



COASTAL FRUITGROWERS' NEWSLETTER

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INSIDE

An alternative "non-chemical" Summerfruit disinfestation procedure.	2
Summerfruit variability project	5
Monitoring throws up nectarine residue surprise	6
Testing of new peach and nectarine selections	7
Importance of paying your employees the correct rate	9
Vale Ken Bevington	10
Citrus national plantings database 2008	11
New project – modern fertigation technologies for citrus orchards	12
Developing female lures for fruit flies	13
Wasps to the rescue! Battling the fruit fly menace	14
Hydroponic strawberry grower finds alternative to chemicals	15
FreshTest Australia	16
New model for Australian citrus industry	17
Review of dimethoate and fenthion	18
Australia – world food safety ranking	20
An Australian organic & bio-dynamic standard	21
What's new on the web	21
NSW DPI'S new organic farming course	22
What's on	23



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

Coastal Fruitgrowers' Newsletter
Edited by Sandra Hardy
Design & Layout – Cathryn McMaster

No. 70 Spring 2008

Dear Growers

Welcome to the spring edition. This issue contains summaries of a number of recently completed and ongoing stonefruit projects.

There's also information on some of the other work NSW DPI is involved in — particularly in the management of QLD Fruit Fly.

Growers employing any staff should also have a look at the article on page 9.

Catch up on what's new in publications and upcoming events on pages 22 and 23.

Happy reading

Sandra Hardy

CITTgroups
AUSTRALIA

Next CITTgroup event

Thursday 30 October, 10 am – 3 pm
Ross Hitchcock's farm, Kulnura

Drip Irrigation Management workshop
with Jeremy Giddings,
NSW DPI Irrigation Officer

Citrus growers will receive a flyer in the mail

RSVP essential – Contact Sandra Hardy
on 02 4348 1916 or 0412 425 730

The information contained in this publication is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of NSW Department of Primary Industries or the user's independent adviser. Inclusion of an advertisement or sponsor's symbol in this publication does not necessarily imply endorsement of the product or sponsor by NSW Department of Primary Industries.

Assessment of an alternative “non-chemical” summerfruit disinfestation procedure. (Project SF 06011)



Know-how for Horticulture™



John Golding, Post harvest Horticulturist, NSW DPI, Gosford.

This is a copy of the media summary extracted from the final report.

Queensland Fruit Fly (QFF) is a major quarantine pest for many Australian summerfruit producers, and treatments to combat infestation can often affect fruit quality, marketing flexibility and profitability.

This project showed that a short-term high carbon dioxide (CO₂) treatment, in combination with cold treatment, increased the mortality of QFF larvae and hence reduced the time required in cold storage for quarantine disinfestation purposes.

A range of different peach and nectarine varieties was infested with QFF (Figures 1 & 2) and the fruit were treated with 95% CO₂ at 0°C or 3°C for varying lengths of time before storage in air at either 0°C or 3°C. There was a significant increase in QFF larval mortality in the CO₂ treatment in both peaches and nectarines.

Increased CO₂ levels - together with low oxygen - are widely used in the storage of other horticultural crops (e.g. apples) and these treatments leave no chemical residues. Potential disinfestation treatments must

effectively kill QFF larvae in cold storage without affecting summerfruit quality after storage.

Storage trials were conducted on a range of yellow and white flesh peaches (Summerfresh, Snow King, Flavorcrest and September Sun), nectarines (Diamond Bright, Spring Bright, Tasty Gold, August Pearl and Arctic Mist), Tegan Blue plums and Flavor Heart® pluots over two seasons (Figure 3). The CO₂ treated fruit ripened normally and had similar post-storage quality to normally stored fruit. No symptoms of CO₂ injury were observed. The development of low temperature breakdown was not affected by high CO₂. This research also confirmed that summerfruit should be stored at 0°C, rather than at 3°C.

Results over two years demonstrated that a short-term high CO₂ treatment at low temperature was effective in reducing the time in cold storage for quarantine disinfestation at both 0°C and 3°C without detriment to fruit quality during storage. It is envisaged that the CO₂ treatment would be applied to pre-cooled fruit loaded into shipping containers for export. The rest of the cold disinfestation treatment in air could then continue on-board the ship. This treatment could also be integrated into air freight exports, as the treated summerfruit would still have adequate shelf life at the end of the disinfestation treatment.

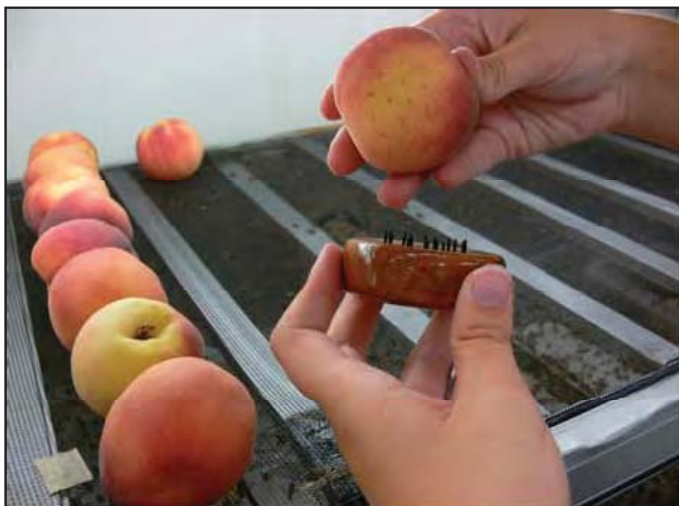


Figure 1: Standardised puncture pad to produce holes in the skin of fruit to allow the adult QFF to lay their eggs into the fruit (left). Fruit are then placed on top of the cages containing adult QFF (right).



Figure 2: Adult QFF lay their eggs through the mesh of the cage into the fruit (left). QFF eggs (white) laid into a nectarine fruit after infestation (right).

These results show considerable promise in improving the current cold disinfestation protocol for QFF which will facilitate increased market access of Australian summerfruit.

Cherries

Similar trials were also undertaken on cherries as part of Phase 2 of Project CY07011 “New ways to disinfest and maintain cherry fruit quality.

Storage trials were conducted on Bing, Lapin, Rons and Stella cherries over two seasons. The CO₂ treated fruit had similar storage-life and had similar post-storage quality to normally stored fruit. No symptoms of CO₂ injury were observed.

Results over two years demonstrated that a short-term high CO₂ treatment at low temperature was effective in reducing the time in cold disinfestation at both 0°C and 3°C without detriment to fruit quality during storage. These results show considerable promise in improving the current cold disinfestation protocol for QFF in cherries.



Figure 3: Effect of storage temperature on the development of internal browning in Arctic Mist nectarines. All fruit were stored in air for 21 days and a further two days at 20°C. The top row of fruit were stored at 0°C whilst the lower row were stored at 3°C.

