



# COASTAL FRUITGROWERS' NEWSLETTER

ISSN 1446-0513

## *Inside*

---

New cost effective methods to increase size of navels for export markets	3
NSW DPI soil testing service	4
Maximising yield in avocados	5
National program for screening and evaluation of new citrus rootstocks	9
New permit for avocados	11
Practical recommendations to improve sour rot control using GRAS compounds	12
Noxious weeds – what are they?	14
News in Brief	15 – 20
Other newsletters on the DPI website	20
What's new on the web	21
What's new in publications	23
What's on	23

No. 69 Winter 2008

## *Dear Growers*

Welcome to the winter edition of the Fruitgrowers' Newsletter.

For citrus growers there are summaries from two recently completed industry funded projects. One project focussed on the use of plant growth regulators such as GA<sub>3</sub> to regulate crop load with the aim of improving fruit size. The second project reports on the latest results of the long-running Australian work on rootstock evaluation for each of the main citrus types.

For avocado growers there is a report on page 5 from a recent field day which focussed on outlining the key management practices necessary for maximising avocado yield.

As usual the *News in Brief* section brings you up-to-date with any other developments in the horticultural sector.

Don't forget to check out *What's on* and *What's new in publications* at the back of the Newsletter.

Happy reading

Sandra Hardy



NSW DEPARTMENT OF  
PRIMARY INDUSTRIES

Coastal Fruitgrowers' Newsletter

Edited by Sandra Hardy

Design & Layout – Cathryn McMaster

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.



## ERADICATE SCALE EARLY

Applaud<sup>®</sup> Insecticide is an ideal foundation for reliable IPM friendly Scale, Jassids and Mealybug management programmes in citrus. To avoid resistance to any one product, rotate use between registered products with different modes of action. For further information contact us on 1800 700 096 or visit [dowagrosciences.com.au](http://dowagrosciences.com.au)



 **Dow AgroSciences**

® Registered Trademark of Nihon Nohyaku Co. Ltd.

# New cost effective methods to increase size of navels for export markets

## (Project CT03014)



Andrew J Thompson, Norbert A Maier, Michael T Treeby & Peter T Gallasch (SARDI)

This is part of the industry and technical summary extracted from the final report.

To remain competitive and viable Australian citrus producers need to produce high quality citrus for domestic and export fresh fruit markets. These markets have preferences for fruit in particular size ranges. Fruit size is strongly linked to crop load, and so cost effectively regulating crop load is critical to the industry's continued competitiveness. A lack of cost-effective crop regulation options is adversely affecting the competitiveness of the Australian citrus industry.

### Trials undertaken

This study involved applications of growth regulators at several locations in the South Australian Riverland using different application methods and multiple timings and concentrations of plant growth regulators. The experiments included assessment of shoot types (Figure 1), fruit size and counts and fruit quality parameters.

The major studies involved gibberellic acid (GA<sub>3</sub>) and the synthetic auxin 3,5,6-trichloro-2- pyridyl-oxyacetic acid

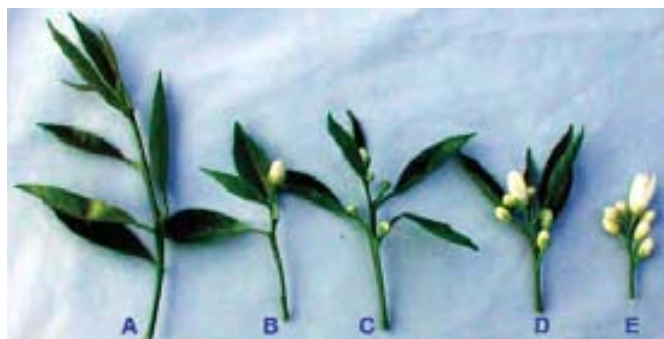


Figure 1. Shoot type categories used to assess impact of winter GA<sub>3</sub>. From left to right: "A", vegetative shoot (all leaves, no flowers); "B", single terminal flower; "C", more leaves than flowers; "D", more flowers than leaves; "E", leafless inflorescence (all flowers, no leaves).

(3,5,6-TPA, Maxim<sup>®</sup>, TOPS<sup>®</sup>), but demonstration plots also included 2-(2,4-dichlorophenoxy) propionic acid (dichloroprop, 2,4-DP) and 2-chloroethanephosphonic acid (ethephon, Ethrel<sup>®</sup>).

