

Strawberry information kit—update

Reprint – information current in 1998



REPRINT INFORMATION – PLEASE READ!

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 We advise readers to take particular note of the areas most likely to be out-of-date and so requiring further research: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- Financial information—costs and returns listed in this publication are out of date.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

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Queensland Government

Strawberry Information Kit Annual Update 1998

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Disclaimer: This information booklet is distributed by the Department of Primary Industries as an information source only. The information and other material incorporated by reference is provided solely on the basis that the reader will be responsible for making his/her own assessment of the content and seek professional advice.

Introduction

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

This booklet is designed to update you with significant changes to the content of the kit since it was published. It does this by providing the specific changes page by page.

The booklet is designed to fit into the front pocket of your 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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**Agrilink Strawberry
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**Contact the Agrilink Infoline
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Before you **START**

Overview

The 1997 season was notable for a large increase in plantings and a subsequent large increase in the volume of fruit supplied to the market. For example, throughput of strawberries in the Brisbane market for May to October 1997 was 3180 tonnes compared to an average over the previous three years of just 1700 tonnes. This placed further pressure on prices, with average prices per punnet in 1997 being below the three-year average for 1994 to 1996 in all months of the Queensland season.

This makes strawberry growing more marginal and makes the need for a thorough business plan more essential.

The other issue prospective growers need to be aware of is the growing importance of food safety issues in the marketplace. One of the large retailers is moving towards purchasing produce only from wholesalers that can guarantee food safety under a HACCP based quality management system such as SQF 2000. It is possible that to be at the premium end of the market, growers may need to comply with these requirements. Prospective growers should therefore factor in to their analysis the extra costs of quality management procedures.

Specific updates

Prices and throughputs (page 3)

Prices and throughputs for the 1997 season in the Brisbane market are shown in Figures 1 and 2. For comparison, the three-year average for 1994 to 1996 is also graphed. (Data to compile the figures courtesy of Market Information Services, Brisbane — contact details on page 25 of this Update).

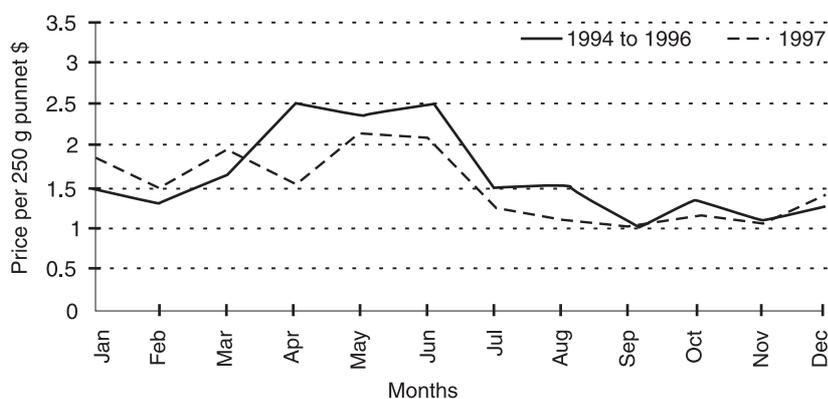


Figure 1. Average monthly price per 250 g punnet at Brisbane market

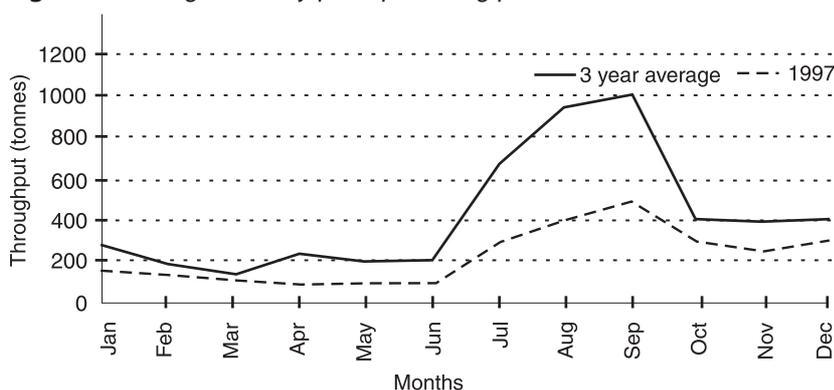


Figure 2. Average monthly throughput at Brisbane market

Production costs and gross margin (page 5)

