs their employees are required to lift to 20 kg. There is a distinct possibility that they may move further to reduce their risk by adopting 16 kg as the maximum weight. The major retailers of potatoes will no longer accept 50 kg bags. Some wholesalers buy 50 kg bags and then repack the potatoes into 20 kg bags, increasing the risk of handling damage and adding to packing and grading costs. In general such marketeers are hesitant to accept produce already packed in 20 kg bags. Try to determine who your customers will be and grade and pack according to their needs.

Selling systems (page 38)

The major retail chains now dominate the fresh potato market with about 70 to 80% of fresh potatoes being sold through these chains.

The large retailers have adopted fresh produce as a drawcard to get people in to buy a large array of products and so are now more demanding and exacting with the standards they are setting for produce. Potatoes are no exception and suppliers are now required to grade in accordance with written quality specifications covering size as well as several defects.

The retail market is definitely the higher value market where, on the whole, retailers seem to be prepared to pay for what they want if a supplier can show an ongoing ability to present consistent quality in large volumes.

To improve consistency of individual produce lines, the chains are reducing the number of direct suppliers. This gives them better control over quality as more potatoes are now going through fewer packing sheds, resulting in less variability. In turn, these packing sheds can operate year-round and invest money in better equipment and properly trained personnel.

Small individual growers cannot gain ready access to this market except where they are situated near stores in a regional area where it is not viable to ship over a long distance.

Marketing groups

Large individual growers can access the retail markets directly, however, growers generally need to channel their produce through a merchant or a merchant/packer. The only other option left for growers is to amalgamate into a marketing group, that is something similar to a cooperative. This type of arrangement has not had a good track history in the past. Some of the more successful marketing groups employ professional people for marketing and managing the packaging operations, not growers. This leaves growers time to concentrate on what they do best.

Another key marketing issue that needs to be considered before growing potatoes for the brushed market is your soil type. Currently, the major retail chains will buy red soil brushed lines in preference to grey and dark soil lines. The reasons for this are varied. Red soil usually has less of a soil adhesion problem when potatoes are harvested under wet conditions. Red soil potatoes also have a smear or even film of soil instead of lumps, and this offers some protection from greening and hides visual blemishes. Hiding blemishes at the point of sale is not good as consumers eventually see them when the potato is washed at home. This could annoy consumers enough to turn them to a competitive product such as pasta or rice. The preferences for soil types have been driven at the retail and wholesale level. Current research has shown no consumer preference for soil type, however, there is a **definite preference for sound potatoes of consistent quality.**

Two distinct market directions are emerging for potato growers—a high volume commodity line packed in bulk and a value-added line in various consumer oriented packages.

Commodity line growers are producing in broadacre systems with minimal labour and grading equipment. Potatoes are often harvested directly into bulk bags and bins. These potatoes are then sent to a specialised packaging shed for grading/washing and packaging into retail packs. The advantage for growers is lower capital cost for specialised grading and handling equipment. The downside is the cost of transporting reject and second grade stock to the packhouse. If the packhouse is far away, say in a capital city, there is the added cost of transporting rubbish, then the cost of disposing of the rubbish, a very expensive activity in cities.

Value adding

By value-adding on the farm a higher value market can be targeted. All the sorting and disposal is done on farm and only the finished product transported. The biggest problem for growers marketing their potatoes this way is the level of capital investment they have to make and the difficulties mentioned earlier in accessing these higher value markets.

If you are packing potatoes into 50 kg bags and someone else is removing them and grading into smaller packs, you would be much better off talking to your buyer about packing into some sort of bulk container, thus saving the cost of bags and labour.

Before embarking on growing any crops, today's growers need to establish a market and make sure they can **meet that market's requirements** in a profitable manner or they may find themselves literally ploughing money into the ground.



Problem **SOLVER**

Specific updates

There have been no changes to the *Problem solver*.



Contacts and **REFERENCES**

Australia now has 10-digit telephone and fax numbers, including the STD code. To find the changed numbers for many of the contacts listed in the *Agrilink potato information kit*, consult the latest telephone directory.

