



COASTAL FRUITGROWERS' NEWSLETTER

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NSW Agriculture

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

No. 50 Spring 2003

Dear Growers,

Welcome to the Spring edition of the Fruitgrowers Newsletter.

Inside this issue is the annual update of the chemical registration guide for citrus (pages 11-14). Also included this year is a list of all the registered citrus disease control products. Remember that the use of homemade Bordeaux mixture is no longer permitted as it is not a registered product.

For citrus growers there's also a number of field day reports which provide some interesting information on new citrus varieties.

For stonefruit growers there's important information about NSW Agriculture's Western Flower Thrips (WFT) surveillance program for the coming season. There's also a colour WFT information leaflet inserted into this issue.

Happy reading.

Sandra Hardy

PhytoNova™ Looking at planting new varieties?

PhytoNova™ targets global markets for the plant breeding programs at UWS' Centre for Horticulture and Plant Sciences (CHAPS).

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To register your interest, please contact:

Mr Hans Wijgh (02) 9566 1494, Email h.wijgh@uws.edu.au
or Graeme Richards (02) 4570 1358, Email g.richards@uws.edu.au

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 New South Wales Department of Agriculture 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 Agriculture.

Western Flower Thrips Surveillance Program for NSW Stone Fruit Orchards in the 2003/04 Season

Graham Thwaite, Special Entomologist, and Sandra Hardy, District Horticulturist (Fruit), NSW Agriculture.

WFT and stone fruit crops

While WFT damage to stone fruit crops in New South Wales was first recorded in the 2001/02 season, some Sydney growers reported small amounts of damage as early as 1998. The pest has been causing damage to stone fruit and apples in south-eastern Queensland since the spring of 2000.

The hot dry (drought) conditions in New South Wales during the 2002/03 season resulted in more widespread damage by WFT to stone fruit crops. Damage has been reported in the Sydney Basin, Central Coast and North Coast areas, mostly to nectarines. Elsewhere in the State, such as at Forbes, Young and Tumut, growers reported damage to stone fruit which had the appearance of WFT injury. However, there is no evidence available that WFT occurs in those areas, although WFT has been found in vegetable crops in other inland areas of New South Wales, such as near Dareton. WFT damage is worse when conditions are hot and dry. In wet years no damage may be evident.

It is important for the State's stone fruit industry to know where this pest occurs and whether it will damage crops. This evidence is important because the control strategy for WFT is different to that for the other thrips species likely to be found, such as plague thrips (*Thrips imaginis*) and onion thrips (*Thrips tabaci*).

The pest, its damage and control

An illustration of WFT, its life cycle, a description and colour photographs of the damage it causes in nectarines and some information on control of the pest can be found in the 13th edition (2003/04) of the *Orchard Plant Protection Guide* due out in early September. The Guide will also be accessible through NSW Agriculture's external website at: <http://www.agric.nsw.gov.au/reader/orchardguide>.

In warmer areas of Australia, all stages of WFT are present throughout the year. The pest is attracted to flowers, where it feeds on pollen. Thrips have been found on a wide range of crops (cut flowers, fruit and vegetables), broad-leaf weeds and white clover, a favoured host. It does not survive on grasses. Female thrips fly close to ground level when they move into the orchard in spring, but the higher the temperature the higher they fly and the faster they spread.

Damage thresholds

There is a very low threshold for WFT in nectarines both at flowering and close to harvest. Very few thrips are needed for extensive damage to occur.

MONITORING

Yellow sticky traps are useful for determining the presence or absence of WFT within an orchard. As yet there is no local information to use traps for establishing treatment thresholds. There are at least two types of yellow sticky traps and several suppliers of them. They include:

- a folded cardboard-based trap with a counting grid
- one similar to the above without the counting grid.

WFT SURVEILLANCE, 2003/04

Stone fruit growers in New South Wales are welcome to take part in a program to try to find out just where WFT is infesting stone fruit in the State. Please be aware that this is a surveillance program only and not an early warning service for the pest in your orchard.

Your District Horticulturist will supply you, at no cost, with some yellow sticky traps. We ask you to follow carefully the directions outlined below so that we can obtain the maximum amount of information from the surveillance program, on behalf of your industry.

Ideally you should monitor throughout the season – from bud burst to harvest. However, by the time many growers receive this information, the trees will be well advanced. Get the traps in place as soon as you can.

Read the instructions below to see how many traps you will need. Make sure you have enough traps to put into the field the first time, plus the first replacement set.

Trapping instructions

Before you unfold the trap to expose the sticky surface, write your name, location (e.g. Glenorie) and the date the trap is placed into the orchard using a permanent marker pen. Also include the trap location (ground cover or tree), tree type, variety and block number or name. This will assist us to interpret the catches for you.

Locate the traps as follows:

- hang some in the trees,
- place extra traps in the ground cover from bud burst to fruit set, if this stage has not already passed.

As a rough guide, use 2 traps in a block or 5 traps/ha. Hang them in the lower third of the tree. For monitoring in the ground cover, place the traps on a stake at a height



of 25-50 cm in the inter-row sod. Once a suitable trap site is selected, follow the directions on the trap to unfold and suspend the trap. A twist-tie is supplied.

Changing traps

Replace the traps every of two weeks. Remove any really large insects (grasshoppers, big moths) or bits of rubbish that would prevent the trap closing. Do this carefully, using a stick or knife, so as to minimise disturbance of the sticky surface.

We will also check the traps for likely beneficials of WFT (such as ladybirds, predatory thrips, lacewings) and advise you if they are present. This will be important information for the future management of WFT in your orchard.

Reverse the fold so that the two sticky surfaces come together, but don't squeeze them tight. Add the date the trap was removed in permanent marker pen to the information already on the trap. Place the traps into a suitable sized plastic bag or plastic wrap (e.g. Glad Wrap, Cling Wrap) to stop the sticky material contaminating the envelope.

Deliver or mail (postage at your cost) the traps to your District Horticulturist in the envelope provided. Write your name, address and phone number on the envelope.

Quick dispatch is important to minimise the time between collection and identification. If there is likely to be a delay, keep the addressed envelope in the fridge until ready to send or deliver.

If you want to continue monitoring your orchard, ask for replacement traps and a mailing envelope.

Not an "early warning service"

You will be notified of the results as soon as possible, but it will take some time. The information obtained from the sticky traps this season will only establish the presence or absence of WFT in the orchard during the 2003/04 season. This, together with the additional information on the presence of beneficial insects, will assist management decisions for the following seasons.

Remember, this is not an early warning service for WFT – the handling and processing time involved is too long.

Problems?

If you have any problems with the procedure outlined above, contact your District Horticulturist or one of the authors, Sandra Hardy, 4348 1916 or Graham Thwaite, 6391 3821.

