

Lettuce information kit—update

Reprint – information current in 1999



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 1999. We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research: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- Financial information—costs and returns listed in this publication are out of date.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 1999. 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 lettuce 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

Lettuce Information Kit Annual Update 1999

Technical content

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Compilation

Jerry Lovatt



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Proudly produced by the Agrilink Project Team of Noel Vock, Jerry Lovatt, Irene Kernot, Loraine Chapman, Glenis Ayling, Lourelle Heintjes and Peter Rigden.

Disclaimer: This information kit is distributed by the Department of Primary Industries as an information source only. The information contained in the kit and other material incorporated by reference is provided solely on the basis that readers will be responsible for making their own assessment of the content and seek professional advice. Readers must note that the information contained in this kit has been developed for growers in Queensland, Australia and the Department of Primary Industries gives no warranty that the information is suitable for conditions outside Queensland, Australia.

Introduction

Welcome to the October 1999 edition of the *Agrilink Lettuce Information Kit Annual Update*. This is a special service provided to registered purchasers of the *Agrilink Lettuce Information Kit* published in February 1998.

This 1999 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.

About the authors

Daniel Tan was formerly an extension officer and Peter Deuter is a principal extension horticulturist, both at the Queensland Horticulture Institute, Gatton. David Carey is a vegetable consultant at Toowoomba.

Acknowledgments

The update authors are grateful for information and advice from Robert Battaglia, Angelina Gilbert, Craig Henderson, John Maltby, Rob O'Brien and Brian Richardson, all from DPI.

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Before you **START**

Overview of the 1998/99 season

Although official production figures are not available, it is expected that the area of lettuce grown is greater than in previous years. It is estimated that over 1500 ha were planted with an estimated production of 50 000 tonnes (t). This is over 40% of the estimated 120 000 t produced in Australia.

Lettuce production is often viewed as a quick turn around crop (from transplant to harvest), and supply and price can vary greatly from month to month and season to season. Unfortunately, lower quality product placed on the market by opportunistic growers, and product oversupply, can result in market prices below cost of production.

Lettuce is a highly perishable product, with specialist growers able to supply the market needs through agents, wholesalers and directly to chain stores. The 1999 season was plagued by oversupply in the domestic market, leading to a very low price range of \$4 to \$7 per carton, with only consistent quality conscious growers achieving viable returns, above break-even price.

The range of options for control of *Heliothis* was improved with registration of Dominex (alpha-cypermethrin) and National Registration Authority (NRA) permit approval for use of Bt (*Bacillus thuringiensis*).

Lockyer Valley

Vanguard type, crisphead lettuce varieties (for example Oxford) are still the main varieties grown in the Lockyer Valley, though many growers are starting to grow Salinas type varieties, for example Diamond.

Excellent prices of \$9 to \$10 per carton were received in 1998. Reasonable to high prices in one year often lead to increased plantings in the following season.

Oversupply in the 1999 season has resulted in growers receiving prices as low as \$2 to \$4 per carton. Some growers are supplying produce directly to chain stores.

Pest pressure from *Heliothis* was high in early autumn of 1998 but not a major problem later in the season and in 1999. Overcast weather in the winter of 1999 meant downy mildew became a problem for some growers.

The improvement in mechanical transplant technology coupled with the dry conditions in the past few years has allowed larger growers to increase production areas, and supply, as no weather events significantly impacted on harvest efficiency.

Labour supply is an increasingly difficult issue to manage, with reliable field staff seemingly more difficult to find.

Toowoomba/eastern Darling Downs

Summer production in the eastern Darling Downs was still dominated by warm weather varieties such as Classic and Mustang. The 1997/98 summer was hot but not too wet, providing ideal summer growing conditions. Prices received ranged from \$4 to \$8 per carton.