### Major findings

Navel orange crop loads can be regulated using plant growth regulators. This project has provided a greater understanding of how to use two growth regulators under Australian conditions to thin fruit numbers and thereby align final fruit size distribution more closely to fresh fruit markets' demands.

Potential crop load can be regulated by applying GA<sub>3</sub> in late winter/early spring. Some of the results from these trials are shown in Tables 1 & 2. Additionally crop

Treatment	Fruitlets quadrat <sup>-1</sup>	kg tree <sup>-1</sup>	mm ø	Under size	Fruit size class						
					125–100	88	72	56	40	36	Over size
% of fruit											
Control	7 <sup>A</sup>	192	75	6	8	30	34	18	3	0	0
GA <sub>3</sub> effect	5 <sup>**</sup>	166	79 <sup>*</sup>	3	6	19 <sup>*</sup>	30	30 <sup>**</sup>	8 <sup>*</sup>	1	2
ppm GA <sub>3</sub> :											
10	7 <sup>A</sup>	169	78	4	7	21	31	27	8	1	2
20	5 <sup>B</sup>	164	77	6	8	20	31	39	5	1	1
30	4 <sup>B</sup>	167	81	1	4	17	30	33	11	2	3

Table 1. Effect of timing of GA<sub>3</sub> application and GA<sub>3</sub> concentration applied in July, 2004, on fruitlet counts in January, 2005 and yield and fruit size profile in July, 2005 (Experiment 2).

Values presented are means (n=6). An asterisk indicates a significant effect of applying GA<sub>3</sub>, irrespective of concentration, and different superscripts indicate significant differences between means.

Treatment	Fruitlets quadrat <sup>-1</sup>	kg tree <sup>-1</sup>	mm ø	Fruit size class			
				125–100	88	72	56
				<i>% of fruit in each size class</i>			
Control	21 <sup>A</sup>	125	72	14	63 <sup>A</sup>	21	1 <sup>A</sup>
GA <sub>3</sub> effect	11*	128	74***	6*	52**	37**	5**
ppm GA <sub>3</sub> :							
10	17 <sup>B</sup>	132	73	8	60 <sup>AB</sup>	29	3 <sup>AB</sup>
20	13 <sup>C</sup>	127	74	7	52 <sup>BC</sup>	37	4 <sup>B</sup>
30	8 <sup>D</sup>	126	74	5	51 <sup>BC</sup>	39	5 <sup>B</sup>
50	6 <sup>E</sup>	127	75	4	43 <sup>C</sup>	44	9 <sup>C</sup>

Table 2. Effect of GA<sub>3</sub> concentration applied on July 11, 2005, on fruitlet counts in January, 2006, and yield and fruit size distribution profile in August, 2006 (Experiment 3).

Values presented are means (n=6). An asterisk indicates a significant effect of applying GA<sub>3</sub>, irrespective of concentration, and different superscripts indicate significant differences between means. Note: there were no under- or oversize fruit, and no fruit fell into the 40 and 36 count size ranges.

load can also be adjusted downward in late spring/early summer by applying 3,5,6-TPA. Both options result in larger fruit at harvest.

Successful use of GA<sub>3</sub> and 3,5,6-TPA (Maxim®, TOPS®) requires application during the most sensitive periods. This project provided the information to associate appropriate spray timings with easily recognizable phenological growth stages; bud break for GA<sub>3</sub>, and a range of fruitlet diameters for 3,5,6-TPA. The trials conducted with 3,5,6-TPA also suggested that spray coverage was a critical issue for successful use of this compound.

### Recommendations to industry

Data produced as part of this project will be made available to assist in the registration of these growth regulators for use in Australia to regulate navel orange crop loads. Registration should be sought for the use of GA<sub>3</sub> in late winter/early spring from bud burst to an average shoot length of 15 mm using a concentration range of 20–30 ppm.

When the registration process is successfully completed Australian navel orange producers will have more options to regulate crop loads. Use of these growth regulators to manage crop loads will lead to less reliance on hand thinning, and thereby reduce the cost of producing fruit suitable for fresh fruit markets.

### Future research and development opportunities

It may also be possible to further refine rates and timings to improve both efficacy and cost effectiveness.

Further research is required to investigate the effect of these growth regulators on the postharvest storage life navel oranges.