In the economic analysis used to calculate production costs, the cost price for the fungicide Euparen was mistakenly entered well below its actual cost of \$60.00/kg. The corrected price adds about 7 cents per plant to production costs, bringing the cost to establish and maintain a plant during the season to about 67 cents. This in turn means that production and marketing costs are about \$94 000 per hectare of 45 000 plants.

The gross margin is recalculated at about 40 cents per plant or \$18 000 per hectare for the scenario described in the kit.



Common **QUESTIONS**

Runner suppliers (page 2)

Here is an updated listing of runner suppliers.

Runner supplier	Varieties available
Queensland	
Dijamani Produce Jack and Diane Storer Delaney Creek Road MT DELANEY QLD 4514 Ph: (07) 5496 3591 Fax: (07) 5496 3676	Redlands Joy, Kabarla, Redlands Hope, Redlands Star, Maroochy Flame, Maroochy Blaze, Maroochy Starfire (Note: potted cell plants of some varieties also available)
Sweets Strawberry Runners Elks Lane MS 50 STANTHORPE QLD 4380 Ph: (07) 4683 3196 or (07) 4683 6288 Fax: (07) 4683 3196 or (07) 4683 6214 Mobile: 0419 826 879	Redlands Joy, Kabarla, Maroochy Flame, Maroochy Blaze, Maroochy Starfire
Nu-Plants Alex Saez 282 Gardiner Road ROCHEDALE QLD 4123 Ph: (07) 3341 8365; Fax: (07) 3341 2239; Mobile: 0414 802 994	Cartuno, Milsei
Australian Strawberry Runners Pty Ltd Richard and Kaye Barnard PO Box 36 THE SUMMIT QLD 4377 Ph: (07) 4685 3338 Fax: (07) 4685 3330 E-mail: ausstraw@halenet.com.au	Redlands Star, Seascape, Capitola

Runner supplier	Varieties available
<i>New South Wales</i>	
Speets Strawberries 645 Old Pitt Town Road OAKVILLE NSW 2765 Ph: (02) 9838 1552	Torrey, Tioga, Redgauntlet, Seleкта
<i>Victoria</i>	
Toolangi Certified Strawberry Runner Growers Cooperative Ltd 469 Kinglake Road TOOLANGI VIC 3777 Ph: (03) 5962 9220 Fax: (03) 5962 9416	Chandler, Pajaro, Parker, Selva, Fern, Oso Grande, Seascape, Capitola, Coogee, Redgauntlet, Tioga, Camarosa, Anaheim, Carlsbad, Laguna, Sunset, Questa, Dorit, Malah, Ofra, Tamar, Yael
<i>Tasmania</i>	
Tasmanian Highland Strawberry Runners c/- P. Bignell Patrick Street BOTHWELL TAS 7030 Ph: (03) 6259 5663 Fax: (03) 6259 5663	Coogee, Mindarie, Seascape, Tristar, Redgauntlet, Tioga, Redlands Joy, Kabarla, Capitola
Loyetea Strawberry Nursery c/- J. Cox 1033 Upper Natone Road NATONE TAS 7321 Ph: (03) 6436 2106 Fax: (03) 6436 2208	Redgauntlet, Cambridge Rival, Tioga, Aiberry, Hokowase, Kunowase

Availability of Californian varieties from Queensland runner growers (page 2)

Capitola and Seascape are now available from one Queensland runner grower.

Best varieties to plant (page 6)

Growers in coastal areas supplying major metropolitan markets: We suggest Redlands Joy, Kabarla and Selva (early season) and Chandler (late season).

Rest unchanged.