The Granite Belt

Lettuce production in the Granite Belt increased during the 1997/98 summer when brassica growers started growing lettuce as part of a rotation strategy to manage clubroot. There was also a trend to growing more speciality lettuce, for example Cos types. Pest pressure from *Heliothis* was high in early summer but became less of a problem later in the season.

Specific updates

***Prices and throughputs* (page 3)**

Prices and throughputs for the 1998 season in the Brisbane and Sydney markets are shown in Figures 1 to 3. For comparison, the three-year average for 1995 to 1997 is also graphed.



Figure 1. Average price, 1995 to 1997 and 1998 average price per carton on the **Brisbane** market for lettuce

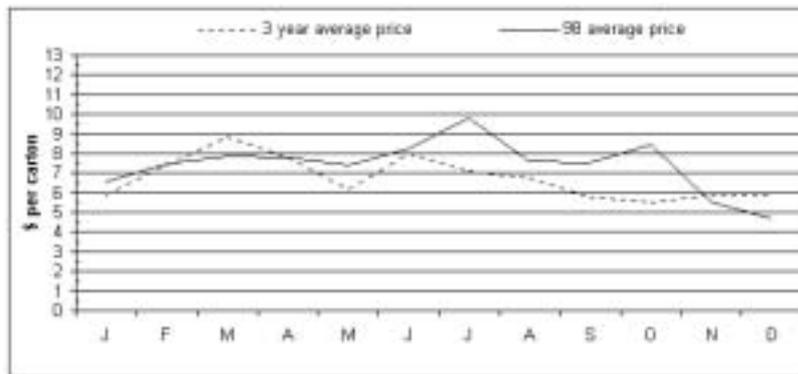


Figure 2. Average price, 1995 to 1997 and 1998 average price carton on the **Sydney** market for lettuce

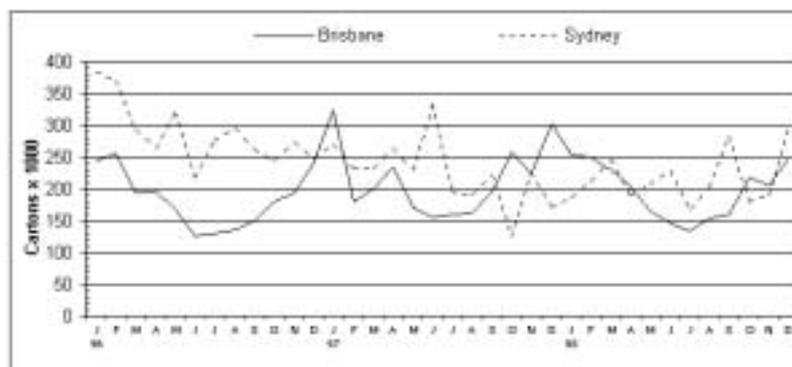


Figure 3. Throughput for 1996 to 1998 on the **Brisbane** and **Sydney** markets for lettuce

The machinery and equipment you need (page 6)

Some changes have been made to Table 3.

Table 3. Essential machinery and equipment needs

Equipment	New prices \$
Tractor with carryall (38 to 45 kW)	35 000
Cultivation equipment (chisel plough, tines, 1.5 m rotary hoe)	21 000
Bed-former	1 200
Transplanter	3 000
Fertiliser spreader	6 000
Spray equipment (hydraulic boom 600 L, manual folding)	2 000
Irrigation equipment (hand shift plus main lines) per hectare	3 000
Second tractor (56 kW)	45 000
Tractor-mounted fork-lift	8 500
Power harrows (1.5 m width with bed-former)	8 500
Harvest aid with 9 m boom	25 000
Forced-air cooling facilities (8 pallet room)	35 000



Common QUESTIONS

Overview

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

How do I get spray accreditation?

Spray accreditations can be obtained by attending a course provided by an accredited ChemSmart Training Queensland trainer. Contacts and references on page 21 gives a contact to find your nearest trainer.

Do I need training in the safe use of chemicals?