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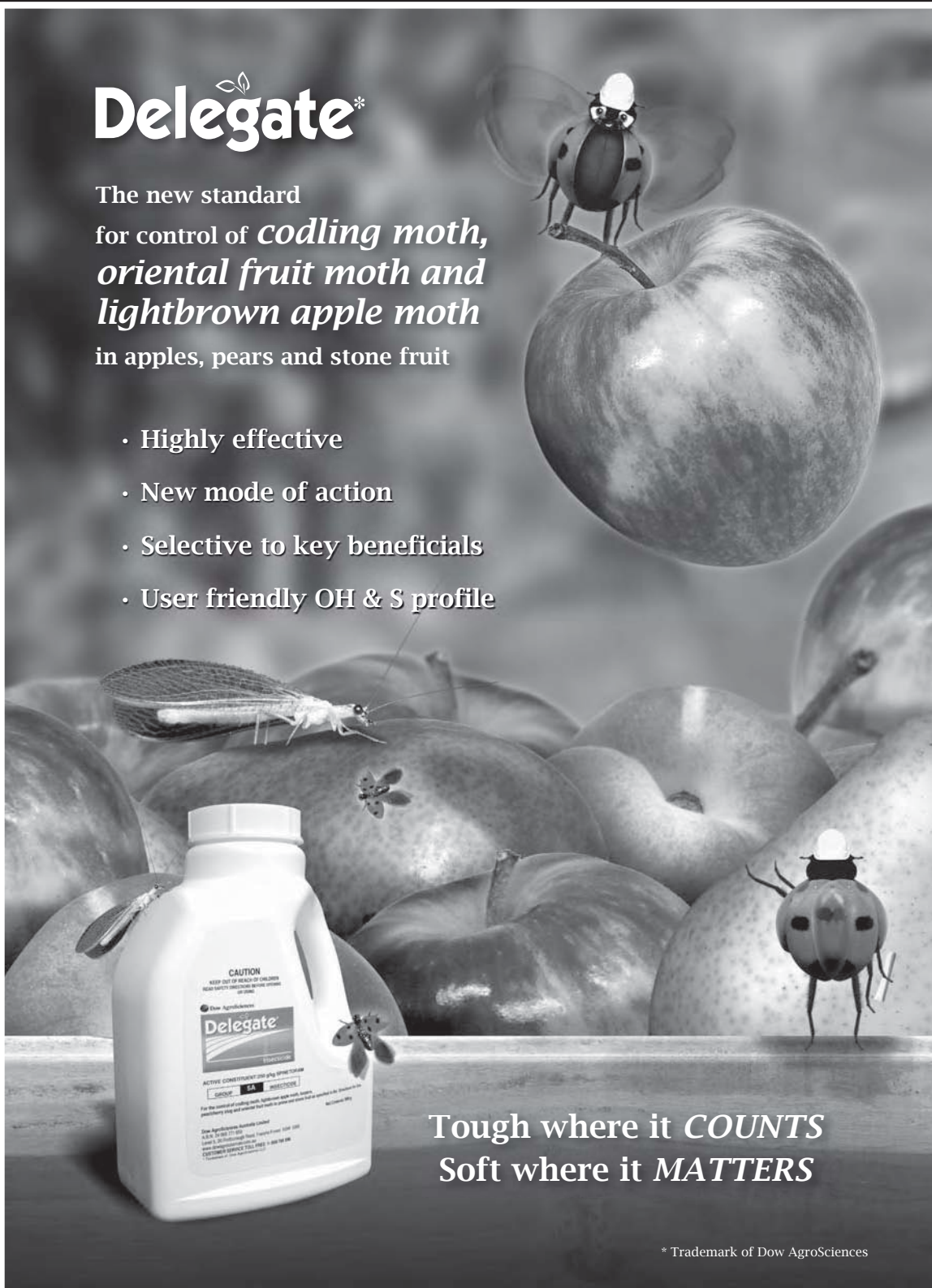
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Project update - Summerfruit variability project



Know-how for Horticulture™



Identifying fruit quality variability in order to improve fruit quality and consistency. (Project SF 06013)

John Golding, Research Horticulturist
– Post harvest, NSW DPI, Gosford.

A one year scoping study began in the 2007/08 season to identify and quantify some of the variability in summer fruit quality in orchards, packing sheds and retail outlets. The summerfruit fruit regions studied included the low chill region of northern NSW, the medium chill region around Gosford on the central coast of NSW and the higher chill districts around Shepparton in Victoria.

Here are some of the preliminary results from the medium chill region on the NSW Central Coast. This work was conducted in November – December 2007 at various growers' properties and packing sheds on the NSW Central Coast.

A range of summerfruit varieties were measured in the orchard and in the packing shed. The information presented here is only a snapshot

of the sugar content (soluble solids content SSC, total soluble solids TSS, or Brix°) of fruit at this time (November - December); from only a few orchards so only limited conclusions could be drawn.

The results presented in Table 1 show the average and range of SSC measured in packed trays of Diamond Bright nectarines destined for market. As expected, the results show that larger fruit generally had higher levels of SSC. The count 28 Diamond Bright fruit in the packingshed had an average SSC of 9.8%, whilst the smaller count 39 fruit had an average of 8.0% SSC. This is not surprising, but what is important is the variation within each packed tray. Although the average in the count 28 tray was 9.8%, fruit ranged from 8.2 – 11.8%. Whilst in the count 39 tray, the range of SSC ranged from 6.7 to 9.7% SSC. It is this variation in SSC, which is the focus of this study, that can result in consumers having inconsistent eating experiences which can then damage repeat sales of summerfruit.



These levels of SSC are low. Research in the USA and experience in Australia shows that most consumers prefer peaches and nectarines to have at least 11% sugar content (soluble solids content SSC, total soluble solids TSS, or Brix) in cultivars with high acidity levels, and more than 12% SSC in low acid cultivars. Summerfruit, like most other horticultural commodities are inherently variable despite careful grading for colour and appearance.

It is the aim of this scoping survey to begin to find out where this variation is occurring and potential ways to improve fruit quality and consistency. Further results from the NSW central coast and Shepparton will be reported in the next edition of this newsletter.

Table 1: Average (and range) of sugar levels from one orchard of Diamond Bright from the NSW Central Coast at the end of November 2007

Tray Count	Average SSC% (sugar levels)	Range SSC% (min – max)
28	9.8	8.2 – 11.8
33	9.2	8.2 – 10.9
35	8.8	7.4 – 10.0
39	8.0	6.7 – 9.7
45	8.1	7.0 – 9.4

Monitoring throws up nectarine residue surprise

Lawrence Ullio, District Horticulturist, NSW DPI, Camden.

Postharvest dipping of nectarines prevents fruit rot in transit to market but care should be taken against cross contamination by unregistered chemicals if the same equipment is also used for pome fruits.

Effective monitoring by horticulturists has identified the cause of illegal chemical residue on nectarines.

The chemical diphenylamine (DPA), widely used on apples and pears as a postharvest dip to prevent superficial scald on fruit, was found for the first time on nectarines during routine monitoring.

NSW Department of Primary Industries (DPI) horticulturist, Lawrence Ullio, said there was no implication of deliberate wrongdoing and growers were happy to receive help to correct the problem.

Diphenylamine is not registered for use on stone fruit and the *Pesticide Act (1999)* makes its presence on stone fruit illegal.

NSW DPI identified the cause of contamination after trace back, and interviews with horticulturists, fruit wholesalers, packing houses and fruit growers on the central and southern tablelands and slopes.

The detection was part of the three year Cleanfresh pesticide residue monitoring project, conducted by NSW DPI.

DPA is only registered for use on apples and pears and helps protect against scald, a physiological disorder that can cause brown irregular patches on the skin of fruit during long-term cold storage.

According to the NSW Food Authority, DPA levels on all samples were well within the dietary intake guidelines, and posed no health risk to consumers.

All residue violations on nectarines came from packing houses handling both pome and stone fruit.

Contamination can occur when fruit growers and packing houses conduct postharvest operations on different fruit lines using same equipment.

Residues of DPA may still be present in dip tanks, packing and grading equipment and this could result in cross contamination.

Wooden bins are another possible site for contamination. Softwood bins are widely used for harvesting fruit and can absorb DPA when submersed in dip tanks. Over a season, DPA absorbed in these bins could be significant. Wooden bins, used to store apples or pears dipped in DPA in cool rooms, are sometimes then used in spring to harvest stone fruit. This may also contaminate harvested fruit.

Checklist can prevent illegal residues

Fruit growers can make the following checks to prevent possible DPA residues on non target crops:

- Triple rinse all dip tanks and packing and grading equipment following pome fruit harvest
- Store wooden packing bins in direct sunlight to help evaporate any absorbed dip solution
- Know the use pattern of borrowed bins
- Use plastic packing bins
- Follow all directions on the label and Material Safety Data Sheets (MSDS) on DPA use
- Test fruit for chemical residues as part of a quality

Low-Chill Australia Inc.

Membership details

Annual membership is on a financial year basis from 1 July to 30 June. Annual membership for growers and researchers is \$220.00 (including GST).

The membership fee for growers and researchers comprises \$50 membership, \$50 devoted to research and development, plus \$20 GST.

For membership details contact Bill Hatton, President, PO Box 162 Bangalow NSW 2479, Ph (02) 6687 1065, Mob: 0416 157 434, Fax: (02) 6687 1407
Email: president@lowchillaustralia.com.au;
Website: www.lowchillaustralia.com.au

Testing of new peach and nectarine selections by Low Chill Australia growers



Extracted from the *Low Chill Stonefruit Grower*, Issues July and September 2008.

Bruce Topp, Maroochy Research Station

Eighteen peach and nectarine selections from the Qld Department of Primary Industries and Fisheries breeding project were distributed to nine grower testers in winter 2008 (Table 1). Only one tree of each selection will be tested at each of the grower test sites. Grower evaluations from this small-scale testing will be used to choose the best selections. The selections that perform best in this trial will be released to all growers through our large-scale testing program.

The grower testers plant, maintain and evaluate the new selections on their properties and the results from these trials are used in deciding which of the new selections are suitable for large-scale release to all growers.

The testing and evaluation that these growers provide is essential in providing information on the variety performance across a range of environments and using a range of agronomic practices.