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WHEREVER WE GO, WE MAKE IT GROW

Registered Chemicals for use in Commercial Avocado Crops, October 2003

Prepared by Sandra Hardy and Chris Haywood, NSW Agriculture, Gosford.

Source: Infopest July 2003.

This table is not comprehensive as it does not list chemicals or use patterns for general categories such as orchards or fruit trees. Chemical Registrations change continually. Always read and follow the directions on the product label.

Pest/Diseases	Active Ingredient	WHP
DISEASES		
Anthracnose	Copper oxychloride	1
	Copper hydroxide	1
	Cuprous oxide Cu ₂ O	1
	Copper as Ammonium acetate	1
	Copper Sulfate (tribasic)	1
Cercospora leaf and fruit spot	Copper as ammonium acetate	1
Phytophthora root rot	Phosphorous acid	NA
	Fosetyl as aluminium salt	1
	Metalaxyl-M	7
Sooty blotch	Copper as ammonium acetate	1
	Cuprous oxide Cu ₂ O	1
Trunk and stem canker	Copper oxychloride	1
	Copper hydroxide	1
	Copper as ammonium acetate	1
PESTS		
Banana spotting bug	Endosulfan OUP 5974	14
Fruit flies	Fenthion	7
Fruit spotting bug	Endosulfan OUP 5974	14
	Beta-cyfluthrin	7
Hairy leaf-eating caterpillar	Chlorpyrifos	7
Ivy caterpillar	Chlorpyrifos	7
Lantania scale	Chlorpyrifos	7
Leafroller caterpillars	Tebufenoxide	14
Leafroller	Dichlorvos	7
Light brown apple moth	Chlorpyrifos	7
Qld fruit fly	Chlorpyrifos	7
Red shouldered leafbeetle	Endosulfan OUP 5974	14
	Carbaryl	3
	Chlorpyrifos	7
Scale insects	Petroleum oil	1
	Parrafin oil	1
Six spotted mite	Fenbutafin oxide	14
Yellow peach moth	Endosulfan OUP 5974	14
POSTHARVEST		
Anthracnose	Prochloraz	NA
Bactericide	Iodine	NA
Fungi	Iodine	NA
Mediterranean fruit fly	Dimethoate	NS
Qld fruit fly	Dimethoate	NA
Stem end rot	Prochloraz	NA
OTHER		
Fruit shape improvement	Uniconazole-P	NA
Size increase	Uniconazole-P	NA
Vegetative growth control	Uniconazole-P	NA



Auscitrus Update

Paul Florissen, Auscitrus Horticulturist

New Budwood Prices

- The Auscitrus Executive committee has determined a new budwood price structure for spring 2003. The cost of Premium 3 and Standard 2 buds (i.e. most commercial varieties such as Imperial mandarin, Washington navel etc.) are now \$0.42 or \$420 per thousand including GST.
- Premium 2 and Standard 1 buds are now \$1.20 per bud and Premium 1 buds (recently imported varieties with budwood in short supply) are now \$2.90 per bud.
- Prices for budwood of a number of newer citrus varieties have been reduced for the Spring 2003 budwood season. The cost of Fukumoto navel and Afourer mandarin has been reduced to \$1.20 per bud and a number of varieties have been reduced to \$0.42 per bud – Clementard clementine, Pixie, Fallglo and Fortune mandarins, Okitsu, Miho and Clausellina satsumas and Newhall (California) navel. The price changes will take effect for spring 2003 budwood season - contact the Auscitrus secretary for updated order forms (02) 4325 0247.

Record Budwood Sales

Varieties in highest demand were navel oranges, mandarins and common orange varieties for juice production. Sales of Washington navel decreased but there was increased demand for Lane late navel and early season navels including Ryan, Fukumoto, Navelina 7.5, Leng, Fisher and Atwood. Sales of Imperial mandarin decreased, but there were increased sales of Murcott tangor. Other mandarin varieties in demand were Afourer, Nova and Daisy. Sales of common orange varieties for juice increased from less than 5000 buds in spring 2002 to more than 70,000 buds for February/March 2003. Varieties in demand are Salustiana, Hamlin, Parson Brown and Pineapple.

Rootstock Seed

There has been high demand for rootstock seed in 2003, similar to last year when Auscitrus achieved record sales of more than 700 kg of seed. Auscitrus still has seed of some varieties available for purchase including Poncirus trifoliata, Swingle citrumelo, Cox hybrid and Cleopatra mandarin. Contact the Auscitrus secretary for prices and order forms (02) 4325 0247.



New Variety Observations

Graeme Sanderson, Research Horticulturist,
NSW Agriculture

Avana Apireno and Avana Tardivo mandarins

Avana Apireno and Avana Tardivo are two Italian mandarin varieties imported from Corsica as possible alternatives to Imperial mandarin. The first full season of evaluation for both varieties was carried out in 2003. Avana Apireno has a similar appearance to Imperial mandarin, but has better skin condition, and may be more suitable for long distance shipping. It also has a higher juice content than Imperial and low seed content. A major drawback for Avana Apireno is that it matures at a similar time to Imperial mandarin (May/June in Sunraysia) and it would be difficult to differentiate it from Imperial on the domestic market. Avana Tardivo is later maturing than Avana Apireno and may have some potential to extend the Imperial season. It is less vigorous than Avana Apireno and matures in July/August in the Sunraysia region. Avana Tardivo appears to have a higher seed content than Avana Apireno and Imperial. Commercial demand for propagation material of both varieties from Auscitrus has been low.

Afourer tangor


Afourer mandarin was imported into Australia with the aim of producing a seedless late maturing alternative to Murcott. Valencia trees reworked to Afourer were evaluated during the second year of cropping at Dareton in 2003. Afourer trees are inherently vigorous and produce commercial crops in less than five years. Afourer trees in the Dareton trial have been seedy due to exposure to mixed pollen sources in the block. Commercial growing of Afourer to produce low seeded fruit will require careful isolation from strong pollinators such as Murcott, Valencia And Minneola. Positive attributes of Afourer are production of highly coloured medium/large sized fruit, good flavour and bright orange internal colour. From the eighteen mandarin varieties currently under evaluation at Dareton, Afourer is the variety that has attracted the most commercial interest and budwood sales are expected to increase rapidly over the next three years.