Yes. For the purchase and use of some restricted products, for example endosulfan, it is mandatory to have ChemCert Australia accreditation or another accreditation acceptable to the National Registration Authority (NRA).

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 ChemSmart accreditation. Remember spray accreditations must be renewed every five years.

How should I store my chemicals?

Chemicals need to be stored in accordance with the AS2507–1998 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. Contact ChemSmart for a list of courses, or to find your nearest trainer.

Agsafe or ChemSmart accredited trainers also understand these requirements and employees of farm chemical resellers with Agsafe accreditations are also a useful source of information. Refer to references on page 30 for details of the publication, *Farm Chemical Storage Guide* to be released soon.

Do I need to keep a diary of spraying records?

Yes. 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 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 lettuce. 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 14.



Growing the CROP

Overview

This section briefly updates changes to *Growing the crop*, relating to varieties, weed control and marketing. More information on some of these areas appears in *Key issues* on page 14.

Specific updates

Varieties (page 5)

Several new varieties have been released and older varieties discontinued. See page 14 for descriptions of the new varieties and a list of discontinued ones.

Control weeds (page 17)

Table 7. *Herbicides for post-emergent grass control*

Add:

Chemical	Trade name	Rate per ha`	WHP* (days)	Major weeds controlled
clethodim	Select	150 – 500 mL	28	Many grasses including winter grass (annual poa)

*WHP: withholding period

Labelling cartons (page 24)

A key food safety requirement is traceability. All lettuce need to be identified and documentation maintained to support a trace-back system. Traceability is important. It is a means of finding the cause of a problem when it occurs, so

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 and the farm block from which the product came can be determined.

Many growers prefer not to use a 'packed on' date. Some have letters of the alphabet printed on the carton, then circle a different letter for each day or block, and record the information for this code for future reference. Computer-aided equipment that puts a code on each carton is also available.

LETTUCE																															
CLASS	1	○	CODE																												
COUNT	12		<table border="1"> <tr><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>F</td><td>G</td></tr> <tr><td>H</td><td>I</td><td>K</td><td>L</td><td>M</td><td>N</td><td></td></tr> <tr><td>O</td><td>P</td><td>Q</td><td>R</td><td>S</td><td>T</td><td></td></tr> <tr><td>U</td><td>V</td><td>W</td><td>X</td><td>Y</td><td>Z</td><td></td></tr> </table>	A	B	C	D	E	F	G	H	I	K	L	M	N		O	P	Q	R	S	T		U	V	W	X	Y	Z	
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Figure 8. End panel labelling for a lettuce package including a traceability code

Interstate quarantine requirements (page 26)

These requirements change frequently, so we have included the contact details for each state on page 26.



Key ISSUES

Overview

Many new varieties have been introduced and these are given here, along with the name of the company releasing them. There has been a trend towards greater quality assurance in lettuce marketing and this is also included.

Specific updates

Varieties (page 16)

There have been some changes to the varieties grown.

The following SPS varieties have been discontinued.

Crisphead varieties: Bronco, Crystal, Diamond, Rodeo, Summertime, Wintergreen, Wrangler and Yatesdale.

Butterhead (Mignonette): Greenbelt, Oasis and Summer Red.

On page 20 note that Mustang (SPS) is now only considered to have some tolerance to downy mildew, and S 500 A (H) has been named Morgan. On page 24, Melody (SPS) delete 'Resistant to downy mildew' and note that Red Velvet is not as dark as Shiraz.