The test sites are spread from the most southerly location Stuarts Point to the most northerly location at the Rewards site at Childers. The most westerly test sites are located in the Traprock country at Pikes Creek and at Kumbia.

Table 1. Grower test sites for new selections in 2008

TOWN	STATE	CHILLING
Pikes Creek	QLD	medium
Kumbia	QLD	low-medium
Stuarts Point	NSW	low
Bangalow	NSW	low-medium
Coopers Shoot	NSW	low
Amamoor	QLD	low
Alstonville	NSW	low
Childers	QLD	low
Gatton	QLD	low-medium



Figure 1: Fruit of N58-72, an early ripening white, non-melting flesh peach on test in 2008.

Chilling at these sites will vary from year to year but can be as low as 100 to 150 chill units at Childers and Coopers Shoot and as high as 650 chill units at Pikes Creek.

The selections include five melting yellow flesh peaches that are earlier ripening versions of Tropic Beauty. The five selections are all derived from Tropic Beauty and are similar in most aspects except that they ripen earlier. There are differences among these selections in terms of size, shape, colour, fuzz, taste, crop load and flowering time. They need to be tested in a range of environments so that we can determine which of these differences are stable and which alter.

Half of the selections being tested are non-melting flesh. One of these, N127-66 peach, was displayed at a grower field day in 2008 at Coopers Shoot, NSW and received the highest rating by growers for commercial potential. The tree is low-chill and requires 150 chill units to break dormancy. It produces non-melting, yellow flesh peaches with very low amounts of skin pubescence (fuzz). The fruit ripen in late October and are evenly coloured with an attractive light red. It has a pleasant sub-acid flavour with good juiciness.

There is also one medium-chill nectarine in the new selections. GB566-15 nectarine requires about 450 chill units to break dormancy. It produces non-melting, yellow flesh nectarines that ripen in November and are attractive and well flavoured with juicy, sub-acid flesh. It produced a moderate crop on one year old grafted trees at Nambour in 2007. It may perform well in the cooler test sites.

One of the earliest ripening of the new selections is N58-72 (Figure 1). Fruit of N58-72 have white, non-melting flesh and are round and small, with balanced flavour and 70% red blush on the skin. Fruit were picked at Nambour on 8 September in 2008 and the tree flowered in late June – early July. The tree is vigorous with a weeping habit and a chilling requirement of 100 chill units. This selection should be particularly well adapted to locations that receive minimal chilling.

Other non-melting flesh peaches being tested include N117-21 and N118-36.

N117-21 (Figure 2) peach ripens slightly before Tropic Beauty and produces fruit which have yellow, non-melting flesh. It is small to medium in size with an attractive light red skin and a pleasant flavour. The tree has a chilling requirement of 150 chill units. This peach is of interest because of its flavour, skin colour and early ripening.

N118-36 (Figure 3) is an early to mid season peach that ripens in mid- late October at Nambour. Fruit are fully covered with an attractive red blush and have a yellow, non-melting flesh that is firm, juicy and well-flavoured. The tree has a chilling requirement of 150 chill units. This selection was noted to have a good combination of flesh firmness and flesh juiciness.

The assistance of the grower testers is appreciated. All grower testers are members of Low Chill Australia and LCA provides voluntary contributions to the funding of this breeding project.

This project is facilitated by Horticulture Australia Limited (HAL) and is part-funded by voluntary contributions from Low Chill Australia. The Australian



Figure 2: N117-21 peach is an early ripening, good flavoured, non-melting peach on trial in 2008



Figure 3: N118-36, a non-melting, yellow flesh peach selection on trial in 2008

Government provides matched funding for all HAL's R&D activities.

For further information on the breeding program please contact Bruce Topp at Maroochy Research Station (07 54417712).

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Importance of paying your employees the correct rate

John Morrissey, Lawyer, John F. Morrissey & Company.

In recent times there have been a number of prosecutions by the Department of Workplace Ombudsman against corporate employers who have not paid their employees the correct rate. A good example, though not from the rural sector, is the prosecution against a motel owner who failed to pay casual employees the correct casual loadings. The total amount of the underpayments was approximately \$1200.

The Workplace Ombudsman prosecuted the motel owner, who was a corporation, and the director of the corporation, being the sole director and shareholder, personally.

The matter was first commenced in the Federal Court where there was a plea of guilty entered at the first instance. The matter was then sent to the Federal Magistrates Court for the determination of sentence.

Prior to the sentence being imposed the \$1200 underpayment was made to the employees.

Irrespective of payment being made the prosecution went ahead and the hotel owner as well as the director were fined a total of \$22 000 plus costs.

The defence that was offered by the motel owner was that they had relied on the industry association and rang the office of the Workplace Ombudsman to get the correct pay rates. Unfortunately the information provided was wrong.

What can we learn from this?

1. It is up to the employer to correctly classify employees as either casual or permanent part time.
2. Failure to pay the correct rate, i.e. paying a person who is a casual employee, permanent part time rates is an offence.
3. Failing to pay the correct rates of pay by a few dollars a day or a few cents and hour is an offence.
4. There are very limited grounds for defending the prosecutions.
5. Directors can be held personally liable.
6. The fines are extensive and the maximum fine per offence is \$33 000.

7. The court will not allow the fines for similar offences to multiply. In this case the maximum fine was \$22 000.
8. Legal costs could be high. The motel owner was self-represented. Apparently the solicitors acting for the Workplace Ombudsman would be seeking costs that could equal the same amount as the fine.

How to solve these problems:

1. Always be aware of the correct rates of pay.
2. Identify the classification for employees. If they are casual employees make sure they are paid the casual rate plus the casual holiday loading.
3. Develop a collective agreement for your workplace that will address the following:
 - correct classification of employees;
 - identification of pay rates based around the appropriate award; and
 - identification of areas within the workplace where a flexible approach needs to be taken such as penalties or overtime and loading.

To help develop your collective agreement you might like to look at our website.

You can also contact me directly on phone 02 9331 0266 and fax 02 9331 0277 or go to <http://www.collectiveagreements.com.au> (currently under construction).

I would be happy to speak to growers who have individual problems.

I spoke about employment law matters at the Cherry Conference in Griffith in August 2008. The notes for the Cherry Conference are available on the John Morrissey website and the website I have developed for rural employers called <http://www.horticulturalemployersgroup.com.au>.

Vale Ken Bevington

Sandra Hardy, Industry Leader-Citrus

Ken Bevington was recognised as an expert in citrus production research both in Australia and internationally. Ken's special areas of expertise were in citrus nutrition, high density planting systems, citrus rootstocks, citrus fruit size management and on-farm management practices to reduce post harvest rind breakdown in export fruit.

Ken passed away on 13 July 2008 after a long battle with cancer. Ken is survived by his wife Jan and two daughters Kylie and Sharlene.

Ken joined the NSW Department of Agriculture as a Trainee in March 1965. After graduating with a Bachelor of Science Agriculture Degree from the University of Sydney, he was appointed as a Fruit Officer (Research) in March 1968 and stationed at the Horticultural Research Station at Narara.

Ken was subsequently transferred to the Horticultural Research Station, Dareton in June 1971 and was promoted to Senior Research Horticulturist in February 1976 in recognition of the important and original contributions he had made to citrus research within Australia.

In 1980 Ken was awarded a M.Sc.Agr. (Sydney) for his thesis '*Rootstock-scion incompatibility in citrus: predicting compatibility of graft components*'. In 1983 he received his PhD from the University of Florida, working under Prof. Bill Castle, for his thesis on '*Growth and development of citrus roots in relation to season, rootstock, shoot growth, and environmental factors*'.

In 1995 Ken received a NSW Agriculture Staff Achievement Award for his research contribution to the department and the NSW and Australian citrus industries.

Ken retired from the Department on the 28th September 2007 with nearly 40 years of service. After Ken retired he continued to maintain links with the citrus industry through his work colleagues and as a member of the Murray Valley Citrus Board.

His research work has been reported in over 100 scientific publications and resulted in significant outcomes for the Australian citrus industry. He has led and collaborated on many industry and government funded citrus research projects which have benefited all sectors of the citrus



industry. The outcomes of his applied and practical approach to research was presented to industry personnel at industry conferences, forums and field days, as well as in research reports, growing manuals, fact sheets, field guides and posters.

Ken's collaborative work with Ron Hutton on citrus dwarfing and high density plantings throughout the 1980's and early 1990's has been embraced by the Australian citrus industry. The use of citrus dwarfing has recently been taken up by the fresh juice sector with many new plantings using this technology.