New varieties suggested for trial in small numbers are Maroochy Flame, Maroochy Blaze, Maroochy Starfire, Camarosa, Anaheim, Carlsbad, Laguna, Sunset, Questa, Dorit, Malah, Ofra, Tamar and Yael.

Planting time (page 6)

For coastal areas, planting is now recommended between mid March and the first week of April. If runners are planted in the second week of March or earlier, they tend to grow leaves and new runners rather than build up crowns.

Fumigation (page 7)

Fumigation is still recommended while methyl bromide is available. However, it will become increasingly scarce as imports of the chemical are progressively reduced, leading to a complete phase-out by 2005.



Growing the **CROP**

Overview

The recipe for growing and marketing strawberries contained in the kit has changed little during the year since publication. The most significant changes are:

- fine-tuning of the variety recommendations
- recommendation of the 'pest-in-first' strategy for spider mite control
- recommendation of the fungicide, captan, for disease control
- fine-tuning of tensiometer readings for irrigation scheduling
- new packaging
- withdrawal of the legislative protocols for western flower thrips, and
- an alert about the emerging importance of food safety issues in quality management.

Specific changes

Coastal Queensland/Atherton Tableland varieties (page 5)

Here is an updated table of varieties.

Option 1: whole season May to October	Option 2: early season only May to end of August
Early season	Kabarla*
Kabarla*	Redlands Joy
Redlands Joy	Selva
Selva	
Late season	
Chandler	

Additional varieties where above ones are unavailable	Additional varieties where above ones are unavailable
Redlands Hope (early season)	Redlands Hope
Oso Grande (late season)	

* Suggested for trial only in north Queensland

Growers should also try small numbers of Maroochy Flame, Maroochy Blaze, Maroochy Starfire, Camarosa, Anaheim, Carlsbad, Laguna, Sunset, Questa, Dorit, Malah, Ofra, Tamar and Yael.

Runner growers (page 6)

Note the updated list of runner growers and the varieties they supply (shown on page 8 and 9 of this update).

Fumigate the soil (page 11)

Fumigation is still recommended while methyl bromide is available. However, it will become increasingly scarce as imports of the chemical are progressively reduced, leading to a complete phase-out by 2005.

If you are using other fumigants such as metham, please note that the aeration time is at least three to four weeks compared to two weeks with methyl bromide. For these other fumigants, always do a seed germination test before planting, as recommended on the label.

Herbicides for controlling weeds in walkways (page 18)

The herbicide glufosinate-ammonium (Basta) is now registered for strawberries. It controls both grasses and broadleaf weeds. However, it will damage strawberry plants if there is any contact between the herbicide and plants. It must be used very carefully as a directed spray to the walkways only. Apply with a hood around the nozzle to prevent any drift on to the strawberry plants.

New formulations of paraquat are Uniquat and Maxitop. Robquat is no longer registered.

Pest and disease management program (page 21)

Three changes have been made in the program.

- A new fungicide, captan, is now available for control of leaf spot and fruit rot diseases. Captan is registered for the control of grey mould, black spot, phytophthora fruit rot, scorch and leaf blight. It has a one-day withholding period. Because it is not as effective as Euparen for the control of grey mould and powdery mildew, we recommend it be used later in the season when the main risk of these diseases has passed. The program we recommend is as follows:
 1. Use Euparen weekly until about July – August.
 2. Use captan from then on.
 3. Where insecticide sprays are required in the period up to July – August and it is desired to mix these with the fungicide, captan may be substituted for Euparen for that spray. This is because Euparen should not be mixed with other chemicals because of the risk of spray burn.
 4. Use Benlate where eye spot becomes a problem.
- Ronilan is no longer registered for control of grey mould.
- For spider mite control, we now recommend the use of the ‘pest-in-first’ strategy. This involves purposely releasing spider mites in the patch during May, and then releasing predatory mites into the same plants two weeks later. The patch is then monitored weekly to make sure the predators are keeping the spider mites under control. Full details of the procedure are contained on pages 34 and 35 of the *Key issues* section of the kit.