New lettuce varieties and the companies releasing them

Company/ Type	Fairbanks	Henderson	Lefroy Valley	Novartis	Rijk Zwaan	South Pacific Seeds	Yates
Crisphead	Benefica, Grenada	Great Lakes 659, Greendale / Yarralake, Kirralee, Salinas, Winguard, Winterlake		Mistral	Iglo, Madras, Rubette	Kimba, Sheeba, Silverado, Titanic	Grenadier, Magic, Musketeer, Rader, Tasman
Butterhead (Mignonette)	Burverdi	Baby Butter, Green Mignonette, Xena	Claret Improved, Hermitage, Santa Cruz, Stefy	Jerka, Sunset	Arizona, Balisto, Lutetia, Nadine	Callisto, Ember	Baja
Cos (Romaine)	Oberon	Cadillac, Red Rome	Cosmic, Kryptonite	Cos Emerald, Cos Ruby, Peewee	Donatus (processing) Junior, Remus	Cosette, Cos Regal	Nero
Coral types	Innisfail			Olola, Red Sea, Green Sea	Colorado, Concorde, Locarno	Barletta	Cireo, Revolution
Oakleaf types		Green Oakleaf, Italian Oakleaf, Purple Oakleaf, Red Ferrari, Zelda			Bolchoi, Kendai, Kristine, Kritair, Raisa	Anita, Caprice, Monet	Bambino, Basic
Looseleaf types			Tango			Frillice	
Other types							

Pest management

Natural enemies (beneficial organisms) (page 46)

Bacillus thuringiensis (Bt) sprays can now be used to control *Heliothis*. Use of this product will help growers move towards an integrated pest management (IPM) program as it only affects caterpillars and does not harm beneficials. Several new softer products for use on lettuce are expected to be released towards the end of 1999. Check with your supplier.

Spray equipment (page 47)

When replacing nozzles, compare types and brands. Advances in nozzle materials may mean that a slightly more expensive nozzle will have a longer useful paddock life, giving you uniform coverage for longer than older nozzle types.

Manage insecticide resistance (page 48)

6. Try not to spray in the heat of the day, as high temperatures and UV light levels may reduce pesticide performance.

Manage fungicide resistance (page 49)

Several systemic fungicides from different chemical groups are available for control of downy mildew. To maximise the effectiveness of these products rotate them within your application program. A two-application rotation cycle (that is apply a product a maximum of two times then switch to an alternative product) should maximise product performance where multiple plantings are grown in a season.

Aphids (page 49)

Check for aphids under leaves.

Slugs and snails (page 50)

Crop and whole farm hygiene is the key to control.

Weed management (page 57)

Include clethodim, see this update page 12

Trends in the lettuce market

There has been a move towards buyers demanding some level of quality assurance (QA) in lettuce 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 measures are negotiated with the customer and 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.



Problem **SOLVER**

Specific updates

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



Contacts and **REFERENCES**

There have been some changes and additions in the *Contacts and references* section.

Specific updates

Grower associations (page 3)

Queensland Fruit & Vegetable Growers has e-mail and a web site:

E-mail: qfvg@qfvg.org.au

Web: www.qfvg.org.au

Biological Farmers of Australia has e-mail:

E-mail: bfa@icr.com.au

National Association for Sustainable Agriculture Australia Ltd has

e-mail: [E-mail: nasaa@dove.mtx.net.au](mailto:nasaa@dove.mtx.net.au)

Seed suppliers (page 4)

Note the following changes.

Fairbanks Selected Seed Co.

c/- John Gyngell

PO Box 6059

BUNDABERG QLD 4670

Fax: (07) 4159 2171; Mobile: 0417 607 243

Henderson Seeds

c/- Adam Winter

PO Box 7586 Mail Centre

TOOWOOMBA QLD 4352

Ph: (07) 4630 9944; Fax: (07) 4630 9955; Mobile: 0417 077 857

E-mail: adamwinter@hendersonseed.com.au

Head office: Ph: 1800 802 295; Fax: (03) 9850 6794

S&G Seeds is now:

Novartis Seeds

c/- Andrew Maughan

PO Box 1599

TOOWOOMBA QLD 4350

Fax: (07) 4639 4946; Mobile: 0408 499 937

Head office: Ph: (03) 9706 3033

Rijk Zwaan Australia Pty Ltd

c/- Mark Stevens

41 Leslie Street

TOOWOOMBA QLD 4352

Ph/Fax: (07) 4687 6879; Mobile: 0418 741 355

Head office: Ph: (03) 5348 5528; Fax: (03) 5348 5530

E-mail: vegieseeds@rijkszwaan.com.au

Seedling nurseries (page 4)

Bowen, add:

A. & J. Paterson

Telegraph Road

BOWEN QLD 4805

Ph: (07) 4786 2216; Fax: (07) 4785 2028; Mobile: 0417 744 508

Bundaberg

Add:

Bundaberg Seedlings

Lot 3, Hoods Road

BUNDABERG QLD 4670

Ph: (07) 4159 9566; Fax: (07) 4159 9863; Mobile: 015 629 730

Change address:

D. & P. Colling

MS 541

Lot 1, Mt. Perry Road
 SHARON QLD 4670
 Ph: (07) 4159 9622

Lockyer Valley, delete:
 Pohlmanns Nursery

Pesticides and spraying (page 6)

AVCARE Ltd

National Association for Crop Protection & Animal Health
 Locked Bag 916
 CANBERRA ACT 2601
 Ph: (02) 6230 6399; Fax: (02) 6230 6355
 E-mail: avcare@ozemail.com.au

National Registration Authority

PO Box E 240
 KINGSTON ACT 2604
 Ph: (02) 6271 6384
 Web: www.affa.gov.au/nra

For training in pesticide application contact this address to find nearest accredited trainer.

ChemSmart Training Queensland

PO Box 17
 GRANGE QLD 4051
 Ph: (07) 3352 5033; Fax: (07) 3352 5042
 E-mail: chemsmart@powerup.com.au

Vermin control

For information on controlling native birds contact:

Environmental Protection Agency

Queensland Parks & Wildlife Service
 Ph: (07) 3227 7111

To control other vermin contact your nearest office of the Department of Natural Resources.

Plant, soil and water testing laboratories (page 7)

Crop Tech Laboratories Pty Ltd now has e-mail:

E-mail: CROPTECH@b130.aone.net.au

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

Market information (page 8)

The market information has been updated and expanded.

Ausmarket Consultants

The **Ausmarket Consultants** group offers historic and current fruit and vegetable market price information, market intelligence, outturn reporting and product assessment. Participating services operate separate businesses within Australia's major markets. The Ausmarket Consultants name covers activities where two or more of the group members combine resources to provide services that extend beyond their individual areas of operation. Contact details can be found on their web site:

www.users.bigpond.com/Ausmarket

Individual members of the network are:

Adelaide**Adelaide Market Services**

Bill Bishop

PO Box 6014, Halifax Street

ADELAIDE SA 5000

Ph: (08) 8232 5555; Fax: (08) 8232 1311; Mobile: 0419 868 265

Brisbane**Market Information Services**

Trevor Brewer
D Block Brisbane Market
PO Box 229
BRISBANE MARKETS QLD 4106
Ph: (07) 3379 4576; Fax: (07) 3379 4103; Mobile: 0417 712 427
Infocall: 1902 262 580 (\$2.50 per minute, covers Adelaide, Brisbane,
Sydney and Melbourne)
E-mail: Ausmarket@bigpond.com

Melbourne**DataFresh Melbourne Market Reporting Service**

John Popilieff
Box 170 Melbourne Markets
FOOTSCRAY VIC 3011
Ph: (03) 9689 3444; Fax: (03) 9689 3411; Mobile: 0411 117 578
E-mail: info@datafresh.com.au

Sydney**Control Quality Services**

Chris Cope
PO Box 350
FRENCHS FOREST NSW 2086
Ph: (02) 9746 3437; Fax: (02) 9746 1075; Mobile: 0416 108 639
E-mail: cqs@accsoft.com.au

Other market price information sources**Perth****Perth Market Reporting Service**