Ken, along with Patricia Barkley and Steve Sykes of CSIRO, was also responsible for the introduction of a range of Chinese and Vietnamese citrus rootstocks with superior fruit production potential and disease resistance. These rootstock selections were sourced during trips to China and Vietnam from 1992–2001 as part of an ACIAR funded project. The long term evaluation of these rootstocks for each of the main commercially grown citrus cultivars is almost complete and commercial sized plantings will soon be established in selected citrus growing regions of Australia.

In late 1990–early 2000, Ken also led the highly successful project on '*Optimising citrus production and fruit size*'. This project produced the highly acclaimed industry *Fruit Size Management Guides 1 & 2*. These guides clearly outline the key best management practices that need to be addressed at each of the main phenological development stages for navel oranges, in order to produce fruit of a marketable size. This work has given industry the tools to

both predict and produce oranges in the preferred market size ranges.

Ken finished his career with NSW DPI by leading one of the largest research projects ever funded by Horticulture Australia, the *Citrus Rind Breakdown* project, with funding worth \$1.3 million dollars. This collaborative project with CSIRO focused on identifying management practices to reduce citrus post harvest rind breakdown in export navels. Practices such as the correct application timing of GA has been widely adopted by industry resulting in improvements in the quality of fruit destined for the lucrative US export market.

Ken's contribution to the citrus industry has been recognised by a number of prestigious industry awards.

In 1990 Ken received the inaugural Riverlink Staff Award for contributions to Riverlink.

Ken received the Graham Gregory Award in November 1997 for excellence in horticultural research and development. The Graham Gregory Award aims to encourage continuation of excellence in research and development within the Australian horticultural sector resulting in national and international recognition. Ken was nominated for the award by the Australian Citrus Growers Inc for his role in rootstock and scion cultivar and fruit quality improvement programs. At that time Ken had been actively involved in production research for 30 years. He was recognized as having had a significant role in the development of more profitable and sustainable production systems for citrus in Australia.

In 2007 Ken, along with other members of the NSW DPI-CSIRO-SARDI citrus team, was awarded the Riverlink Scientific Team Award for outstanding contribution to Riverlink research and extension for their project on Postharvest Rind Quality Breakdown in Navel Oranges.

Ken was held in the highest esteem by the Australian citrus industry and represented the NSW Department of Primary Industries in a number of industry forums, including as the Citrus Program Leader on the Riverlink Council from 1991–2007 and a member of the Murray Valley Citrus Board (MVCB) from 1995–2008. Ken also served on various committees for the MVCB, the most recent being the Best Practice Committee and the Industry Development Officer Steering Committee. Ken was also an Executive Committee member of the International Society of Citriculture from 2001–2007.

Citrus national plantings database 2008



Source: ACG members' newsletter – special edition, 8 August 2008

In 2003, Australian Citrus Growers Inc. undertook an ambitious project with Sunrise21 an innovative mapping and information management company to begin the process of determining the extent of citrus production nationally.

In 2008, the program is being reprised - this time with a better platform of knowledge and better underlying technology.

Once again a partnership program between ACG and Sunrise 21 the 2008 program is operating under the guidance of Sue Argus and Frann Sette from Sunrise 21 and Roger Bramble from ACG. Also partners to this project are: SACIDB, MVCB, RC, QCG, WAFGA, NT and NSW DPI.

ACG and Sunrise 21 are aiming to help growers and the industry through acquiring more valuable data and information to aid decisions.

With the project due to be completed in late October or November this year, Sunrise 21 has made good progress in all the above areas. To date all regions have completed the surveying and mapping stage and are well into communicating with growers through survey forms and phone contacts. Further help from growers in completing forms and data is greatly appreciated in the preceding months till October.

National Plantings Database Update at July 2008			
Region	Grower No's	Completed Surveys & Maps	Grower Replies /Returns
Bourke/ Narromine	11	100%	tbd
Murray Valley	574	100%	80%
Northern Territory	28	100%	95%
NSW East Coast	82	100%	80%
NSW Riverina	560	100%	tbd
Queensland	94	100%	50%
Riverland SA	666	100%	tbd
Western Australia	200	100%	10%

New project to investigate the use of modern fertigation technologies for use in Australian citrus orchards



Know-how for Horticulture™



Steve Falivene, NSW DPI, Tapas Biswas, SARDI & Michael Treeby, NSW DPI and SARDI

Fertigation technologies are being increasingly used by Australian citrus producers as an alternative to traditional approaches to supplying water and mineral nutrients to trees. All irrigators need to get more from less, and citrus producers are not exempt from this pressure. Management of these systems often feature both high levels of fertiliser supply and frequent applications. These approaches are based on practices and guidelines derived under different conditions elsewhere. In addition, the use of old fertiliser rates may be inappropriate because those rates reflected a degree of inefficiency inherent in the delivery methods used in the past that the newer technologies may not suffer from. There has been a tendency to adopt a “one-size-fits-all” approach

There is also some concern regarding the impact that these high input high frequency technologies may have both on the orchard itself and off-site.

A new project, supported by the National Program for Sustainable Irrigation, has begun which aims to develop the knowledge and tools needed for citrus producers to use these new technologies for sustainable and economic citrus production using the new technologies.

This new project has three components:

- In the first component, nutrient uptake by the roots of commercially important citrus rootstock genotypes in relation to supply, will be measured to determine whether fertiliser supply programs need to be different for trees on different rootstocks. It has been well established for many years that trees on different rootstocks growing side by side and managed in the same way will have different nutrient concentrations in their leaves. With the means now available to more tightly control fertiliser supply to tree roots, knowing what concentration of fertiliser around the roots that will result in a desired level of uptake is crucial to more closely match supply with tree needs.

In addition, because citrus trees take long periods to respond to nutrient supply, a longer term trial will be set up to investigate the long term responses of navel oranges on several different rootstocks to consistently applied fertiliser programs. These will be based on current knowledge and remain in place for sufficient time to establish differences in tree nutrient status, growth and productivity. The trial will be set up within this project, but further support will be sought to cover the longer term data collection.

- The second component will seek to establish the benefits of high frequency approaches versus more conventional approaches to the delivery of water and nutrients to trees. By this we mean that the transpiration and photosynthesis by leaves will be measured to determine whether supplying small amounts of water and nutrients frequently is better than supplying the same amount of water and nutrients less frequently. This is an important plank in some high input/high frequency fertigation systems. This component is also supported by Horticulture Australia Limited and the Cooperative Research Centre for Irrigation Futures.
- The first two components are essentially concerned with the tree, but the third component is focussed on developing the means to identify when nutrients are escaping past the rootzone. This component will be based on the use of specially designed ceramic tubes buried in and below the rootzone. This component will also help develop guidelines to interpret the data that can be obtained from soil solutions extracted using such devices. This is particularly important for nitrate monitoring. Irrigated horticulture has, in general, been identified as the major source of nitrate in the rivers and streams of the Murray Darling Basin. Developing a framework to identify when nitrate may be escaping beyond the rootzone will assist producers using fertigation technologies to keep this important nutrient in the rootzone. This component also has support from Horticulture Australia Limited.

Developing female lures for fruit flies



Know-how for Horticulture™



Australian Government

Australian Centre for
International Agricultural Research

Source: October 2008 edition *Agriculture Today*.

Katina Lindhout, Research Horticulturist, Gosford.

Climate change has raised the spectre of pests and diseases usually associated with the tropics, finding a home in more temperate reaches of the globe.

If pests do move further south into Australia's fruit and vegetable growing regions, Dr Katina Lindhout and her team hope to know sooner than most people.

They are developing new lures, or attractants, which can be used to monitor the incidence of Queensland fruit fly (QFF). These lures will be tested against the fly's destructive relatives in Papua New Guinea.

The economic damage QFF can cause in citrus, stonefruit and other horticultural crops is widely known. However, if new fruit fly species arrive the consequences could be even more devastating.

The lures currently available for female fruit flies are usually liquid. Fruit flies that are trapped rapidly and decompose into a sticky mess, making them almost impossible to identify. As a result, most monitoring programs use dry lures, which are easy to handle and long lasting but unfortunately these only attract male flies. This introduces other problems because it's the female flies that actually do the damage so they should be monitored accurately.

This Co-operative Research Centre for National Plant Biosecurity project builds on earlier work conducted

by Andrew Jessup, who is currently working in Vienna. It aims to develop dry lures and semi-solid lures that can attract the female flies. These can be left out in the field for longer and they do not decompose the trapped insects too quickly, which makes insect identification much easier.