Navel variety evaluation

Rapid evaluation of new navel orange varieties has continued at Dareton in 2003. A trial to evaluate twenty five local and imported navel selections was established at Dareton in 1992 as part of the National Navel evaluation program funded by Horticulture Australia. Since 1999 a range of new local and imported navel

News in Brief

orange selections have been reworked onto existing buffer trees of the trial to rapidly evaluate any subsequent local and imported varieties. There is growing commercial interest in Fukumoto navel, imported from California and released by Auscitrus in 1999. The first commercial crop of Fukumoto was evaluated at Dareton in 2003 and compared with Leng, Navelina 7.5 and Washington navels. Fukumoto had consistently higher juice content than the other varieties (45-47%) and maintained a stable fruit acid level, which may be an advantage for export shipping of fruit. Fukumoto was reportedly an early navel in California, maturing at a similar time to Navelina 7.5, but under Australian growing conditions it has similar maturity to Washington navel. Fukumoto maintains firm fruit condition on the tree and there has been positive grower comment about its external appearance and internal texture. Fukumoto trees have a high crop load three years from grafting. There has also been renewed interest in Fisher and Atwood navels as high yielding mid season navels with good fruit size. Fisher and Atwood were imported from California and included in the original navel trial at Dareton in 1992. Cara Cara red fleshed navel will be released commercially by Auscitrus

in spring 2003 and existing buffer trees will be reworked to Cara Cara in October 2003. Initial fruit of Cara Cara for evaluation are expected in 2005. 

AUSTRALIA'S FARMERS' MARKETS

CLICK ON www.farmersmarkets.org.au and discover the real taste of Farmers' markets are now thriving in cities and towns across Australia with more popping up like perpetual spinach every month. From Albany, Western Australia to Albury and Byron Bay, in paddocks, showgrounds and parks farmers are pitching their tents and piling trailers high with farm-grown produce.



There are over 40 farmers' markets trading regularly and more due to open on the fresh food map this spring. Look for new markets soon in Geelong, Echuca and St Kilda (Victoria), and Nabcac (NSW).

Farmers and artisan food processors keen to sell their produce, and consumers hungry for peak, seasonal fresh food direct from the grower can now log on to the Australian Farmers' Markets Association website to locate their nearest farmers' market.

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News in Brief

The website also provides news updates, a copy of the Association's charter and easy-access articles on the vibrant farmers' market movement. If you want to sell or shop at a farmers' market (or start one in your region or town) just click on www.farmersmarkets.org.au

You'll soon discover the taste and seduction of fresh, natural food with flavour. And while you munch happily on that thought, consider some of the other spin-offs of this simple concept – sustainable agriculture, bio-diversity, food security, urban renewal and revitalisation of community. It's a rich, varied, purposeful and immensely satisfying diet!

Market Shopper's Hot Tips:

- Go early for the best pick of the crop.
- Shop regularly and seasonally.
- Chat to the vendors to discover their passions and produce.
- Remember it's cash and carry - so take a basket or trolley.

For further details please contact:

Jane Adams, Chairperson
Australian Farmers' Markets Association
Telephone (02) 9360 9380
Email: jacom@bigpond.net.au



Food S@fety Bytes

Extracted from the 10 July 2003 Edition.

◆ **New Ministerial council to boost science and research effort**

A new Ministerial advisory council has been created to strengthen links between scientific research and industry. The Ministerial Scientific Advisory Council will review research by NSW Agriculture, NSW Fisheries and SafeFood NSW. The Council will help ensure a good return for investment for the State Government and industry. It will strengthen pathways for the commercialisation of scientific research and ensure agencies are effectively communicating their research outcomes to stakeholders and the wider community. The Council will also advise on research delivery mechanisms and the quality of research which the three agencies are undertaking.

◆ **Australian Food Safety Centre announced**

The National Food Industry Strategy (NFIS) announced a new Australian Food Safety Centre to advance Australia's position and reputation as a producer and manufacturer of "clean, green" and safe food. The Centre will

be based at the Institute of Agriculture at the University of Tasmania and was allocated Federal funding of \$4.5m over four years via the NFIS and direct industry contributions. For more information go to <http://www.nfis.com.au>

◆ **FoodFood that's more than good for you**

The new Centre for Functional Foods will apply its expertise to the commercial application of research and learning on "functional foods" - food which consumers recognise as adding value beyond a basic nutritional benefit. The Centre, to be based at the University of Wollongong and operating in partnership with the CSIRO Division of Health Sciences and Nutrition and Food Science Australia, will receive \$5.5m over four years from the National Food Industry Strategy.



◆ **Infopest Agvet CD-ROM**

The Infopest Agvet CD-ROM is a computerised database of all nationally registered agricultural and veterinary chemical products. Infopest Agvet provides accurate, up-to-date information for the effective control of diseases and pests in a wide range of crops and livestock.

Updates are released three times per year (every four months) on CD-ROM.

You can purchase an annual subscription (three updates a year) for \$198 or a single copy for \$99.

◆ **Infopest MSDS CD-ROM**

Infopest MSDS is a compilation of Agricultural and Veterinary (Agvet) Material Safety Data Sheets (MSDS) sourced directly from chemical companies and suppliers. MSDS contain important information relating to safe handling, use and storage of registered Agvet chemicals. They are required to be held by employers under the Workplace Health and Safety Regulation 1997.

You can purchase an annual subscription (three updates a year) for \$98 or a single copy for \$44. To order or for more information phone (07) 3239 3967 or go to www.dpi.gov.au/infopest/



*Extracted from the Horticulture Report
August 2003 Volume 1, Issue 13.*

◆ Assistance available after exceptional circumstances events

The NSW Farmers' Association often receives inquiries from members after Exceptional Circumstances events wondering if they are eligible for financial or other assistance from the Commonwealth or State Government.

The Commonwealth Exceptional Circumstances assistance is granted by the Minister for Primary Industries and Energy after advice from the Rural Adjustment Scheme Advisory Council (RASAC). Assistance includes interest rate subsidies, Exceptional Circumstances Relief Payment, access to Health Care Card and Family Payments and exemption of farm assets from the AUSTUDY assets test.

The criteria by which Exceptional Circumstances (EC) is assessed are:

1. Cause of the event
2. Significance of the event
3. Magnitude of the event
4. Financial impact of the event
5. Other assistance available
6. Rainfall trigger if Drought Exceptional Circumstances is being sought.

The overriding criteria is that the event (possibly a combination of events), including the financial impact, is so severe that it would only be expected to occur once every 20 to 25 years.

Therefore events for which the grower may be reasonably expected to prepare through normal risk management practices are not likely to attract assistance. For example where one year income is lost due to a drought, storm or disease the grower should arguably be able to cope but if the damage extends into the subsequent years' income flow this might be exceptional.

In preparing EC applications the situation should be described using information about the effect on production, income and cash flow, the region/industry, agronomic conditions, environment and the effect on families involved. This may require case studies or surveys of affected growers to indicate the exact financial impact.

The application needs to be made with the support of the State Government so any group wishing to make an application would need to contact NSW Agriculture (free call: 1800 678 593).

Once an application has been made it may be forwarded by the NSW Government to the Federal Government who deals with it through RASAC which assesses the application and often conducts tours of the affected region.

It is important that the application include information relating to as many growers as possible in the affected region and has strong community backing. In order to assess the need for an EC application and determine boundaries it is often useful for a public meeting to be held. This meeting could be convened by the local NSW Farmers Branch or other group or simply a group of like minded growers.