Perth Market Authority
Mail Point 1
280 Bannister Road
CANNING VALE WA 6155
Ph: (08) 9455 2900; Fax: (08) 9455 2902

Market reports: 1900 983 304 (recording); 75 c per minute
E-mail: market@tpgi.com.au

Sydney

Flemington Market Reporting Services

Northern B Block Warehouse

PO Box 1

FLEMINGTON MARKETS NSW 2129

Ph: (02) 9764 3516; Fax: (02) 9763 1773

Market reports: 1900 123 038 (recording); 75 cents per minute

Dial-a-fax: 1900 123 039 (\$2 per fax)

Payment problem contacts

If you have a disagreement over payment for produce or want a list of registered farm produce commercial sellers, the following contacts should be helpful.

Adelaide

South Australian Chamber of Fruit & Vegetables

c/- Adelaide Produce Markets Ltd

Ph: (08) 8349 4528; Fax: (08) 8349 5922

Brisbane

Deputy Registrar

Ph: (07) 3239 3233; Fax: (07) 3239 3379

E-mail: janetzn@dpi.qld.gov.au

Sydney

Prompt Pay

Freecall: 1800 247 787; Fax: (02) 9764 2776

Melbourne

Farmpay

Freecall: 1800 060 321; Info Fax: 1800 678 062

Perth

Chamber of Fruit & Vegetable Industries

Robert Naudi

Ph: (08) 9455 2742; Fax: (08) 9455 4923

Wholesaler information

Contact the appropriate number below for information about farm produce commercial wholesalers in the markets.

Adelaide**Adelaide Produce Markets Ltd**

Diagonal Road
POORAKA SA 5095
Ph: (08) 8349 4493; Fax: (08) 8349 6574

Brisbane**Market Line**

Freecall: 1800 631 002
Web: www.brisbanemarket.com.au

Melbourne**Victorian Chamber of Fresh Produce Wholesalers Inc.**

PO Box 113
542 Footscray Road
FOOTSCRAY VIC 3011
Ph: (03) 9689 3233; Fax: (03) 9689 9223

Perth**Perth Market Authority**

Mail Point 1
280 Bannister Road
CANNING VALE WA 6155
Ph: (08) 9455 2900; Fax: (08) 9455 2902

Sydney**Sydney Markets Ltd.**

PO Box 2
SYDNEY MARKETS NSW 2129
Ph: (02) 9325 6200; Fax: (02) 9325 6288
E-mail: sydma@sydneymarkets.com.au
Web: www.sydneymarkets.com.au

Horticultural consultants (page 10)

There is a new consultant:

Armstrong Rural Services

PO Box 1438

TOOWOOMBA QLD 4350

Ph/Fax: (07) 4630 3667

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

Export associations (page 10)

Change of address:

Queensland Horticultural Exporters Association

PO Box 857

HAMILTON CENTRAL QLD 4007

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

Australian Horticultural Exporters Association

can now be contacted on:

Mobile: 0419 999 889

E-mail: ahea@ozdocs.net.au

Web: www.ozdocs.net.au/~ahea

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.

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 & Inspection Service
280 Bannister Road
CANNING VALE WA 6155
Ph: (08) 9311 5333; Fax: (08) 9455 3052

Northern Territory

Senior Adviser, Plants

NT Quarantine & Inspection Branch
GPO Box 2268
DARWIN NT 0801
Ph: (08) 8981 8733; Fax: (08) 8941 0223

Queensland government services (page 10)

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.

Land vegetation management officers

Land vegetation management officers are available for expert assistance with vegetation and tree management, including the retention and management of remnant vegetation, vegetation management planning, tree use on farms including windbreak design and species selection, clearing, non-industrial farm forestry and forest enrichment. Your local office of the Department of Natural Resources can put you in contact with your nearest land vegetation management officer, where available.