The lures being developed are food-based attractants designed to be placed inside plastic traps. The lures are used in combination with a toxin that kills the flies when they enter the trap. The lure testing is currently laboratory based, but in spring this year it will move into the field for testing in different climates.

Dr Lindhout leads the project, with support from Horticulture Australia Ltd as well as researchers from the Department of Agriculture and Food in Western Australia, who will test the new lures on Mediterranean fruit fly. It is also important for us in eastern Australia to have an idea of how attractive the lures are to Mediterranean fruit fly, since that is a pest that we don't currently have here either.

The lures will also be tested in Papua New Guinea (PNG) under an Australian Centre for International Agricultural Research (ACIAR) project. PNG has a number of economically important fruit fly species that don't occur in Australia. Some of these species are not particularly attracted to the existing lures. If the new formulations are more effective they could be deployed to support the Northern Australia Quarantine Strategy.



It is important to monitor where these fruit flies are, as with climate change their range may move further south. It is possible that the PNG flies will find Australian conditions more favourable.

Dr Katina Lindhout joins NSW DPI at Gosford

Katina Lindhout started as a Research Horticulturist, Market Access Entomology in April 2008.

Katina completed her Bachelor of Science degree at the University of Qld in 2001. She then started her post doctorate at Latrobe University under the guidance of Michael Treeby and Roger Parish. Her PhD thesis was completed in 2007 on the physiology of post harvest rind breakdown in navel oranges and formed part of the Citrus Rind Breakdown project led by Ken Bevington.

One of Katina's first activities since joining NSW DPI was to complete the verification trial for the 3°C cold desinfestation treatment for QFF in citrus, to gain market access into Taiwan. The results of this trial are in the final stages of publication.

For more information contact Katina Lindhout at NSW DPI Gosford.

Wasps to the rescue! Battling the fruit fly menace for Australian fruit growers



Know-how For Horticulture™



Olivia Kvedaras, Research Entomologist, NSW DPI, Wagga Wagga
Geoff Gurr, Charles Sturt University, Orange
Andrew Jessup, Research Horticulturist, Gosford,
Jennifer Spinner, Charles Sturt University, Orange

Australia's \$7 billion a year horticultural industry is threatened by the Queensland fruit fly (*Bactrocera tryoni*). The Australian citrus industry produces close to 700,000 tonnes each year (75% oranges, 20% mandarins and 5% lemon/limes/grapefruit) and is Australia's largest fresh fruit export, with annual exports worth \$200 million. In addition to QFF's direct damage to such crops, its presence leads to significant restrictions on the access of Australian fruit and vegetables to domestic and international markets. Our horticultural industries are also threatened by the ongoing risk of invasion by related species from neighbouring countries. When the papaya fruit fly (*Bactrocera papaya*) broke out in 1995, it devastated crops around Cairns and cost \$33.5 million to eradicate.

Growers and consumers alike are increasingly aware of the hazards associated with heavy reliance on pesticides to control such pests. In the case of QFF, two of the main chemicals currently used, dimethoate and fenthion have recently undergone a review, placing their future availability in doubt. More than ever before, Australia needs effective, non-chemical methods for the management of QFF and invading exotic species. Not only would this enhance the safety and sustainability of fruit fly control, it could allow an expansion of organic fruit production.

But is this just a pipe dream? Not according to a major new project that has won backing from Riverina Citrus, Horticulture Australia Ltd and the Cooperative Research Centre for National Plant Biosecurity. NSW Department of Primary Industries in collaboration with Charles Sturt University aims to develop an approach that involves biological control using parasitic wasps. An encouraging aspect of this project is that Australian wasp species are already used successfully overseas.

When released in large numbers as part of an integrated pest management (IPM) program, these Aussie wasps

have given effective management of fruit flies in several regions of the world, most notably in Hawaii. The hard-nosed, commercial value of this biologically-based approach is demonstrated by the existence of huge 'wasp factories' in Brazil, Peru, Guatemala, Florida, Hawaii and Mexico. The latter produced 50 million parasitoid wasps per week in 2007 alone! Pilot programs of mass production of wasp species are underway in Spain, Greece, South Africa and Western Australia.

One reason for the popularity of these parasitic wasps in overseas fruit fly control is that once released, they are self-dispersing, so give wide coverage including areas where other techniques, such as spraying, cannot readily be applied. That advantage extends to populated areas where fruit flies can breed on backyard trees but where spraying is unpopular.

In this new project, PhD student Jennifer Spinner will be surveying widely in eastern Australia to determine which wasp species tend to cause most mortality to QFF. The same wasps will also be reared from non-pest fly species to investigate whether these hosts are useful for maintaining wasp populations when QFF is scarce. Later, project members including Dr Olivia Kvedaras of NSW DPI, will tour wasp rearing facilities in the USA and Mexico to ensure world best-practice is followed in the pilot plant to be set up in NSW. Once that starts to produce wasps of the selected species, optimal releases strategies will be investigated.

In Australia, this technique is likely to provide more economic and effective management of fruit fly outbreaks in the so called Fruit Fly Exclusion Zone (FFEZ) which encompasses some of Australia's most valuable horticultural production areas, including the Sunraysia, the Mid Murray and the Goulburn Valley in Victoria, along with the Murrumbidgee Irrigation Area (MIA) of New South Wales and the Riverland of South Australia. Benefits will extend to suppression of wild fruit fly populations in the surrounding Risk Reduction Zone (which was established as a buffer zone in which QFF is suppressed to minimise movement into the economically important FFEZ). So, think twice before swatting the next wasp you see. It may be part of the team contributing to better fruit fly pest control.

Hydroponic strawberry grower finds alternative to chemicals

Lawrence Ullio, District Horticulturist, NSW DPI, Camden.

A new attract-and-kill funnel trap technology, initially developed for the control of a carpophilus beetle in stone fruit orchards, has helped control the same pest, for the first time, in greenhouse hydroponic strawberries at Port Macquarie.

“Our first summer crop of strawberries had just started when I noticed small black beetles piercing ripe fruit.” said Rob Southey, strawberry production manager at Ricardoes tomatoes and strawberry hydroponic farm.

The insect was identified by NSW Department of Primary Industries as carpophilus beetle. This beetle is considered to be a major insect pest of ripe fruit in mostly stone fruit orchards, but generally not considered a pest in strawberries.

The dilemma faced by Rob was there were no registered insecticides for the control of this insect in strawberries in NSW, let alone in a greenhouse situation. Even if registered insecticides were available, Ricardoes farm had adopted an Integrated Pest Management (IPM) program for both tomatoes and strawberries and were reluctant to use pesticides as a control measure.

The beetle infestation of the strawberry crop could not have come at a worse time. The plantings were timed to take advantage of the January holiday period when families could enjoy a back-to-nature experience by walking through the greenhouses picking and eating fresh ripe strawberries. “Applying any pesticide was not an option for us. We had to find an alternative.” said Rob.

Lawrence Ullio, Horticulturist with NSW Department of Primary Industries suggested that they try the new attract-and-kill funnel traps now widely used in fruit orchards around the Sydney Basin and the Goulburn Valley in Victoria for the control of this pest. Their use, in the last two seasons, has done away with the need to apply insecticides for many fruit growers. Previously insecticides were applied to ripening fruit on trees and on fallen fruit at the base of trees as the main control measure.

Lawrence Ullio, with the assistance of Dr. Mofakhar Hossain, Research Scientist with Victorian Department

of Primary Industries in Victoria help developed a farm management program, for Ricardoes strawberry farm, to control the beetle using both traps and improved farm hygiene practices.

The traps were provided by NSW Department of Primary Industries as part of the CleanFresh pesticide monitoring project to help reduce the excess use of pesticide on fresh fruit and vegetables grown in NSW. The traps are part of a commercially available kit, costing \$473.00 for 5 traps.

A synthetic insect pheromone and a synthetic version of the odour of ripening fruit are placed inside the traps together with a small pest strip at the bottom. The beetles are attracted by the smell of fruit, climb into the trap, fall into the funnel and are killed by the pest strip.

The traps are placed 5 to 10 metres away from the greenhouses and 1 meter off the ground. Only 2 traps were used around the greenhouses.

“We were very impressed with the results. The first week we were catching several matchboxes full of beetles every few days. By the third week the population was reduced to such a low number that we weren’t getting any more fruit damage,” said Rob. Ricardoes strawberry farm will continue to use the traps during next season’s crop.

The strawberries at Ricardoes farm are grown on an A frame system using white PVC pipes to support the plants sandwiched within a rockwool slab and placed in each hole. The nutrient solution is regularly monitored for pH, salt build up, temperature and nutrient levels.