Tensiometers (page 27)

Readings to stop and start watering have been refined. Here are the new readings.

Watering system	Start watering	Stop watering
Overhead or trickle	15 centibars	4 centibars

Note that the units centibars (Imperial, cb) and kilopascals (metric, kPa) are equivalent and interchangeable.

Guide to watering (page 29)

For irrigation during winter, watering every second day is now considered more appropriate than once or twice a week. A good rule of thumb for overhead sprinklers is to apply about 6 mm every second day. This is roughly equivalent to 20 to 30 minutes for standard output sprinklers.

New packaging (page 36 – 37)

Punnets

Although the standard square overwrapped punnet (250 g) is still most widely used, the lidded Europunnet (275 g) now accounts for 20% of fruit and is in increasing demand by some markets. The Ozpunnet, a modified clamshell-type Europunnet of 250 g, is another new option.

Cartons

Here is the current situation with cartons:

- the 20 and 25 punnet cartons are no longer recommended or used;
- the 12 punnet carton is now the standard carton for 250 g square overwrapped punnets;
- Europunnets are packed into a modified 12 punnet carton with higher sides, containing two layers of 10 punnnets;
- 375 g plates are packed into a 12 punnet carton as a single layer of 8 plates;
- ready-made cartons are now available as an alternative to making up your own on farm.

Interstate quarantine — western flower thrips (page 40)

The requirements listed for western flower thrips have been deleted.

Quality management (page 42)

Be aware of the growing importance of food safety issues in the marketplace. One of the large retailers is moving towards purchasing produce only from wholesalers that can guarantee food safety under a HACCP based quality management system such as SQF 2000. It is possible that to be at the premium

end of the market, growers may need to comply with these requirements. Check with your wholesalers as to their likely movement in this direction. They may be able to support your development of appropriate quality management systems.

Note that DPI is currently running preliminary HACCP courses for the Queensland Strawberry Growers Association. Contact David Licence (Animal and Plant Health, DPI Nambour Regional Office Ph: 07 5430 4911) for details. Participation in one of these courses should enable growers to set up appropriate systems to meet the food safety requirements of retailers.



Key **ISSUES**

Economics of strawberry production (page 11)

In the gross margin calculation on page 11, the unit cost of Euparen was inadvertently entered as \$6.00/kg when it should have been \$60.00/kg. Here is the corrected part of the calculation.

	Unit	No.	Units/ha	\$/unit	\$/ha	\$/plant	\$/punnet
Euparen	kg	30	2	60.00	3600		
Total					5608	0.12	0.06
TOTAL COSTS					93812	2.08	1.04
Gross Margin					18688	0.42	0.21

Selecting varieties — try new varieties (page 14)

A number of new varieties will be available for the 1999 season. Of these, the following are recommended for trial in small numbers.

Note: Information on the Californian and Israeli varieties is based on overseas experience. No fruiting trials have yet been conducted in Australia.

Variety	Source	Characteristics
Maroochy Flame	Queensland	Very early (about the same time as Kabarla); fruit with attractive appearance, similar in size to Selva, some smalls, firm, similar tolerance to rain damage as Kabarla, good flavour; high yields; fruit well displayed on bush, easily harvested
Maroochy Blaze	Queensland	Starts production about a week later than Redlands Joy; fruit with attractive appearance, large, firm, juicy, tends to crack in rain, medium flavour; good yields; fruit well