Land conservation extension officers

Land conservation extension officers are available in some districts to provide expert assistance in planning farm layouts and providing advice on land management. Your local office of the Department of Natural Resources can put you in contact with your nearest land conservation officer, where available.

Water extension advice

Department of Natural Resources officers (DNR) can provide advice on most aspects of water use on farms including dam construction and maintenance, stream licensing, bore development, irrigation selection, water quality and farm drainage problems. Your local DNR office can put you in contact with your nearest office where this advice is available.

Farm financial counselling service

In Queensland, DPI provides business advisory services to producers who are in difficulty from continuing environmental and economic pressures. Trained counsellors can help in the analysis of financial situations and the development of business plans. Your local DPI office or the DPI Call Centre, telephone 13 25 23, can put you in touch with your nearest financial counsellor.

Other information sources (page 11)

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

Farmfax

The Farmfax telephone number has changed. It is 1902 220 042 (charges apply, \$2.50 or \$5 depending on what is being faxed).

Agricultural booksellers (page 12)

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

Web: 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

References

DPI information products

Books (page 15)

The following book is due for release in November 1999.

Farm Chemical Storage Guide, Coleman, E., (1999), Department of Primary Industries, Queensland.

Other products (page 16)

DPI Notes are available on: www.dpi.qld.gov.au/DPINotes/Welcome.html

Other books (page 16)

The 1998 edition of the *Australian Vegetable Growing Handbook* edited by J. Salvestrin is now available.

Annual publications (page 18)

Brisbane Markets Business Directory

Available from:

Brisbane Market Authority

PO Box 8

BRISBANE MARKETS QLD 4106

Ph: (07) 3379 1062; Fax: (07) 3379 4903

Web: www.brisbanemarket.com.au

Prices and Throughput for the Brisbane Market 1998

Available from:

Market Information Services

PO Box 229

BRISBANE MARKET QLD 4106

Ph: (07) 3379 4576; Fax: (07) 3379 4103; Mobile: 041 771 2427

Melbourne Markets Business Directory

Available from:

Melbourne Market Authority

PO Box 1
542 Footscray Road
FOOTSCRAY VIC 3011
Ph: (03) 9258 6100; Fax: (03) 9687 7714
E-mail: info@mma.vic.gov.au

Sydney Markets Users Guide

Available from:

Sydney Market Ltd

PO Box 2
SYDNEY MARKETS NSW 2129
Ph: (02) 9325 6200; Fax: (02) 9325 6288
E-mail: sydma@sydneymarkets.com.au
Web: www.sydneymarkets.com.au

Useful Internet sites

The following Internet sites are additional to those mentioned elsewhere in this update.

Australian Farmers Guide to the Internet

www.farmwide.com.au/farmersguide

Australian Quarantine & Inspection Service (AQIS)

www.aqis.gov.au

Agriculture, Fisheries & Forestry Australia (Commonwealth Department of Agriculture, Fisheries & Forestry)

www.affa.gov.au

Department of Primary Industries, Queensland

www.dpi.qld.gov.au

Energy and Water Efficiency in Vegetable Production

http://edis.ifas.ufl.edu/scripts/htmlgen.exe?DOCUMENT_EH208

Handbook for the Production of Controlled Environment-Grown Hydroponic Lettuce

www.cals.cornell.edu/dept/flori/lettuce/index.html

Horticulture Australia—web site for Horticultural Research & Development Corporation (HRDC) and Australian Horticultural Corporation (AHC)

www.horticulture.com.au

National Registration Authority

www.affa.gov.au/nra

Oregon State University: Vegetable Production Guide

www.orst.edu/Dept/NWREC/vegindex.html

Practical Hydroponics and Greenhouses

www.hydroponics.com.au

Produce and Postharvest Related Sites

<http://postharvest.ucdavis.edu/Links/index.html>

Texas A&M University: Plant Answers

<http://aggie-horticulture.tamu.edu/PLANTanswers/web.html>

United States Department of Agriculture

www.usda.gov

University of California IPM Online

www.ipm.ucdavis.edu

University of Florida, Institute of Food & Agricultural Sciences

<http://edis.ifas.ufl.edu>



Problem solver **HANDY GUIDE**

Note these changes for control of pests and diseases of lettuce. This information is taken from the DPI's *Infopest* CD, V2.3.