The two greenhouses hold 80,000 plants and each house can produce over 35 tonnes of fruit per crop.

The farm is trialling different strawberry varieties from Australia and USA with the aim of producing fruit 8 to 10 months of the year to take advantage of the farm gate sales and pick-your-own fresh fruit experience that consumers want.

FreshTest Australia: The residue and microbial testing program for Australia's fresh produce industry

Wholesalers and growers have access to the FreshTest Program established by the Australian Chamber of Fruit and Vegetable Industries. The program manages and collates the results from residue and microbial testing of produce. The service is available in all central produce markets around the country.

FreshTest was developed by the wholesaling sector to reduce costs and co-ordinate the thousands of tests being conducted annually by the Wholesalers for verification of their own food safety & quality assurance systems. The uptake of food safety programs by growers over the past few years has also seen a steady increase in demand for the program.

Currently there are over 33,000 tests recorded in the database showing a compliance rate of 97% against the Maximum Residue Limits (MRL) legislated by Food Standards, Australia New Zealand (FSANZ). In each residue test, the produce is tested for a minimum of 110 different substances. It is the only program to also include microbial testing of produce.

FreshTest employs an independent facilitator in each of the six central markets to collect produce using the international CODEX guidelines for sampling. The produce is sent to accredited laboratories for testing and the results sent back to FreshTest for distribution to wholesalers and onto growers. There is a system of investigation, corrective action and re-testing if a product returns an adverse detection. The response from participants in addressing adverse detections has been outstanding.

Cost savings of up to 50% have been achieved through the co-ordination and bulk testing of produce which makes the service affordable for compliance to any food safety program. Duplication of testing has also been eliminated through the establishment of a database to manage the requests and results. Results are usually available in 14 days.

FreshTest is not just open to wholesalers. Growers can take advantage of the savings by arranging for a test through their wholesaler.

How does it work?

Samples are collected every Wednesday and all you have to do is fill out one of the Testing Request forms and have it back to your wholesaler two days before the collection day.

A check of the database will be made to ensure that the same produce is not tested twice or has been tested in the last six months. An independent person has been appointed for each central market to collect the samples from the wholesalers. The sample collector goes to the wholesaler's premises, identifies the grower's consignment, randomly selects the required amount of produce, seals the product in a pre-labeled bag and organizes for the samples to be sent to the laboratory.

The laboratory will test the produce for the requested residues or microbial counts and will send the results back to the program manager electronically. The results will be entered into a database and a summary of the result notified to the wholesaler. Each wholesaler has a computer code that only allows access to their test results.

The data

The data contained within the database is in two sections. These are the wholesaler and the grower details assigned to a sample batch; and the results of the test on that sample batch.

The program manager will be the only person who will have access to link the test results with the wholesaler or grower. Even the laboratories will only be given a batch number to report on. The data collected can be made available to other parties only as collective test results and not individual names or details.

Some of the parties who may be interested in obtaining reports from the program include Federal and State Departments of Agriculture and Health, FSANZ, market authorities and other peak industry bodies. These reports attract a fee and the income derived is used to fund the program and offset costs of testing.

The data may also be used to refute adverse publicity of Australia's fruit and vegetables. This sort of information has not been available in the past and will be very useful in protecting the viability of our industry.

Payment

The Wholesaler will be invoiced by the local chamber through the market credit service. The wholesaler and grower will make their own arrangements for settling the cost of the test.

What happens if an adverse result is found?

We know from previous surveys that Australia's fresh fruit and vegetable industry has a very high compliance rate, somewhere between 98% and 99.5% compliance, so detection of an adverse result is rare.

However, in the case of a breach of the Maximum Residue Limit (MRL), the wholesaler will be issued an Adverse Detection Notification as soon as practicable and they in turn pass the notification onto their grower. The grower, the wholesaler or both must investigate and identify the cause of the breach. A corrective action must be put in place to prevent a recurrence of the breach and another sample tested to show that the problem has been rectified.

In the case of a microbial detection, the cause must be investigated and identified and again a corrective action put in place with another test to show rectification.

Further information

New South Wales

Newcastle 02 4923 3700
Sydney 02 9764 3244

Queensland

Brismark 07 3915 4222

Victoria

Fresh State 03 9689 3233

South Australia

Adelaide 08 8349 4528

Western Australia

Perth 08 9455 2742

Full details released of proposed new model for the Australian citrus industry, Citrus Australia Ltd



Source: ACG, media release, 22 September 2008

Citrus growers can access more details on the proposed new representative model for the Australian citrus industry.

Following three years of consultation with industry, the members of Australian Citrus Growers have the opportunity to vote in October on the recommendation to establish a new organisation, 'Citrus Australia Ltd'.

An Information Memorandum setting out details of the proposed new organisation and the transition period is available on the ACG website and copies have been mailed to growers.

ACG President Mark Chown says "Citrus Australia will provide a fresh, more commercial approach to representing the Australian citrus growing industry while maximising grower investment and returns."

Citrus Australia will be a grower 'owned' and directed organisation representing the interests of growers on a regional, national and international front.

Growers can participate in Citrus Australia not only through direct membership and voting rights, but also through a number of national and regional committees that will be

set up to advise the Board. Regional forums will be conducted annually by the company and grower members are also eligible to nominate for the Board.

Seven proposed Directors of Citrus Australia - four grower Directors and three independent Directors - have been selected to bring appropriate, professional skills and experience to the new model.

The seven inaugural Directors of Citrus Australia are Tania Chapman, Kevin Cock, Greg Dhnaram, Kelly Jones, Michael McMahon, Kevin Parr and Michele Phillips.

This spread of skills will allow a more market-focused approach and more professional engagement with growers, governments, the supply chain and consumers.

A majority (75%) vote in favour of the establishment of Citrus Australia is required at the special general meeting being held on 14 October 2008 for the new organisation to replace ACG.

If supported growers will be able to join Citrus Australia direct by completing the membership application form contained in the Information Memorandum.

Growers should visit the ACG website www.australiancitrusgrowers.com to view the Information Memorandum and draft constitution.

The Australian Pesticides and Veterinary Medicines Authority (APVMA) review of dimethoate and fenthion update

Extracted from The Low chill Stonefruit Grower, September 2008.

Background

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is re-evaluating many pesticides as part of its Chemical Review Program. The re-evaluations are done to ensure that they meet current standards of safety and performance. As part of this process both dimethoate and fenthion are currently being reviewed.

One element of the Australian Pesticides and Veterinary Medicines Authority (APVMA) reviews is short-term dietary intake. This attempt's to estimate the potential exposure of consumers to pesticides from one meal. It involves using pesticide residue data to derive an estimate of the level of potential exposure using a worst-case scenario. The resultant figure is then compared to an acute reference dose, calculated on the basis of pesticide known toxicology.

Should an acute reference dose be exceeded the APVMA will recommend deletion of the use and withdrawal of the MRL. This situation can occur when either data gaps exist or residue levels are problematic. Where data gaps exist the APVMA cannot do its assessment, i.e., cannot be satisfied that there is no dietary intake problem, so a use will be recommended for deletion. When residue levels are problematic, i.e., estimated residue levels are at a level likely to result in an exceedance of the acute reference dose, a use will also be recommended for deletion.

Unfortunately, dimethoate is likely to suffer from both situations and consequently the review could have serious implications for continued industry access to the chemical.

For many commodities little or no suitable residue data is available. Filling the data gaps by providing residue data allows the APVMA to undertake or refine its risk assessment, helping to maintain access to the chemical.

Any data generated could have the side benefit by helping to establish Codex MRLs which would provide some coverage in international trade, e.g., a Codex MRL has been established for dimethoate in mangoes based on residue data generated in Australia.

Regarding residue levels, the most problematic are those resulting from the use of post-harvest treatments, particularly, commodities with edible peel, e.g., pome fruit, stone fruit and capsicums. In such cases it is highly likely that the outcome of the review will be the removal of that use pattern from the label. For other commodities, those with inedible peel, e.g., tropical fruit and citrus, providing residue data would in all likelihood result in positive dietary intake estimates and retention of the use.

A potential risk with this approach is that the APVMA also considers other issues such as occupational health and safety (OH&S). It is conceivable that all post-harvest treatments could come under pressure due to worker exposure concerns and be either restricted or not allowed (i.e. removed from the label).

As dimethoate and / or fenthion are used in controlling insect pests (especially fruit fly) either pre and/or post harvest as a market access requirement any changes or restrictions in the legal use of these insecticides can or will have significant impacts on domestic and export market access.