### More information

For a copy of the final report contact Horticulture Australia on 02 8295 2300.

## NSW DPI soil testing service

Diagnostic and Analytical Services provided by NSW Department of Primary Industries (NSW DPI) can assist you in maintaining your soil health. Our soil testing laboratories can undertake a range of soil analyses to assist you in determining the nutrient and trace element requirements of your soil. In addition, the laboratories can undertake specialist testing for: pesticide residues and heavy metal contamination.

Our laboratories are NATA-accredited and independent, giving you consistent, reliable results.

### The soil sampling kit

The soil sampling kit provides all you need to submit your samples to our laboratory. The sampling kits are supplied free of charge. They are available at NSW DPI district offices or through our customer service units at EMAI-Camden, Orange, Wagga Wagga and Wollongbar.

### Choosing the appropriate soil test package

NSW DPI offers four soil test packages (basic, grazing, cropping and horticulture). If you have not previously had soil tested we suggest you talk to your advisor, district agronomist, district horticulturist or phone our customer service unit on (02) 6626 1103 to determine the most appropriate package for your needs.

# Maximising yield in avocados

Simon Newett, QLD DPI&F, Maroochydore and Sandra Hardy, NSW DPI, Gosford.

Adapted from the presentation made by Simon Newett at the Central Coast avocado study group meeting  
13 May 2008.

## Introduction

Avocados evolved in Central America under conditions of frequent good rains. The soils were free-draining, rich in organic matter and were also free of the *Phytophthora* fungus.

The following key management practices should ensure that your avocado trees are healthy and productive.

## Climate and Aspect

- Choose a frost free site with an E, NE or N aspect.
- Use windbreaks to protect young trees from strong winds.
- Ensure trees are protected from hot dry winds during flowering.



- During flowering temperatures need to be above 12°C for 2 consecutive nights on several occasions.

## Rootstocks and Varieties

- Select varieties and rootstocks to match local climatic conditions and soil types.
- Choose varieties that meet market requirements.
- Purchase trees from an Avocado Nursery Voluntary Accreditation Scheme (ANVAS) nursery.



## DUPONT™ AVATAR® CONTROLS MORE CHEWING INSECTS, ON MORE CROPS, IN EVEN MORE PLACES.

Broad-spectrum control for grape, leafy vegetable, pome and stone fruit crops.

Available from:

**Ace Ohlsson**

**DuPont™**  
**Avatar®**  
insecticide

ALWAYS REFER TO THE PRODUCT LABEL BEFORE USE. © 2008 E I du Pont de Nemours and Company ("DuPont"). All rights reserved. Du Pont (Australia) Ltd. 7 Eden Park Drive, Macquarie Park, NSW 2113. ACN 000 716 469. The DuPont Oval Logo, DuPont™, The miracles of science® and Avatar® are trademarks or registered trademarks of DuPont or its affiliates. H&T DP1321

 The miracles of science®

## ACE OHLSSON PTY LIMITED

Stores 7 & 8, Warehouse J  
(PO Box 90) Sydney Markets.

Telephone: (02) 9746 6640

Facsimile: (02) 9746 7015

A member of IHD Independent Horticultural Distributors



- ☑ Keep nursery trees off the ground (i.e. on a raised platform) prior to planting to prevent infection by *Phytophthora*.

### Soils and drainage

- ☑ Soils should be high in organic matter and well drained to a depth of at least 1.5 m.
- ☑ Mound tree rows to improve drainage.
- ☑ Aim for a soil pH of 5.5, which will help suppress the *Phytophthora* fungus.
- ☑ Prevent off-site water and soil from entering the orchard using diversion drains and banks.
- ☑ Maintain a 10 cm layer of free draining mulch underneath trees.

### Irrigation and water

- ☑ Avocado trees need between 7 to 10 mL/ha annually.
- ☑ Irrigate with good quality water that is free of *Phytophthora*.
- ☑ Monitor soil moisture levels and schedule irrigation as needed.
- ☒ Do not over-water trees or allow the soil to get waterlogged.
- ☒ Do not subject trees to moisture stress especially before flowering, at fruit set and during fruit growth.