◆ National harvest labour information service launched

The National Harvest Labour Information Service was launched on 1 July 2003. MADEC, an employment firm based at Mildura, is coordinating the scheme. It aims to better orchestrate the movement of workers from one region to the next as jobs arise. The Harvest Trail web site is being expanded www.jobsearch.gov.au/harvesttrail and a phone line 1800 062 332 will operate weekdays from 8am to 8pm throughout the year. Growers can contact their Local Job Network Provider with details of workers required to be placed on a national database. If you are unsure who your Local Job Network Provider is call 1800 062 332.

◆ Pesticide compliance audits begin

The NSW Farmers' Association has been informed that from August to October 2003 the NSW Environment Protection Authority (EPA) will begin conducting on-farm pesticide compliance audits. The audits will focus on key pesticide statutory requirements including record keeping in sectors that are significant pesticide users including leafy vegetable growers, orchards and vineyards. In the initial trial audits, the EPA will contact the premises being audited prior to undertaking a site inspection of relevant areas and reviewing all records and documentation required by the statutory instruments.

Since 31 July 2002 all commercial and occupational users of pesticides, including farmers, have been required to keep a record of their pesticide applications.

If you would like to join the the NSW Farmers Association phone (02) 8251 1700.



News in Brief



Corporate restructure of Summerfruit Australia

The Summerfruit Australia executive have decided to change the corporate structure of the organisation. This is being undertaken to build greater democratic processes and to clarify some areas of how leadership is elected and represented.

The existing Structure

Summerfruit Australia Incorporated (SAI) is an organisation consisting of six state association members and through them summerfruit producers. There is a twenty person council and a seven member executive (each state has a delegate and there is an independent chair). Each executive delegate is nominated by the state organisation and the chair is elected by the delegates.

The new structure

Summerfruit Australia wishes to change to a company limited by guarantee (will become most likely Summerfruit Australia Limited, SAL). There will be shareholders (members) who will be either levy payers (A members) or non levy payers (B members). 'A' members will elect the representatives from each state using a postal ballot system, resulting in company directors being directly elected by the growers. There will be 11 directors (two from each mainland state and one from Tasmania) who will elect the chair. There will be no council in this proposal.

The process of change so far

A report was written for the SAI board in December of 2002. This indicated that there were structural changes that could be made to SAI to make it be a more representative organisation. The SAI executive accepted the report and requested an issues and options paper on alternatives to the present structure. This paper was presented to the Ballina executive meeting held in March 2003. A full discussion of these options followed and the executive unanimously agreed to have a constitution drawn up for comment. This has been completed and is now available.

What happens next?

A series of motions were put to the AGM in Perth in July 2003 and were accepted. Summerfruit Australia Limited was incorporated on the 19th August 2003. The company is now being formed and the election of directors will soon commence. To look out for membership details and a call for nominations go to www.summerfruitaustralia.com.au

Some commonly asked questions

Q. What will this proposed change mean to growers?

A. The biggest change will be that growers (that is levy paying businesses) will have a direct say in who will be their national representative. It will empower the growers as well as the representative.

Q. How will the elections take place?

A. Each May a call will be made for candidates to become directors. If more than one candidate proposal is received, in June a postal ballot will take place. Each levy paying member will be asked to vote. An independent receiving officer will count the vote and a decision announced.

Q. What is the term for each director and can they stand again after this term expires?

A. The term is for two years (one elected each year), and yes they can reapply after that term and be reelected if they have the support of the growers in their state.

Q. Can a person who is not a grower be elected?

A. Yes, any member representative can stand as a candidate. However to be successful they must have the support of the grower members in their state, and be nominated or seconded by a levy paying member.

Q. Does membership of Summerfruit Australia cost money, and why don't my levy funds cover this?

A. Membership of Summerfruit Australia Limited may have a charge involved. Any such amount is to be decided by the directors. Your levy funds are collected and only spent on R&D and Marketing, not on any political activity of memberships of other organisations. The membership fee is separate to levy funds.

Q. What happens to state organisations in this change?

A. Essentially nothing. Each state organisation will remain to look after the state needs of growers. They will be putting forward their selected candidates for elections and giving input into the national body in other ways. There is no intention in the change to diminish the role or the autonomy of any state based organisation.

Q. What will constitute a member of the new organisation?

A. A member will be a business entity, either a levy paying entity (an A member) or a non levy paying member (a B member). In elections it will be one vote per member irrespective of the size of the business.

Registered Chemicals for use in Citrus Crops October 2003

Prepared by Sandra Hardy and Chris Haywood, NSW Agriculture, Gosford.

The following tables on pages 13-16 list the current registered chemicals for use in **commercial citrus orchards** for post-harvest treatment (Table 1); control of pests (Table 2); control of diseases (Table 3); and to enhance fruit quality (Table 4). Chemical names have been used because there are too many products to list. **This information has been sourced from Infopest, July 2003.**

The tables are not comprehensive in that they do not list chemicals or use patterns for grapefruit or Kaffir lime or general categories such as orchards or fruit trees.

These tables do not contain all the information which appears on a product label. ALWAYS READ THE PRODUCT LABEL.

In Australian citrus orchards an integrated approach to pest and disease control is well established. Integrated Pest Management or IPM relies on using a range of control options to keep pests below economically damaging levels. These control options include biological, cultural and chemical control strategies. Managing pests or diseases in your orchard involves:

- correct identification of the pest/disease
- some understanding of the life cycle of and conditions favouring the pest/disease
- regular monitoring of the trees (leaves, fruits etc) for both pests and predators
- correct choice and timing of the control.

Petroleum Spray Oils (PSO's) are widely used in Australian citrus orchards as part of this integrated approach to pest management.

Table 1: Registered products for postharvest treatment of citrus

Pest/Disease/Other	Active Constituent in Product	Withholding Period (WHP) days	Citrus	Oranges	Mandarins	Lemons
Bactericide	iodine	NA	✓	✓	✓	✓ and limes
Blue/Green Mould	carbendazim	NA/NS	✓			
Blue Mould	guazatine	NA	✓			
	imazalil	NA	✓			
	imazalil sulfate	NA	✓			
	SOPP	NA	✓			
	thiabendazole	NA	✓			
Colour Retention	2,4-D-dma	NA	✓			
Fungi	iodine	NA	✓	✓	✓	✓ and limes
Green Mould	guazatine	NA	✓			
	imazalil	NA	✓			
	imazalil sulfate	NA/NS	✓			
	thiabendazole	NA	✓			
Old Fruit Fly	dimethoate	OUP No. 6388	✓			
Sour Rot	guazatine	NA	✓			
Light Brown Apple Moth	liquid hydrocarbons	NS	✓			
Mealybugs	liquid hydrocarbon	NS	✓			
Melanose	thiabendazole	NA	✓			

One of the most important things to remember with PSO's is that they need to be applied at high volumes to work successfully. PSO's work mostly by suffocating pests or altering their behaviour so a good film of oil needs to be applied to plant surfaces such as leaves, fruits, twigs and branches.