HAL, through AKC Consulting (Kevin Bodnaruk) as part of project AH04007: Pesticide Regulation Coordinator, is reviewing and coordinating the response for industry on perceived gaps in the data available to the APVMA to provide for adequate risk assessments within the reviews.

Update

Through industry investment HAL commissioned a number of residue trials for dimethoate and fenthion targeted at filling data gaps related to either a lack of residue data or where the existing residue data did not reflect the current pattern of use. The first season's field component of these trials has now been completed and samples sent to the laboratory. The commodities involved were as follows:

Dimethoate (pre-harvest): Beans, Beetroot, Blackberry, Blueberries, Broccoli, Brussels sprouts, Cabbage, Capsicum, Carrot, Cauliflower, Celery, Cherries, Chinese cabbage, Cucumber, Grapes, Lettuce, Lychee, Mandarin, Nectarine, Onion, Pea, Peach, Persimmon, Pineapple, Potato, Raspberry, Rhubarb, Silver beet, Strawberry, Sweet potato, table grapes, Tomato, Zucchini

Fenthion (pre-harvest): Capsicum, Cherries, Grapes, Nectarine, Peach, Persimmon, Table grapes, Tomato

At this stage the full set of analytical results are not available, but are anticipated within the next few weeks. Once available the data will be evaluated in an effort to gauge whether any of the current use patterns might be considered problematic. This would be a provisional assessment as there are elements of the APVMA review to be completed that would have a bearing on the analysis of the trial data.

In any event initial indications suggest that it should be possible to retain most, if not all pre-harvest uses. The only caveat is that to achieve this may require some changes in use patterns, i.e., possible extension of withholding periods. While this approach would maintain access to the chemicals it could be problematic for those commodities where current label use patterns are integral to achieving market access.

Future trials

It is intended that once the results of the 2007/08 foliar application trials have been evaluated they will be discussed with relevant industry groups prior to any further trial work being initiated. In addition post-harvest trials are planned for a number of commodities. To date these trials have not been initiated awaiting the completion of some QDPI trial work exploring the scope for lower treatment rates.

Proposed Post-harvest trials are in the following commodities:

Dimethoate: Avocado, Cherries, Citrus, Cucumber, Custard apple, Eggplant, Melons, Papaya, Tomato, Zucchini

Fenthion: Avocado, Capsicum, Cherries, Cucumber, Custard apple, Mango, Melons, Papaw, Tomato, Zucchini

Review timeframes

The APVMA is waiting for additional residue data from trials being undertaken by a number of industry groups. The APVMA does not anticipate receiving the study results until September 2009. Once the results are received the assessments will be completed and the APVMA will release a Preliminary Review Findings report (PRF) which will outline the review findings and the proposed regulatory action to be taken for each registered use. The PRF is unlikely to be available until the end of 2009.

AUSTRALIAfresh website

International buyers of fresh produce have a one-stop shop in the form of the new look AUSTRALIAfresh website, www.australiafresh.com.au, which provides information about Australian suppliers, products and industry.

The revamped site makes it easier for importers, retailers and wholesalers of Australian fresh produce, dried fruits and tree nuts to source suppliers, product information, point-of-sale material and to access relevant news.

While visiting the website, buyers can apply for AUSTRALIAfresh point-of-sale material which may be used in-store to promote Australian product sourced from AUSTRALIAfresh suppliers.

Source: SA Citrus Board newsletter, 29 August 2008

CSIRO climate change document

CSIRO have released a report, "Overview of climate change adaptation in the Australian agricultural sector: impacts, options and priorities" which brings together the latest science from research groups around Australia for the grains, cotton, rice, sugarcane, viticulture, horticulture, forestry, grazing, intensive livestock, aquaculture and water resources sectors.

The report is available by visiting www.csiro.au/news/AdaptionForFarming.html and provides information on strategies to cope with climate change.

Source: SA Citrus Board newsletter, 25 July 2008

Weights and measures go national

Historic legislation introduced into Federal Parliament will establish the legal framework for a single system of weights and measures for Australia replacing the current fragmented situation across each State and Territory.

The National Measurement Amendment Bill 2008 will give confidence to buyers and sellers that measurements are accurate. Given an estimated \$400 billion worth of trade based on some kind of measurement takes place annually, Australian business has been crying out for a uniform national trade measurement system.

Source: SA Citrus Board newsletter, 3 October 2008

Australia fourth in world food safety rankings

Source: Food Standards News, 65 Winter 2008

Australia is in the top five Organisation for Economic cooperation and Development nations with the safest food supplies, according to a study conducted by Canadian academics.

The 'Food Safety Performance World Ranking 2008' placed the UK first and Australia fourth, but all the top five ranked as having 'superior' performance. Of 17 countries in the study (see full list below), those listed from sixth to fourteenth were 'average' while the last three were rated 'poor'. The United States was seventh.

The study was designed to show the relative strengths and weaknesses in Canada's food safety systems and processes. The study also investigated the underlying causes of Canada's performance and discussed policies that might help improve Canadian food safety in the future. It ranked nations according to their abilities to handle 45 indicators, such as the effectiveness of recalls and communications, in four critical areas:

- consumer affairs
- biosecurity
- governance and recalls
- traceability and management

The consumer affairs category measured policies and outcomes to see how well countries connect with their own consumers. It considered surveillance, hygiene practices and information accessibility.

The biosecurity category mainly dealt with a country's capacity to contain all risks related to food safety. It included biosecurity measures for plants and livestock. It also considered the rate of use of agricultural chemicals, veterinary drugs and of science-based data.

The governance and recalls category looked at the effectiveness of food safety-related domestic regulations and governance. It considered the number of public/private partnerships, the number of business-funded projects, the existence of risk management plans, the level of clarity of food recall programs and the number of food recalls.

Traceability and recalls measured the ability of a country to identify the past or current location of food items, as well as to know a food item's history. The scientists measured the level of harmonization between

jurisdictions, the prominence of world-known programs and the depth of traceability programs.

The primary objective of this study therefore was not simply to identify which country offers the safest food products to its citizens. Rather, the emphasis was to recognize which country employs better practices to contain risks related to safety within food systems.'

The data for the study were based on secondary sources, such as the OECD, the World Health Organization, the United Nations, national statistical agencies, and other food safety regulatory organisations based in the countries under study. They made special reference to Australia, saying its performance was unanticipated, and praised the food industry for making the ranking possible. Australia ranked first in Governance and Recalls, second in Traceability and Management and fourth overall. Australia's performance in both these categories was influenced by the private sector's involvement in governance and traceability systems. There is an established system of industry-level national governance by statutorily-created limited companies. These companies are run by members and funded by levies. This strong system of funding and representation has helped certain Australian industries take the national and forward-thinking approach required to increase competitiveness in today's global marketplace.

1. United Kingdom (5) Superior
2. Japan (2) Superior
3. Denmark (28) Superior
4. Australia (14) Superior
5. Canada (9) Superior
6. Finland (33) Average
7. United States (1) Average
8. Switzerland (20) Average
9. Norway (25) Average
10. Germany (3) Average
11. Italy (7) Average
12. Netherlands (16) Average
13. Sweden (19) Average
14. Austria (26) Average
15. France (6) Poor
16. Belgium (18) Poor
17. Ireland (31) Poor

The numbers in brackets show the country's world ranking based on GDP (Nominal) in 2007.

Developing an Australian organic & bio-dynamic standard

Source: NSW DPI's Organic News, Vol 5, Issue 1, July 2008.

Following a request from Australia's organic industry peak body, the Organic Federation of Australia, Standards Australia, Australia's peak standards body, has agreed to proceed with the development of a new Australian Standard for organic produce.

The concept of an organic standard is not new one for Australia. Since 1992 Australia has had in place a legally enforceable set of National Standards for exported organic products. The National Standard for Organic & Produce details the minimum requirements for production, processing and labelling of Australia's exported organic produce. The National Standard and the associated Export Control Orders are administered by the AQIS Organic and Bio-dynamic Program.

However, whilst the current National Standard has legal standing for Australian organic destined for export markets and despite anecdotal evidence suggesting it has become the standard for the domestic market, AQIS does not have legal jurisdiction over non-compliance matters within the domestic market nor does it cover organic products imported into Australia. This has had implications in the marketplace with limited options for ensuring the integrity of organic products. Misrepresentation of produce as organic / biodynamic within the domestic market has been a concern for a number of years.

The NSW Organic Ministerial Advisory Council (OMAC) has identified the development of a legislated domestic organic standard as a main priority.