Specific updates

Grower associations (page 2)

The new address for Bio Dynamics Association of Australia is:

Biodynamic Agricultural Association of Australia

c/- Post Office

POWELLTOWN VIC 3793

Ph: (03) 5966 7333; Fax: (03) 5966 7433

Market price information (page 5)

Market Contact Network

Brisbane: Trevor Brewer

Ph: (07) 3379 4576; Fax: (07) 3379 4103; Mobile: 018 068 141

e-mail: Ausmarket@bigpond.com

Sydney: Chris Cope

Mobile: 015 108 639; Fax: (02) 9907 1140

At markets: Ph: (02) 9746 3437; Fax: (02) 9746 1075

e-mail: cqs@accsoft.com.au

Melbourne: John Popiliess
Mobile: 0411 117 578; Fax: (03) 9645 9908
At markets: Ph: (03) 9689 3444
e-mail: info@datafresh.com.au

For information on **market prices**, contact:

Ausmarket Consultants

D Block Brisbane Market
PO Box 229
BRISBANE MARKETS QLD 4106
Ph: (07) 3379 4576; Fax: (07) 3379 4103
www.users.bigpond.com/ausmarket

DataFresh Melbourne Market Reporting Service

Box 170 Melbourne Markets
FOOTSCRAY VIC 3011
Ph: (03) 9689 3444; Fax: (03) 9689 3411
e-mail: jp@datafresh.com.au

Flemington Market Reporting Services

Northern B Block Warehouse
PO Box 1
FLEMINGTON MARKETS NSW 2129
Ph: (02) 9764 3516; Fax: (02) 9763 1773
Markets Reports: Freecall 1900 123 038 (recording)
Dial-a-fax: 1900 123 039 (\$2 per fax)

Market Information Services

D Block Brisbane Market
PO Box 229
BRISBANE MARKETS QLD 4106
Ph: (07) 3379 4576; Fax: (07) 3379 4103; Mobile: 0417 710 950
Infocall: 1902 262 580 (\$1.50 per minute, covers Brisbane, Sydney and Melbourne)

Horticultural consultants (page 5)

Delete: Aghitec Pty Ltd and Plant Pro.

There are some new consultants:

Armstrong Rural Services

PO Box 1438

TOOWOOMBA QLD 4350

Ph: (07) 4630 3667

K.W. Gale

1 Ridge Road

WOODSIDE SA 5244

Ph: (08) 8389 7116; Fax: (08) 8389 7379

e-mail: Ridgefarm@rpl.com.au

Valley Crop Monitoring Service

Julian Winch

20 Smith Street

GATTON QLD 4343

Ph/Fax: (07) 5462 2096; Mobile: 015 640 450

Quality management guidance services

A.S.A.P. Quality Assurance and Management Service

Wally Collins

Unit 29, 367 Algester Road

ALGESTER QLD 4114

Mobile: 018 069 355; A/H: (07) 3272 2246

Pesticides and spraying

For training in pesticide application contact Chemsafe Training Queensland to find the nearest accredited trainer.

AVCARE Ltd

National Association for Crop Protection and Animal Health
Locked Bag 916
NORTH SYDNEY NSW 2050
Ph: (02) 9922 2199; Fax: (02) 9954 0544
e-mail: avcare@ozemail.com.au

Centre for Pesticide Application and Safety

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TOOWOOMBA QLD 4350
Ph: (07) 4633 0599; Fax: (07) 4633 0711

Crop Tech Laboratories Pty Ltd

MS 305
Langbeckers Road
BUNDABERG QLD 4670
Ph: (07) 4155 6344; Fax: (07) 4155 6656
e-mail: CROPTech@b130.aone.net.au

Dr W. Holloway

14 Enterprise Street
BUNDABERG QLD 4670
Ph: (07) 4153 1440; Fax: (07) 4153 5247

Incitec Ltd

PO Box 140

MORNINGSIDE QLD 4170

Ph: (07) 3867 9300; Fax: (07) 3867 9310

Disease and nematode testing laboratories**Biological Crop Protection**

Dr G. Stirling

3601 Moggill Road

MOGGILL QLD 4070

Ph: (07) 3202 7419; Fax: (07) 3202 8033; Mobile: 0412 083 489

e-mail: biolcrop@powerup.com.au

Suppliers of beneficial insects**Bio-Protection Pty Ltd**

PO Box 35

WARWICK QLD 4370

Ph: (07) 4666 1592; Fax: (07) 4666 1639

e-mail: bioprotn@flexi.net.au

Integrated Pest Management

also trading as Bugs for Bugs

28 Orton Street

MUNDUBBERA QLD 4626

Ph: (07) 4165 4663; Fax: (07) 4165 4626

Export associations (page 6)

Changes of address:

Australian Horticultural Exporters Association

Institute of Horticultural Development

Private Bag 15

SOUTH EASTERN MAIL CENTRE VIC 3176

Ph: (03) 9210 9380; Fax: (03) 9210 9381; Mobile: 0419 999 889

e-mail: ahea@ozdocs.net.au

www.ozdocs.net.au/~ahea

Queensland Horticultural Exporters Association

PO Box 857

HAMILTON CENTRAL QLD 4007

Ph: (07) 3868 1888; Fax: (07) 3868 4722

Queensland government services (page 6)

Change of address for potato inquiries:

Queensland Horticulture Institute

DPI Gatton Research Station

Locked Mail Bag 7, MS 437

GATTON QLD 4343

Ph: (07) 5466 2222; Fax: (07) 5462 3223

Consumer Affairs Queensland

Consumer Affairs offices manage the *Trade Measurement Act 1990* and can provide current information on marking packages and the requirements for ensuring correct weight in all packages. You can locate your nearest office or obtain information by contacting them on:

Ph: (07) 3836 0411; Fax: (07) 3836 0424.