Variety	Source	Characteristics
		displayed on bush and easily harvested; suits production of large berries for ice-cream desserts
Maroochy Starfire	Queensland	Starts production about the same time as Redlands Joy; fruit with attractive appearance, medium, firm, high resistance to rain damage; exceptionally good flavour; high yields; fruit well displayed and easily harvested; suited to high flavour markets
Camarosa	California	Short day variety similar to Chandler but with higher yields and earlier production; larger firmer fruit; more vigorous plant
Cuesta	California	Short day variety similar to Chandler but with higher yields and earlier production; larger more consistent fruit; less vigorous plant
Laguna	California	Short day variety similar to Chandler; higher yields but later production; large, very symmetric firmer fruit; more vigorous plant
Carlsbad	California	Short day variety similar to Chandler but with higher yields and earlier production; larger firmer fruit; more vigorous plant
Sunset	California	Day neutral variety similar to Selva but with consistently later production; larger fruit with better flavour; more tolerant of spider mite
Anaheim	California	Short day variety similar to Chandler with similar yields but later production; exceptional fruit appearance, firmer
Dorit	Israel	Early bearing; fruit large, red to light red, very glossy, excellent flavour, medium firmness
Malah	Israel	Early to mid season; fruit large, glossy full red, very sweet flavour, very firm, good shelf life
Ofra	Israel	Very vigorous plant, resistant to common diseases; early cropping; fruit large, bright red colour, glossy.
Tamar	Israel	Very early bearing; fruit similar to Dorit with exceptionally good flavour, medium firmness
Yael	Israel	Early to mid season cropping; good resistance to diseases; fruit very large, red to dark red, glossy, very good flavour, very firm.

Nutrition — slow release fertilisers (page 21)

Trials during the 1997 season with controlled release fertilisers significantly improved establishment and early fruit production for the variety Redlands Joy. This confirms similar observations in the 1996 season with Selva.

In view of these results, we continue to encourage growers to conduct small scale trials as recommended in the kit.

Irrigation — monitoring systems (page 23 – 24)

A new type of soil moisture monitoring device is now available and is being tested in field trials. The device is the ThetaProbe which consists of a soil moisture sensor inserted in the soil and connected via cable to a data logger. We will keep you posted on the results.

Irrigation — irrigating using tensiometers (page 27)

Readings to stop and start watering have been refined. Here are the new readings. Note that the readings for overhead and trickle are the same.

	Start watering	Stop watering
One tensiometer	15 centibars	4 centibars
Two tensiometers	15 centibars	4 centibars (shallow) or when deep tensiometer starts to respond

Note that the units centibars (Imperial, cb) and kilopascals (metric, kPa) are equivalent and interchangeable.

Pest management — Preferred action for spider mites (page 33)

The strategy now recommended for spider mite control is the ‘pest-in-first’ system. This is detailed on pages 34 and 35 of the *Key issues* section of the kit. This system does not rely on standard monitoring of mites followed by introduction of predators or spraying when the action level is reached. Instead, it works by purposely introducing the pest (spider mites) in mid May and then two weeks later, introducing predatory mites into the same plants. The patch is then monitored weekly to check that the system is working and keeping the spider mites below the action level.

Alternatives to methyl bromide — the immediate problem (page 37)

Note that the revised date for the complete phase-out of methyl bromide is

2005. Fumigation is still recommended while methyl bromide is available. However, it will become increasingly scarce as imports of the chemical are progressively reduced over the period to the phase-out.

In the meantime, research work continues on possible replacements. In this work, methyl bromide and mixtures with other fumigants are being compared with various alternatives such as natural mustard fumigants, metham and various biological additives. Data being collected include early leaf growth, yield, plant size, root health, nematode levels, weed control and sap nutrient levels.

Results from the 1997 trials indicated that in nearly all of the data parameters, the registered methyl bromide and chloropicrin mixtures were far superior to all of the other alternatives.

Marketing — delivering the product the market wants (page 42)

Be aware of the growing importance of food safety issues in the marketplace. One of the large retailers is moving towards purchasing produce only from wholesalers that can guarantee food safety under a HACCP based quality management system such as SQF 2000. It is possible that to be at the premium end of the market, growers may need to comply with these requirements. Check with your wholesalers as to their likely movement in this direction. They may be able to support your development of appropriate quality management systems.

Note that DPI is currently running preliminary HACCP courses for the Queensland Strawberry Growers Association. Contact David Licence (Animal and Plant Health, DPI Nambour Regional Office Ph: 07 5430 4911) for details. Participation in one of these courses should enable growers to set up appropriate systems to meet the food safety requirements of retailers.