Chemical	Controls	Trade names	WHP*
ADD TRADE NAMES			
<i>Bacillus thuringiensis</i>	heliiothis grub	NRA permit	NA
acephate	western flower thrips	Orthene, NRA permit	3
alpha-cypermethrin	budworms	Dominex, Fastac	3
alpha-cypermethrin	western flower thrips	Dominex, Fastac + others (NRA permit)	3
chlorpyrifos (bait)	crickets	Bar 500, Chlorpyrimax, Optem, Stike-out	0
chlorpyrifos (spray)	cutworms	Bar 500, Chlorpyrimax, Optem, Pest One, Protector	0
chlorpyrifos (spray)	vegetable weevil	Chlorpyrifos	7
chlorpyrifos (spray)	western flower thrips	NRA permit	SS
copper ammonium carbonate	downy mildew, dry leaf spot	Liquicop	1
copper hydroxide	downy mildew, dry leaf spot	Champion, Copper Hydroxie, CPR Hydrox, Flo-Bordo	1
copper oxychloride	downy mildew, dry leaf spot	Copper Oxychloride	1
copper oxychloride	leaf diseases/spots	Copperoxy, Copperite, Oxydul	1
copper oxychloride	septoria leaf spot	Copper Fungicide	1
cuprous oxide	downy mildew, dry leaf spot	Nordox, Norshield	1
dimethoate	aphids, jassids, leafhoppers, thrips, wingless grasshoppers	Dimethomax, Romethoate	7
fenitrothion	Australian plague locust, migratory locust, spur-throated locust	Sumithion	14
iprodione	sclerotinia rot	Civet Aquaflo	7
maldison	aphids, jassids, leafhoppers, Rutherglen bug	Fyfanon, Maldison	3

Chemical	Controls	Trade names	WHP*
ADD TRADE NAMES			
maldison	western flower thrips	NRA permit	3
mancozeb + metalaxyl	downy mildew, septoria leaf spot	Axiom, Optica, Zee-mil	14
mancozeb + metalaxyl-M	downy mildew, septoria leaf spot	Ridomil Gold	14
metaldehyde	slugs, snails	Blitzem Pellets, Metaldehyde, Slugout, Snail & Slug Pellets, Snail and Slug Killer, Snail Killer Pellets, Snail/Slug Killer	7
methamidophos	western flower thrips	Nitofol, Monitor, Prefect + others (NRA permit)	7
methidathion	western flower thrips	Supracide, Suprathion + others (NRA permit)	7
methomyl	budworms, cluster caterpillar	Lavet	1
methomyl	looper caterpillars, western flower thrips	NRA permit	1
permethrin	cluster caterpillar	Permasect, Permethrin	2
petroleum oil + permethrin	cluster caterpillar	Grub & Insect Killer	2
pirimicarb	green peach aphid	NRA permit	2
quintozene	base rot, root rot	Quintozene	28
DELETE TRADE NAMES			
chlorpyrifos (bait)		Pirifoz	
chlorpyrifos (spray)		Pirifoz	
diazinon		Gesapon	
dimethoate		Danadim	
endosulfan		Bar	
parathion		Novafos	
petroleum oil + permethrin		Bug and Insect Killer	

* WHP: Withholding period (days). NA: not applicable. SS: seedling stage.

These are all the changed items that we are aware of. If there are additional changes, please contact Agrilink's Customer Service Officer on 1800 6677 640 or fax details to (07) 5444 9694. You can also e-mail us on: agrilink@dpi.qld.gov.au

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