Other information sources

DPI Call Centre. To help you access DPI's information services and products, ring the DPI Call Centre on 13 25 23 from 8 a.m. to 8 p.m. Monday to Friday, excluding public holidays, for the cost of a local phone call (normal charges apply outside Queensland).

DPI web site. www.dpi.qld.gov.au

Information on interstate movement provisions

Requirements for interstate movement change rapidly, to allow you to get the latest information we have included the contacts for each state below.

The DPI Call Centre (13 25 23) will be able to give you the contact details for your closest DPI plant health inspector.

Queensland**Senior Operational Support Officer**

Department of Primary Industries

GPO Box 46

BRISBANE QLD 4001

Ph: (07) 3239 3330; Fax: (07) 3211 3293

New South Wales**Regulatory Operations Coordinator (Plants)**

Locked Bag 21

ORANGE NSW 2800

Ph: (02) 6391 3583; Fax: (02) 6361 9976

Australian Capital Territory**Quarantine and Inspection Officer**

Environment ACT

PO Box 1038

TUGGERANONG ACT 2901

Ph: (02) 6207 2265; (02) 6207 2268

Victoria**Supervisor Plant Standards**

Plant Standards Centre

Box 126

FOOTSCRAY VIC 3011

Ph: (03) 9687 5627; Fax: (03) 9687 6746

Tasmania**Quarantine Officer**

Quarantine Centre

PO Box 347

NORTH HOBART TAS 7022

Ph: (03) 6233 3036; Fax: 6234 6785

South Australia**Program Leader—State Quarantine Inspection Service**

46 Prospect Road

PROSPECT SA 50582

Ph: (08) 8269 4500; Fax: (08) 8344 6033

Western Australia**Senior Inspector**

Western Australian Quarantine and Inspection Service

280 Bannister Road

CANNING VALE WA 6155

Ph: (08) 9311 5333; Fax: (08) 9455 3052

Northern Territory**Senior Adviser, Plants**

NT Quarantine and Inspection Branch

GPO Box 2268

DARWIN NT 0801

Ph: (08) 8981 8733; Fax: (08) 8941 0223

Agricultural booksellers (page 8)

Agmedia no longer exists. The NRE Information Centre sells many of their titles. Additional booksellers are listed below.

Granny Smith's Bookshop

PO Box 27

SUBIACO WA 6008

Ph: (08) 9388 1853; Fax: (08) 9388 1852

e-mail: granny@aoi.com.au

www.aoi.com.au/granny

Landlinks Press

PO Box 1139

COLLINGWOOD VIC 3066

Freecall: 1800 645 051; Ph: (03) 9662 7666; Fax: (03) 9662 7555

e-mail: sales@publish.csiro.au

NRE Information Centre

PO Box 500

EAST MELBOURNE VIC 3002

Ph: (03) 9637 8080; Fax (03) 9637 8150

NSW Agriculture

Publications Sales Unit

Locked Bag 21

ORANGE NSW 2800

Orders: Freecall: 1800 028 374; Ph: (02) 6391 3433; Fax: 1800 642 065

A wide range of agricultural books and Agfacts is available from NSW Agriculture.

References

Other books (page 11)

A new edition of the *Australian vegetable growing handbook* edited by J. Salvestrin will be available soon.

Articles, brochures and other items (page 13)

Sue Dillon is now the contact for the QFVG's Heavy Produce Committee.

Newsletters (page 15)

Eyes on potatoes is the newsletter of the Australian Potato Industry Council. It is published three times a year and is available from:

Editor

Eyes on Potatoes

Department of Primary Industries and Fisheries

PO Box 303

DEVONPORT TAS 7310

Ph: (03) 6421 7637; Fax: (03) 6424 5142

Australian potato industry QA and Marketing Project (Update, July 1998)

This project update is available from:

Queensland Horticulture Institute

Eric Coleman

Gatton Research Station

Locked Mail Bag 7, MS 437

GATTON QLD 4343

Ph: (07) 5466 2222; Fax: (07) 5462 3223

e-mail: colemae@dpi.qld.gov.au



Problem solver **HANDY GUIDE**

This information is taken from the DPI's *Infopest* CD, V2. Note these changes for control of pests and diseases in the kit.