For your information, quality management systems formalise the knowledge, experience and methods developed to deliver a product the customer wants into a simple documented process. A large number of these exist and they vary in complexity and purpose. The main ones relevant to the current discussion in the strawberry industry are:

- **ISO 9002** — This is an internationally recognised system used around the world and is the system on which most others are based. It consists of 20 elements covering all aspects of producing products and servicing customers. It is expensive to establish, costing \$5000 to \$20 000 to implement and about \$3000 to \$5000 in annual auditing and registration fees.
- **HACCP 9000** (Hazard Analysis and Critical Control Point) — This is a relatively new food industry system combining elements of risk management and quality management. It involves a process of identifying risks or hazards and applying specific control measures, primarily to prevent food from being unsafe to eat. It adds about 20% to the cost of the ISO 9002.
- **SQF 2000** (Safe Quality Food) — This system was developed by Agriculture Western Australia for small businesses in the food industry. The system consists of six elements incorporating aspects of ISO 9002 and includes the HACCP system. It is recognised in Australia, but not internationally at this stage. It costs upwards of about \$2500 to implement and about \$500 in annual auditing costs.



Problem **SOLVER**

Spider mites (pages 3 and 4)

The strategy now recommended for spider mite control is the 'pest-in-first' system. This is detailed on pages 34 and 35 of the *Key issues* section of the kit. This system does not rely on standard monitoring of mites followed by introduction of predators or spraying when the action level is reached. Instead, it works by purposely introducing the pest (spider mites) in mid May and then two weeks later, introducing predatory mites into the same plants. The patch is then monitored weekly to check that the system is working and keeping the spider mites below the action level.



Contacts and **REFERENCES**

Note that all nine-digit telephone numbers in the kit have now been upgraded to ten digits under the Australian Communications Authority numbering upgrade. Nine-digit number upgrades are:

Existing	New
(076) xxx xxx	(07) 46xx xxxx
(071) xxx xxx	(07) 41xx xxxx
(045) xxx xxx	(02) 45xx xxxx
(070) xxx xxx	(07) 40xx xxxx

Contacts

Hydroponic grower associations (page 4)

Contact details of the Hydroponic Association of Queensland have changed to:

The Hydroponic Association of Queensland Inc

John Kennedy
PO Box 1782
CABOOLTURE QLD 4510
Ph/Fax: (07) 5428 1133 (work)

Runner suppliers (page 4)

Note the updated list of runner growers and the varieties they supply (shown on page 8 and 9 of this update).

Pest consultants (page 5)

Additional pest consultants are:

Ironside Agricultural Pest Management Pty Ltd

David Ironside

7 Lingard Street

PALMWOODS QLD 4555

Ph: (07) 5478 9008; Mobile: 014 665 800; Fax: (07) 5478 9386

Agrotek Consultancy

Andrew Olley

PO Box 5106 SCMC

NAMBOUR QLD 4560

Ph/Fax: (07) 5479 4101; Mobile 0412 002 375

Predatory mite suppliers (page 5)

Some details of two mite suppliers have changed. Here are updated details on these suppliers.

Bio-Protection Pty Ltd

PO Box 35

WARWICK QLD 4370

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

email: bioprotn@flexi.net.au

Hawkesbury IPM Service

PO Box 436

RICHMOND NSW 2753

Ph/Fax: (02) 4570 1331

email: matthew.parker@uws.edu.au

email: a.ryland@uws.edu.au

Irrigation consultants (page 6)

Updated details on irrigation consultants are:

Hortech Services Pty Ltd

Peter Broomhall
PO Box 370
KALLANGUR QLD 4503
Mobile: 0418 878 484; Fax: (07) 3886 0389
email: hortech@ats.com.au
www.ats.com.au/~hortech

Irri-Scan North

PO Box 370
KALLANGUR QLD 4503
Mobile: 0418 878 484; Fax: (07) 3886 0389
email: irriscannorth@internetnorth.com.au