Control of pests can also be limited to single trees or blocks of trees. For example, this is appropriate if you have an outbreak of scale in a few trees. By the early strategic use of a control measure, be it chemical or biological, a potential major pest problem may be avoided.

In order to maintain a healthy balance of beneficial insects in your orchard avoid the use of broad spectrum chemicals that can be toxic to these good insects.

For a complete reference on Citrus pests, their identification and management, purchase a copy of "Citrus Pests and their natural enemies" (1997).

Contact DPI bookshop Ph: 1800 816 541.

Key to Abbreviations in Tables

NA = Not Applicable; NS = Not Stated;

✓ Registered for use on this crop

Bolded are new entries since the Winter 2002 edition

OUP = Open Use Permit, Number (No) refers to the National Registration Authority (NRA) permit number. **Open Use Permits are normally issued for only a limited time and then need to be renewed. Therefore persons wishing to use a chemical in a manner approved under permit should obtain a copy of the relevant permit from the NRA and must read and comply with all the details, conditions and limitations on the permit.**



Table 2: Registered products for pest control in citrus

Pest	Active Ingredient	Withholding Period (WHP) days	Citrus	Oranges	Mandarins	Lemons	Limes
Ants	Chlorpyrifos (OUP No.70A)	14	✓				
Aphids	Azinphos-methyl dimethoate	14 7	✓ ✓	✓	✓	✓	✓
Black (Brown Olive) Scale	Azinphos-methyl petroleum oil	14 1	✓ ✓				
Black Citrus aphid	maldison pirimicarb parathion-methyl	3 2 14	✓ ✓	✓		✓	
Broad Mite	abamectin	7	✓				
Bronze Orange Bug	dimethoate maldison	7 3	✓ ✓	✓	✓	✓	✓
Brown Citrus Rust Mite	abamectin sulfur wetable sulfur zineb mancozeb	7 0-1 on some products 1 7 NA	✓ ✓ ✓ ✓ ✓				
Bugs	dimethoate	7	✓	✓	✓	✓	✓
Citrophilous Mealybug	aldicarb buprofezin	182 28	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
Citrus Bud Mite	sulfur mancozeb wetable sulfur	0-1 on some products NA 1	✓ ✓ ✓				
Citrus Butterflies	maldison carbaryl	3 3	✓ ✓				
Citrus Flat Mite	abamectin	7	✓				
Citrus Leafeating weevil	bifenthrin	NA	✓				
Citrus Leafminer	diazinon permethrin 40:60 petroleum oil aldicarb paraffin oil	14 NS 1 NA 1	✓ ✓ ✓ ✓ non bearing trees only ✓	✓			
Citrus Mealybug	buprofezin	28	✓	✓	✓	✓	✓
Citrus Nematode	aldicarb cadusafos	182 NA	✓	✓	✓		
Citrus Red Mite	abamectine + clofentezine or amitiaz (minor use permit 4515)	NA	✓	Quarantine treatment only for the movement of trees and budwood outside the counties of Northumberland and Cumberland			
Citrus Rust (Maori) Mite	abamectin lime sulfur propineb sulfur wetable sulfur zineb mancozeb	7 NS 7 0-1 on some products 1 7 NA	✓ ✓ ✓ ✓ ✓ ✓ ✓	✓	✓	✓	
Fruit Flies	maldison	3	✓				
Fullers Rose Weevil	carbaryl	3	✓				
Jassids	buprofezin	28	✓	✓	✓	✓	✓
Leafroller caterpillars	azinphos-methyl	14	✓				

Table 2: Registered products for pest control in citrus *continued.*

Pest	Active Ingredient	Withholding Period (WHP) days	Citrus	Oranges	Mandarins	Lemons	Limes
Lightbrown Apple Moth	tebufenozide carbaryl methomyl	1 3 2	✓ ✓ ✓				
Longtailed Mealybug	parathion-methyl aldicarb buprofezin	14 182 28	✓ ✓ ✓	✓ ✓	✓ ✓	✓	✓
Mediterranean Fruit Fly	dimethoate	7	✓				
Nematodes	fenamiphos	NS	✓				
Orange Fruit Borer	carbaryl	3	✓				
Pink Wax Scale	carbaryl maldison petroleum oil paraffin oil	3 3 1 1	✓ ✓ ✓ ✓				
Purple Scale	maldison petroleum oil	3 1	✓ ✓				
Qld Fruit Fly	chlorpyrifos and yeast hydrolysate dimethoate (don't use on Meyer lemons, seville oranges, cumquats) fenthion	14 (Bait spray only) 7 7	✓ ✓ ✓	✓	✓	✓	✓
Red Scale	azinphos methyl buprofezin chlorpyrifos maldison methidathion omethoate paraffin oil parathion-methyl petroleum oil	14 28 14 3 21 7 1 14 1	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓	✓	✓	✓
Rose Scale	petroleum oil	1	✓				
Rutherglen Bug	maldison	3	✓				
Scale insects	paraffin oil parathion-methyl	1 14	✓ ✓	✓		✓	
Small citrus butterfly	parathion-methyl	14	✓				
Snails	copper complex	1	✓				
Soft Brown Scale	azinphos-methyl maldison petroleum oil aldicarb parathion-methyl	14 3 1 182 14	✓ ✓ ✓ ✓	✓ non trifoliata rootstocks only	✓		
Spined Citrus Bug	carbaryl diazinon endosulfan maldison	3 14 14 3	✓ ✓ ✓ ✓	✓	✓	✓	
Stubby Root Nematode	cadusafos	NA	✓				
Thrips	dimethoate maldison	7 3	✓ ✓	✓	✓	✓	
Treehoppers	maldison	3	✓				
White Louse Scale	buprofezin lime Sulfur sulfur wetttable sulfur	28 NS 0-1 on some products 1	✓ ✓ ✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓
White Wax Scale	azinphos methyl carbaryl methidathion paraffin oil petroleum oil	14 3 21 1 1	✓ ✓ ✓ ✓ ✓				
Wingless Grasshopper	chlorpyrifos dimethoate	14 7	✓ ✓	✓	✓	✓	✓
Yellow Peach Moth	carbaryl	3	✓				
Yellow Scale	azinphos-methyl petroleum oil	14 1	✓ ✓				