A Technical Committee comprising a broad cross-section of industry has been convened to help develop the Australian Standard for Organic & Biodynamic Produce. The existing National Organic & Bio-dynamic (export) Standard is being considered as a basis for the development of the Australian Standard.

The aim of the new Australian Standard for Organic & Biodynamic Produce is to:

- Specify requirements for primary production, transport and storage, preparation and packaging of organic & biodynamic produce (not limited to food).
- Provide guidance on the certification process.

- Determine the potential to participate in international standardisation work.
- The Standard will also aim to establish definitions for specific terminology used in the industry to remove ambiguity.

While Standards Australia will develop the new Australian Standard it will not be involved in the certification of growers or retailers claiming to meet the Standard, nor can the Standard mandate certification. This is a key concern of industry, and in parallel to Standards development, the Standards Australia technical committee is investigating potential regulatory frameworks which could achieve these objectives.

The Draft Standard is expected to be available for public comment in late July 2008, and following a nine week community consultation period and comprehensive review process, released in December 2008.

For further information contact: Robyn Neeson, NSW DPI Organic Farming Liaison Officer, Yanco, on (02) 6951 2735 Email robyn.neeson@dpi.nsw.gov.au

What's new on the web

Elders weather

Get your global, national or local weather forecast for the next five days, as well as dam levels, climatic indicators, warnings, breaking weather, marine weather, surf conditions and much more – here at <http://www.eldersweather.com.au/index.jsp>

Australia's virtual herbarium (AVH)

This is an on-line botanical information resource accessible via the web. It provides immediate access to the wealth of data associated with scientific plant specimens in each Australian herbarium. Six million specimen records, of particular value in displaying geographic distribution, will be enhanced by images, descriptive text and identification tools. Go to <http://www.chah.gov.au/avh/>

NSW DPI'S new organic farming course

So – What's all this about organic farming? What do I need to do? How do I become involved?

These are the common questions asked by those that are seeing a market opportunity in organic agriculture or by those who are simply curious as to what's organics and want to be involved.

Why a person becomes interested in organics is quite varied, it could be a heart string or a re-evaluation of enterprise choice. But there is no denying the rapid growth in the organic industry and these questions are being asked by more and more people.

NSW DPI has developed in conjunction with numerous industry participants, a one day workshop to assist new entrants into agriculture and those that are interested to find out more about Organics.

This one day workshop is designed to introduce participants to some of the ideas behind organic agriculture, looking generally at management options and enterprise choice. It also looks at assisting participants to make educated choices based on their natural resources, practical and marketing issues.

The key outcome for participants is to have a greater understanding of what is involved if they decide to go down the organic path.

There are a number of considerations discussed during the workshop, such as soil health and plant nutrition, dealing with pest and disease in plants and animals, weed management strategies, enterprise management, and having a marketing strategy.

And importantly, understanding what's required in conversion planning, the process that moves the farming business through the certified organic status.

For those wanting to gain organic certification, it can be a challenge, this workshop will help make the transition to organics as smooth as possible. It is also designed to help farmers already involved in agriculture, who are looking to further diversify into organics.

It is planned to have a number of workshops across that state, but this will be on an as needed basis. The cost of the course is \$280 incl GST.

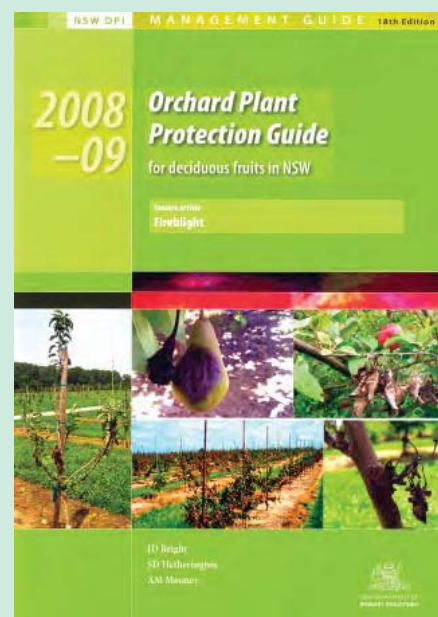


For more workshop information contact:

Scott Seaman, (02) 6330 1200; Email: scott.seaman@dpi.nsw.gov.au or register your interest with Tocal College, Paterson. Phone: 1800 025 520 Email: profarm@tocal

OUT NOW

For your copy contact your local NSW DPI District Horticulturist.



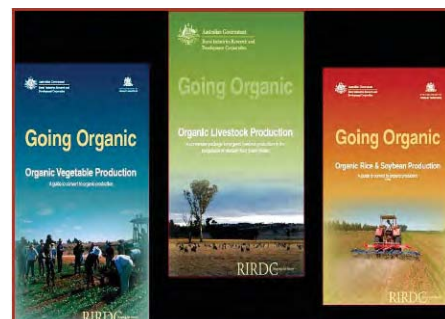
What's new in publications

New organic publications from RIRDC & NSW DPI

Three new books provide producers with valuable information on how they can make the transition to organic production a smooth one. The books written by NSW DPI's Organic Farming Liaison Officer, Robyn Neeson focus on a number of products considered to have potential for organic production:

- vegetables,
- rice and soybeans,
- rangeland livestock production

The books can be purchased from RIRDC by phoning 02 6271 4100.



NSW DPI organic publications – new editions

Two new books on organic farming have been released by NSW DPI. Both books have colour photographs throughout and contain case studies outlining the experiences and practices of a variety of organic and bio-dynamic farmers throughout Australia. *Organic Farming-an introduction* (\$36) is 158 pages of information essential to anyone taking an interest in the organic industry: this book explains the concept of farming organically and how it differs from conventional farming.

The second book *Organic Farming-crops, fruits and vegetables* (\$34) is 97 pages and gives information to help you select a crop to grow organically and practical information about what to consider when you grow any organic crop, in addition to 25 case study enterprises. The books may be ordered from NSW DPI at Total, phone 1800 025520.

What's on

21–23 October – Australian National Field Days, Orange

7–8 November – The 2008 Farming Small Areas Expo, Hawkesbury Showground, Clarendon

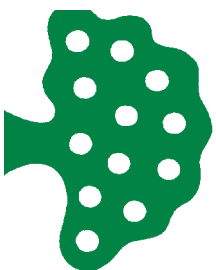
NSW Department of Primary Industries will exhibit again this year. There will be plenty for anyone with an interest in farming a small area, or with a love for fresh farm produce or a country lifestyle.

Visitors will be able to learn about local Asian vegetables and how to cook with them. Native plants and tube stock from the Forests NSW nursery will be sold at special Expo prices. Horticulture and agronomy staff will help with identification and advice on pastures and crops, and land management practices in the Hawkesbury- Nepean catchment. Kids can learn about the State's primary industries with LandLearn NSW. You can also enrol in a PROfarm short course or look through a large selection of publications and resources available from the DPI Bookshop.

19 November – Profarm one-day workshop “The Farmer's Guide to Managing Climate Risk”, Mangrove Mountain. Sponsored by the National Landcare Program

RSVP Carolyn Jenkinson on 4348 1979.

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COASTAL FRUITGROWERS' NEWSLETTER

The Coastal Fruitgrowers' Newsletter is a quarterly publication distributed in Spring, Summer, Autumn & Winter. It is available free to all commercial fruit growers in the Sydney Basin, Central Coast, Hunter Valley, South Coast & North Coast areas.

NSW DPI – Who to contact

Alstonville 02 6628 0604

Phillip Wilk - District Horticulturist
Mobile 0411 139 567

Camden 02 4640 6408

Lawrence Ullio - District Horticulturist -
currently based at Sydney Markets,
Flemington, **02 9735 9605**
Mobile 0412 436 871

Gosford 02 4348 1900

Sandra Hardy - Industry Leader-Citrus
Mobile 0412 425 730

Maitland 02 4939 8888

Tony Somers - District Horticulturist
Mobile 0411 109 159

David Deane - Agricultural Inspector

Richmond 02 4588 2100

Peter Malcolm - District Horticulturist
Mobile 0412 424 628
Bill Yiasoumi - Irrigation Officer
Rob Bowman - Senior Inspector
(Sydney & South Coast) 0411 139 579

ALWAYS READ THE LABEL

Users of agricultural chemical products must always read the label and any Permit, before using the product, and strictly comply with the directions on the label and the conditions of any Permit. Users are not absolved from compliance with the directions on the label or the conditions of the Permit by reason of any statement made or omitted to be made in this publication.

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