Chemical	Trade name	Controls	Add	Delete	WHP*
acephate	Lancer 750 WP	Potato moth (leafminer)	*		3
azinophos-ethyl	Gusathion	Potato tuber moth		*	
calcium hypochlorite	Hypochlor	Bacterial soft rot (postharvest treatment)	*		NS
carbaryl	Carbene	Potato tuber moth		*	
chlorfenvinphos	Birlane	Potato moth (leafminer)	*		1
chlorothalonil	Elect	Irish blight, target spot	*		0
chlorothalonil + cyproconazole	Alto Plus	Irish blight, target spot	*		0
chlorpyrifos	Bar 500EC, Cyren, Iban	Cutworm	*		0
copper hydroxide	Copper Hydroxide, Champion, Blue Barrier, Flo-Bordo, Blue Side	Irish blight, target spot	*		1
copper hydroxide	Spectrum	Irish blight, target spot		*	
copper oxychloride	Copper Oxychloride, Copperoxy, Curly Leaf, Lancop, Vincop	Irish blight, target spot	*		1
copper oxychloride	Curit	Irish blight, target spot		*	
copper oxychloride + zineb	Copper Curit	Irish blight, target spot		*	
cuprous oxide	Nordox, Norshield	Irish blight, target spot	*		1
cyproconazole	Alto 100	Irish blight, target spot	*		NA
dichlorvos	DDVP, Divap, Vapona	Potato moth (leafminer)	*		0
dimethoate	Dimethomax, Romethoate	Aphids, green vegetable bug, looper caterpillar	*		7
dimethoate	Gomite, Diostop	Aphids, green vegetable bug, looper caterpillar		*	

Note these changes for control of pests and diseases in the kit. *(continued)*

Chemical	Trade name	Controls	Add	Delete	WHP*
dimethomorph + mancozeb	Acrobat	Irish blight, target spot	*		49
disulfoton	Disulfoton, Systemic Insecticide	Aphids	*		70
disulfoton	Disyston	Aphids		*	
endosulfan	350 EC Bar, Thionex	Aphids, green vegetable bug, leafhopper, potato tuber moth	*		7
endosulfan	Endosan	Aphids, green vegetable bug, leafhopper; potato tuber moth		*	
fenitrothion	Fenitrothion	Wingless grasshopper	*		
iprodione	Civet	Sclerotinia rot, target spot, rhizoctonia – black scurf (seed treatment)	*		0
mancozeb	Dek Fungicide	Irish blight, target spot	*		
mancozeb + metalaxyl	Zee-Mil MZB	Irish blight, target spot	*		7
mancozeb + metalaxyl M	Ridomil Gold MZ	Irish blight, target spot	*		7
methomyl	Electra	Looper caterpillar, potato moth	*		NS
mevinphos	Phosdrin	Looper caterpillar		*	
monocrotophos	Monocron, Nuvacron, Phoskill	Aphids, green vegetable bug, leafhopper; potato tuber moth	*		3
monocrotophos	Cronofos	Aphids, green vegetable bug, leafhopper, potato tuber moth		*	
permethrin 25:75	Coopex Dust, Permethrin	Potato tuber moth (seed treatment)	*		NFC
permethrin 40:60	Perma, Zeeper	Potato tuber moth (seed treatment)	*		2
permethrin 40:60	Pounce	Potato tuber moth (seed treatment)		*	
permethrin 40:60 + petroleum oil	Grub and Insect Killer	Potato tuber moth (seed treatment)	*		2
phorate	Phorate, Umet	Aphids, leafhoppers, wireworms	*		91

Note these changes for control of pests and diseases in the kit. *(continued)*

Chemical	Trade name	Controls	Add	Delete	WHP*
primicarb	Aphidex	Aphids	*		2
quintozene	DPI approved off-label use for 750 g/kg product	Powdery scab	*		28
quintozene	Uniroyal	Common scab, powdery scab, rhizoctonia – black scurf		*	
vinclozolin	Ronilan	Grey mould, sclerotinia rot		*	
zineb	Curit, Cyneb	Irish blight, target spot		*	

* WHP: Withholding period (days); NS: None supplied on label; NA: Not applicable; NFC: Not for consumption.

These are all the changed items that we are aware of. If there are any additional changes, please contact our Customer Service officer on 1800 677 640 or send fax details to (07) 5444 9694. You can also e-mail us on: agrilink@dpi.qld.gov.au

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