Table 3: Registered products for disease control in citrus

Disease	Active Constituent in Product	Withholding period (WHP) days	Citrus	Oranges	Mandarins	Lemons
Black Spot	benomyl	NS	✓			
	copper sulfate (tribasic)	1	✓	✓		
	copper ammonium acetate	1	✓			
	copper hydroxide	1	✓			
	copper oxychloride	1	✓			
	cuprous oxide	1	✓			
	mancozeb	0-14	✓			
	petroleum oil	1	✓			
	propineb	7	✓			
	zineb	7	✓			
	copper hydroxide + mancozeb	NA	✓			
paraffin oil	1	✓				
Brown Rot (phytophthora)	copper oxychloride	1	✓			
	cuprous oxide	1	✓			
Brown spot	copper oxychloride	1			✓	
	cuprous oxide	1			✓	
	iprodione	0			✓ nonbearing trees only	
Melanose	copper ammonium acetate	1	✓			
	copper oxychloride	1	✓			
	copper hydroxide	1	✓			
	cuprous oxide	1	✓			
	sulfur	NS/0	✓			
	copper sulfate (tribasic)	1	✓	✓		
Phytophthora Brown Rot	copper oxychloride	1	✓			
	cuprous oxide	1	✓			
Phytophthora Collar rot	copper oxychloride (OUP NO.48)	1	✓			
	copper hydroxide	1	✓			
	phosphorus acid	0/NA	✓			
	copper sulfate	1	✓			
Root/Collar Rot	phosphorous acid	NS	✓			
	copper hydroxide	1	✓			
Scab	copper sulfate (tribasic)	1	✓			✓
	copper oxychloride	1	✓			
	cuprous oxide	1				
	copper hydroxide	1				✓
	copper ammonium acetate	1	✓			
Septoria Spot	copper oxychloride	1	✓			
	cuprous oxide	1	✓			
Sooty Blotch	copper ammonium acetate	1	✓			
	copper oxychloride	1	✓			
	copper sulfate (tribasic)	1	✓	✓		
	copper hydroxide	1	✓			
	cuprous oxide	1	✓			

Table 4: Registered products for improving fruit quality in citrus

	Active Constituent in Product	Withholding Period (WHP) days	Citrus	Oranges	Mandarins	Lemons
Adhesion control	lauryl alcohol ethoxylate	NS		✓	✓	✓+ limes
Colour Improvement	2,4-D-dma	NA		✓	✓	
Drop Prevention/Reduction	2,4-D-dma	NA		✓	✓	
Growth Improvement	gibberellic acid	NA/NS		✓		✓
Quality Improvement	gibberellic acid	NA		✓		✓
Rind quality maintenance	2,4-D-dma	NA		✓	✓	
	gibberellic acid	NA		✓	✓	✓
Thinning	ethephon	NA		✓	✓	
	giberellic acid	NA			✓	
Creasing reduction	gibberellic acid	NA		✓		



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Specific Gravity	1.32 kg/L (1000L weighs 1320kg)	1.48 kg/L (1000L weighs 1480kg)	1.325 kg/L (1000L weighs 1325kg)	1.5 kg/L (1000L weighs 1500kg)	1.4 kg/L (1000L weighs 1400kg)

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Citrus Diseases - Product Registration Guide for Commercial Citrus in NSW

Prepared by Sandra Hardy and Chris Haywood, NSW Agriculture, Gosford. Source: Infopest July 2003

Active Ingredient	Trade Name	Brand	Black Spot	Brown Spot	Melanose	Phytophthora Brown Rot	Phytophthora Collar Rot	Phytophthora Stem Rot	Root Collar Rot	Scab	Septoria Spot	Sooty Blotch
Mancozeb	Dithane DF	Dow Agrosiences	✓									
	Dithane Rainshield	Dow Agrosiences	✓									
	Kencozeb 750DF	Kenso Agcare	✓									
	Mancozeb 750DF	Farmoz, Sabero	✓									
	Mancozeb DF	Kendon	✓									
	Mancozeb DG	Barmax	✓									
	Mancozeb WDG	Griffin	✓									
	Manzate DF	Dupont	✓									
	Penncozeb 750DF	Atofina	✓									
	Dithane M-45	Dow Agrosiences	✓									
	Mancozeb 800	Farmoz Melpat	✓									
	Mancozeb 800NP	Sabero	✓									
	Mancozeb fungicide	Kendon	✓									
	Propineb	Antracol	Bayer	✓								
Zineb	Zineb	Barmac	✓									
Sulfur	Brysulf	Robert BryceSwift			✓							
	Brysulf 800WG	Swift			✓							
	Brysulf 800WP	Swift			✓							
	Thiorit Jet	Syngenta			✓							
	Kumulus DF	Basf			✓							
	Microthiol Dispers	Elf Atochem			✓							
	Sulfostar DF	Basf			✓							
Phosphorous acid	Fungex	Grow Green					✓					
	Chemphos 400	Chemag							✓			
	FungiFos 400	Rutek							✓			
	Phos-A400	Blairs							✓			
	Phospot 400	Country							✓			
	Sprayphos	Spraygro							✓			
	Throw Down	Nipro Products							✓			
	Agri-Fos600	Agrichem							✓			
	Phosacid 400	Craig Mostyn							✓			
	Phospot 400 pH7.2	Country							✓			
	Foschem	Nuchem							✓			
	Dominator 600	Chemag							✓			
	Fungifos 400 pH 7.2	Rutek							✓			

✓1 Mandarins only ✓2 Lemons only ✓3 Oranges only



Cara Cara Navel

Paul Florissen, Auscitrus Horticulturist and Pat Barkley, National Citrus Improvement Manager.

Cara Cara navel is reported to be similar in external appearance to Washington navel, but with good red internal flesh colour under some growing conditions.



Cara Cara navel internal colour

The red internal colour is from lycopene, the same pigment as in the red fleshed grapefruit. There is usually no external rind blush. Fruits mature at a similar time to Washington navel (expected to be May/June in southern Australia). Fruits have a small concealed navel and the

rind is of average thickness. Trees grown in California are productive on Troyer and Carrizo citranges and Poncirus trifoliata.

Cara Cara navel originated in Venezuela and was imported into Australia in 1997 by Auscitrus from the California Citrus Clonal Protection Program. Cara Cara was not released from post-entry quarantine until March 2001 and then as a 10 cm high shoot tip grafted plant. Therefore no data is currently available on the field performance of the Cara Cara imported by Auscitrus, under Australian conditions. A number of trees at Dareton were reworked to Cara Cara navel in December 2002 and first fruit are expected in 2004.

In California, Cara Cara, which means 'dear one' in Italian, has been in commercial production for six years. Some growers fear that over-production could drag premium prices down to the same price as a regular navel. A Citrograph Magazine article (January/February,



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2001) claims the virtues of Cara Cara to be its unique taste, pink flesh colour and the health benefits of lycopene.