Integrated Pest Management

also trading as Bugs for Bugs
28 Bowen Street
MUNDUBBERA QLD 4626
Ph: (07) 4165 4663; Fax: (07) 4165 4626

Crop Tech Laboratories Pty Ltd

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

Piccone Horticultural Consultancy Pty Ltd/Piccone PHC

201 Bruce Highway
EDMONTON QLD 4869
Ph: (07) 4045 3277; Mobile: 0417 616 476; Fax: (07) 4045 3613
email: piccone1@internetnorth.com.au

Agrotek Consultancy

Andrew Olley
PO Box 5106 SCMC
NAMBOUR QLD 4560
Ph/Fax: (07) 5479 4101; Mobile 0412 002 375

Sap testing consultants (page 6)

The details for Andrew Olley have changed to:

Agrotek Consultancy

Andrew Olley
PO Box 5106 SCMC
NAMBOUR QLD 4560
Ph/Fax: (07) 5479 4101; Mobile 0412 002 375

Suppliers of other specialised services (page 7)

A special soil nematode, microbiological and disease diagnostic advisory service is now available. Contact details are:

Biological Crop Protection

3601 Moggill Road
MOGGILL QLD 4070
Ph: (07) 3202 7419; Mobile: 0412 083 489; Fax: (07) 3202 8033
email: biolcrop@powerup.com.au

Strawberry marketing groups (page 8)

Note that the Top of the Range marketing group no longer exists.

Market price information (page 8)

Contacts for market price information have changed. Here are the latest details.

For market price information for the Brisbane market, contact:

Market Information Services

D Block Brisbane Market
PO Box 229
BRISBANE MARKETS QLD 4106
Ph: (07) 3379 4576; Mobile: 041 771 0950; Fax: (07) 3379 4103
For market price information for all other Australian metropolitan markets, 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

Export associations (page 9)

Details of export associations have changed. Updated details are:

Australian Horticultural Exporters Association

Institute of Horticultural Development
Private Bag 15
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Queensland Horticultural Exporters Association

PO Box 857
HAMILTON CENTRAL QLD 4007
Ph: (07) 3868 1888; Fax: (07) 3868 4722

Agricultural booksellers (page 11)

Agmedia have ceased business and are now operated by:

NRE Information Centre

8 Nicholson Street
PO Box 500
EAST MELBOURNE VIC 3002
Ph: (03) 9637 8080; Fax: (03) 9637 8150

References

DPI information products — new strawberry books (page 13)

Strawberry industry field day '98 — Proceedings, Greer, G.N. (ed) (1998), Department of Primary Industries, Nambour.

New other books — general strawberry culture and issues (page 14)

Proceedings of Ninth National Berryfruit Conference (1997), Victorian Strawberry Growers Association, IHD, HRDC, ABGC.

New other books — hydroponic growing (page 15)

Proceedings of the Australian Hydroponics Association 1997 Conference (1997), Australian Hydroponic Association, Glen Osmond, South Australia.

HRDC reports (page 17)

New HRDC final reports of interest are:

- Correction of acute soil acidification and prevention of further acidification (FR051)
- Improvement of strawberry quality and yield by production of new varieties (FR055)
- Soil acidity management by technology transfer of improved fertiliser and irrigation management technology (FR317)
- Third International Strawberry Symposium (FR553)
- Integrated pest management in strawberries in Western Australia (FR115).



Problem solver
**HANDY
GUIDE**

Note these changes:

- Delete vinclozolin (Ronilan)
- Add captan (Captan WG, Merpan 800WG) — one-day withholding period; registered for:

black spot	200 g/100 L
blight	200 g/100 L
grey mould	125 g/100 L
scorch	200 g/100 L

- Add Full-Bac WDG to the *Bacillus thuringiensis* registration
- Add Iban and Cyren to the chlorpyrifos with bran (bait) registrations.

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 email us on: agrilink@dpi.qld.gov.au