On the recent grower trip to South Africa, participants were told that there has not been as much demand for Cara Cara bud wood as expected, as fruit is more prone to wind blemish and has a poor pack out. (There is more interest in early navels eg Fukumoto). Bud sports are sometimes seen in Cara Cara fruits, in field trees and in the rapid nursery multiplication trees within the South African Bud wood Scheme. Cara Cara is being grown in South Africa as 'Red Star' and there will be a Growers Club requiring fruit with a minimum Brix:acid ratio of 10:1. The commercialiser Citroplant will try to induce current growers to join the Club. 600-800 ha of Cara Cara are currently grown in South Africa, producing 33,000 cartons last year. 50-70,000 cartons are envisaged this year.

Since its release from post-entry quarantine, Cara Cara navel has undergone rapid multiplication by Auscitus at Dareton. Around 2,000-2,500 buds are expected to be available for the first release in spring 2003. Bud wood will be available at a price of \$2.90 per bud. Cara Cara bud wood supplied by Auscitus is available as a public variety to all Australian growers and nurserymen with no production royalties.

Supply of Cara Cara bud wood by Auscitus will require the purchaser to sign a non propagation agreement with Auscitus that also acknowledges that no fruits of this bud line of Cara Cara have been observed in Australia and therefore Auscitus cannot guarantee that the bud wood supplied is true to type. Expected demand for Cara Cara means that Auscitus may only be able to supply a set number of buds per order rather than a proportional amount. Contact the Auscitus secretary for order forms 02 4325 0247

New Citrus Varieties in South Africa

*Pat Barkley, National Citrus Improvement Manager
John Owen-Turner, CITTGROUPE Co-ordinator, Queensland
Michael Arnold, Chairman of Auscitus*

A group of citrus growers and industry representatives recently undertook a two week study tour of the South



*Seedless Eureka lemon, ITSC,
Nelspruit*

African citrus industry. The group included Peter Walker (Riversun), Peter Davidson (ACG), Kevin Cock (ACG), Michael Arnold, John Owen-Turner and Pat Barkley. They examined production, packing and marketing of South African citrus as well as citrus

research developments. The following are some of their observations on newer citrus varieties being grown or trialled in South Africa:

- Few varieties are being imported as budwood now, compared to the 20-30 per year imported a few years ago, and there is little that is new in cultivar development in South Africa. One more recent development is the creation of Grower Clubs to limit production of new varieties to keep supply below demand.

- There is a Growers' Club for Afourer (Nadorcott) mandarin, which restricts the amount which can be grown and the sites where it can be produced. Afourer ships well, but is a strong pollinator of other varieties. It is seedless in isolation, has high sugars, a rich flavour, and better peelability than Murcott. Afourer matures at the end of July in South Africa and should not be left to hang, as it becomes puffy. There are 550 ha planted in South Africa and five pallets were sent to the USA last year. 24-30,000 pallets of Western Cape Afourer fruit will be sent this year to the USA, EU, Holland, and Belgium.
- There is also a Growers' Club for Eureka Seedless lemon and this year they will ship 16-20,000 cartons. There were claims of a premium for marketing of seedless Eureka lemon (three times the price of seedy Eureka). The commercialiser, Citroplant, wants the fruit to go to catering industries and not domestic consumption, in order to differentiate the product in the market place. Eureka Seedless was obtained by gamma irradiating Frost nucellar Eureka lemon. It is totally seedless even under strong pollination pressure. Eureka Seedless has higher rind oil content, a lower fruit set with more fruit abscission. It is a more rounded fruit than the seedy Eureka and less acceptable to the Japanese market. (Eureka SL is due for release from Australian Post-Entry Quarantine to ANFIC in September, 2003).

- Cara Cara red fleshed navel is being grown and marketed as 'Red Star' and there will be a Growers' Club requiring fruits of a 10:1 sugar acid ratio. The commercialisers will try to induce current growers to join the Club. 600-800 ha of Cara Cara are currently grown, producing 33,000 cartons last year and 50-70,000 cartons are envisaged this year. Cara Cara was ripe mid June in Citrusdal, but this was considered to be the wrong timing for a new variety, as it conflicted with the Washington navel harvest. Cara Cara commands a premium price in Great Britain, but is an unstable budline. There has not been as much demand for Cara Cara budwood as expected. It is prone to wind blemish and poor pack out.
- Mor and Or mandarins are grown and marketed under the 'Prestige Mandarin Club'. There are 33 ha of Mor, but it is not expected to become a major variety in South Africa as it is susceptible to *Alternaria* brown spot. The market prefers Or, which has a yellow colour and matures mid-late June. (It is hoped that both Mor and Or will be released from Australian Post-Entry Quarantine to ANFIC by the end of 2003).
- There is only one commercial orchard of Winola mandarin, (an Israeli bred hybrid of Wilking x Minneola). Winola is reportedly superior to Minneola tangelo, travels well, matures later than Minneola and South African marketers believe it will fit in well with the US markets. Winola is due for release from Post-Entry Quarantine to ANFIC in the near future.
- Nectar mandarin (also imported into Australia by ANFIC) is nice eating, but has no shelf life. The effect of climate on the differing performance of Winola and Nectar mandarins at Uitenhage and Citrusdal was also noted.
- Some farms have a policy of topworking three trees to rapidly evaluate performance of a new variety in their area. Topworking is done into the citrange rootstock to avoid interstock effects and the introduction of severe strains of tristeza virus from the previous scion into the new variety. Patented varieties are tested with the commercialisers' approval.
- There has been a shift from importation of new varieties to development of local selections. Growers are actively seeking mutations they can commercialise through agents, for which they receive a bud royalty. Australian citrus growers should also actively seek out any good bud sports for detailed horticultural evaluation. A recent example of this is the successful commercial development of a number of late maturing navel budlines in Australia.

Other variety observations included:

- Volumes of Nules Clementine into the USA are increasing.
- There is a move from late Valencia to late navel.
- The market is doing well with Satsumas (Miho Wase and Owari).
- Few white grapefruit are being planted.
- Navelina was harvested at the beginning of May in the Citrusdal region and is their earliest maturing navel.
- Patented varieties are causing some confusion to growers.
- Budwood and seed prices are comparable to Australia, but nursery trees sell for \$A2-3!

The most striking observation about citrus production in South Africa was the widespread use of windbreaks and the absence of wind blemish on fruit. As a consequence 70-80% pack out for export is normally achieved.



South African girdling tool

Girdling of trees to improve fruiting is being more widely used in South Africa due to climatic conditions. Or mandarin is girdled for the first 2-3 years to improve productivity. Some growers girdle Or mandarin in summer (January), others at full bloom. Nova mandarin does not respond to gibberellic acid and is girdled to improve productivity.

Delta and Midnight Valencias have a poor fruit set in hotter areas and are girdled, as is Afourer mandarin (Afourer and Nova appear to be highly productive under Australian conditions without girdling). 1000 trees can be girdled per day but it is important to keep the cut level and end where you start, and not to make two cuts.

Two key recommendations from the study tour have been made for the Australian variety evaluation program:

1. For the new generation of patented varieties currently being imported, independent horticultural evaluation must be carried out in the different growing regions in Australia. Grower groups such as the South Australian Citrus Improvement Society (SACIS) need to be actively involved in these evaluations.
2. Horticultural evaluations carried out under the citrus breeding and variety importation programs in Australia must be unified to enable comparative evaluation of all new citrus varieties regardless of how they are obtained.

A full report on the study tour will be available for purchase from Horticulture Australia (02) 8295 2300
email: info@horticulture.com.au



New Varieties Day Report

*Kym Thiel, Riverland Citrus Industry Development Officer/
Cittgroup Coordinator*

A New Varieties Day held in Renmark, South Australia on the 19th June 2003 proved to be an outstanding success, with around 150 citrus growers and industry representatives from all over Australia attending. The day was organised by Auscitrus and Citrus Growers of South Australia. Attendees agreed that the day will help guide growers into the future when making planting decisions, and that one of the most important decisions that growers have to make is in relation to market prospects for each new variety.

A key theme from the day was that growers and packers need to work together in developing new varieties if they are to be successful. John Chavarria from Mildura Fruit Company and Steve Burdette from Vitor Marketing re-iterated this point. Steve commented on a number of the challenges facing the Australian

industry, one of which is the current over supply of fruit worldwide as well as the fragmented nature of the Australian citrus industry which favours the supermarket chains rather than the supplier. The large number of small suppliers, packers and exporters not only compete with one another in the same market segments but against citrus from the same hemisphere as well as other fruit types.

John Pressler from 2PH Farms in Emerald, Queensland gave an excellent presentation called 'What the world needs now'. 2PH has undertaken their own extensive variety improvement program. The main aim of the program is to develop varieties that fulfil the following criteria:

1. The fruit must be exportable. Ideally this would require that the fruit be firm and does not puff or suffer from creasing.



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2. The fruit must be of reliably good quality, good size and with good eye appeal and attractive flavour.
3. The variety must be capable of earning high returns before year ten.
4. The tree and crop should not be difficult to manage under local conditions.

A promising mandarin variety from the 2PH program is Taylor Lee, which is a Murcott hybrid. Packed cartons of Taylor Lee from 2PH were on display and it was the first chance that most southern growers had to see and taste this variety. Taylor Lee is currently being rapidly multiplied by Auscitrus and will be commercialised in southern Australia by Golden Grove nursery. Other varieties which John touched on that have come out of his budwood irradiation program include the seedless Murcott selection and five different seedless Eureka lemons, the most promising of which will be released to the industry within the next five years. John laid down the challenge to fellow growers that they should implement a variety improvement program of their own, suited to their own available funds and facilities.

The Australian Citrus breeding program that encompasses the work done by Steve Sykes, CSIRO, Anna Koltunow, CSIRO and Malcolm Smith, QDPI was also highlighted. CSIRO hybrids from field trials and QDPI low seeded Murcotts selections were on display. The QDPI Murcotts are known as IrM1 and IrM2 and are products of a citrus breeding project commenced by the Queensland Horticultural Institute in 1991. They are currently undergoing disease elimination prior to rapid multiplication by Auscitrus and commercialisation by Breeders Rights International.

Graeme Sanderson from NSW Agriculture, Dareton is responsible for the rapid evaluation program funded by Horticulture Australia, which enables all new release citrus types to be established as grafts and seedling trees. With the grafting system it has been possible to have commercial bearing trees within five years

from obtaining first release budwood from plant quarantine. These new varieties are then available for grower farm walks, taste testing and assessments made of their market potential.

Pat Barkley, National Citrus Improvement Manager and Gavin Porter from ANFIC gave a comprehensive run down on what varieties have been imported in the recent past and what are the most recent imports. A current and future trend is the development of patented varieties. A number of varieties imported by ANFIC carry Patents which provides ANFIC with the ability to collect royalties on the owner/breeders behalf to return to their breeding programs.

For those growers who attended hoping to hear what is 'the' variety to plant, some may well be disappointed as there is no 'magic' variety. What growers did come away with is a wealth of information on what varieties are available now and will be into the future as well as having a better insight into the questions they should ask themselves before planting a new variety.



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www.rirdc.gov.au/reports/WNP/03-051.pdf
 - **Australian cut flower best bets program.**
www.rirdc.gov.au/reports/WNP/03-055.pdf
- ◆ **The Organic Advantage**

A free monthly bulletin available on line. To subscribe go to the Biological Farmers of Australia Co-op at www.bfa.com.au and join the mailing list.
- ◆ **Organic Federation of Australia: Organic Industry Update**

A monthly newsletter. To subscribe go to www.ofa.org.au
- ◆ **Information on Farm Water Quality**

A range of information leaflets including water quality guidelines, monitoring, testing, quality and treatment. Go to the NSW Agriculture website at www.agric.nsw.gov.au/reader/3823

What's on

- ◆ **1-4 October 2003**
Australasian Postharvest Horticulture Conference, Brisbane

For more information call (07) 3201 2808 or go to www.aohc2003.org
- ◆ **24-25 September 2003**
Quarantine and Market Access Conference, Canberra

For more information contact Jane Hayes on (02) 6272 3084 or go to www.affa.gov.au/qmac
- ◆ **2-3 October 2003**
OFA 2003 2nd National Organic Conference, Adelaide

For more information contact Cat Mills on (08) 8339 7800 or go to <http://conference.ofa.org.au>

New Agfacts

- ◆ **How much does it cost to pump?**
E5.10
- ◆ **The Good, the Bug and the Ugly Citrus Pests and their Natural Enemies - Now on CD-ROM**

The CD contains information on over 100 citrus pests and their control using Integrated Pest Management. More than 400 colour photos and searchable databases help you to identify pests, the damage they cause and their natural enemies.

A comprehensive section on pesticide application and monitoring includes Excel spreadsheets that you can download and use to record your own orchard data.

Minimum system requirements: Intel 486 or Pentium PC, MS Windows version 95 or later, 10 Mb RAM.

For order form contact: IPM CD-Rom, Maroochy Research Station, phone (07) 5441 2211 or fax (07) 5441 2235.

Websites

- ◆ **NSW Regional Fine Food Market.**

Information about two farmers markets at Mt Penang on the Central Coast and the Hunter River Country Farmers Market at Maitland. Go to www.strictlygourmet.com for more information.
- ◆ Want information on **Patents and Trade-marks** see IP Australia, the Federal Government agency responsible for granting rights, go to www.ipaccess.gov.au

- ◆ **Thrips website launched!**

This site contains the latest information on management of WFT and TSWV, including pictures of the pests and symptoms, strategies for different crops, the most recent chemical information and much, much more.

Logon at www.nre.vic.gov.au/farming/horticulture/wft



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COASTAL FRUITGROWERS' NEWSLETTER

SURFACE
MAIL


POSTAGE
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AUSTRALIA

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 Agriculture Staff

- Who to Contact

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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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