### Nutrition

- Important nutrients for avocados include nitrogen, calcium and boron.
- ☑ Monitor tree nutrient levels annually using leaf analysis undertaken between April and May.
- ☑ Monitor soil nutrient levels every 3–5 years.
- ☑ Base fertiliser applications on leaf & soil analysis results, historical crop yield data and previous nutrition programs.
- ☑ Apply fertilisers at the right time to match crop development needs.
- ☑ Ensure trees have an adequate supply of boron at flowering.
- ☑ When applying nitrogen use small amounts frequently to avoid problems with leaching and oversupply.



Ensure adequate supplies of boron at flowering (based on leaf analysis results) to avoid boron deficiencies.

### Pollination

- ☑ If necessary bring bee hives into the orchard (2–4 ha) when 10% of the flowers are open.
- ☑ Provide a source of water for the bees (4 L/hive/day).
- ☑ Plant pollinator varieties if required (e.g. 1 tree of Ettinger for every 8 Hass trees).
- ☒ Do not spray insecticides (especially carbaryl) during the day when bees are foraging.

### Canopy management

- Avocados are vigorous rainforest trees and most fruit is produced on the outer 1m layer of the canopy.
- ☑ Keep trees at a height that will allow easy access for safe harvesting and effective spray application.
- ☑ Selectively prune tree limbs to ensure good air and light penetration into the canopy.
- ☑ Make pruning part of your annual management program to ensure trees have a good supply of fruit bearing wood.

*Some tree height calculations to reduce shading:*

- The height of trees should not exceed 80% of the distance between trees across each row (e.g. an inter-row spacing of 10 m = maximum tree height of 8 m).
- The tree height should be less than 2.5 x the canopy-free inter-row space (e.g. canopy free inter-row space of 2 = maximum tree height of 5 m).
- No part of the tree canopy should be more than 2–2.5 m from direct sunlight, so maximum canopy width ideally should be no more than 4–5 m.

## Pest & disease management

### *Phytophthora root rot*

The avocado root system is mostly in the top 30 cm of the soil and has no root hairs making them inefficient at taking up water and nutrients. They like soils rich in organic matter that are high in oxygen. They do not like waterlogged conditions and roots die after being waterlogged for 48 hours. Avocados have no natural resistance to *Phytophthora*. *Phytophthora* thrives in wet soils when temperatures are 24–28°C. It is largely inactive at temperatures below 13°C or above 33°C.



Anthracnose is a major disease of avocados.

- ☑ Ensure trees have good carbohydrate reserves to drive the tree's natural defence mechanisms.
- ☑ Treat mature trees annually with phosphorous acid to help prevent infection. Phosphorous acid helps protect the tree roots against attack and needs to be applied when the tree roots are alive and healthy.
- ☑ Monitor phosphonate levels annually (sampling kits, analysis and interpretation available from SGS/ Agritech, Toowoomba).
- ☑ Maintain root phosphonate levels above 25 ppm.

### *Anthracnose*

- ☑ Prune trees to improve air circulation.
- ☑ After flowering apply protective fungicides (copper) at regular intervals (every 28 days during fine weather, shortened to every 14–21 days during wet conditions) to prevent infection.
- ☑ Systemic fungicides such as Amistar® should not be used more than 3 times per season. To further reduce the chances of resistance developing use no more than 2 consecutive sprays in your annual spray program.
- ☑ Keep the orchard clean and remove potential sources of fungal spores such as dead leaves, twigs, branches and infected fruit.

## You said:

**IT'S THE BEST COPPER FUNGICIDE AROUND."**

**WE SAID: IT'S AVAILABLE HERE..."**



Available from:

**Ace Ohlsson**

**DuPont™**  
**Kocide® Blue Xtra™**  
fungicide  
with BioActive™ Copper

ALWAYS REFER TO THE PRODUCT LABEL BEFORE USE. © 2008 E I du Pont de Nemours and Company ("DuPont"). All rights reserved. Du Pont (Australia) Ltd. 7 Eden Park Drive, Macquarie Park, NSW 2113. ACN 000 716 469. The DuPont Oval Logo, DuPont™, The miracles of science®, Kocide® and BioActive™ are trademarks or registered trademarks of DuPont or its affiliates. H&T DP1322

 *The miracles of science®*

## ACE OHLSSON PTY LIMITED

Stores 7 & 8, Warehouse J  
(PO Box 90) Sydney Markets.

**Telephone: (02) 9746 6640**

**Facsimile: (02) 9746 7015**



**A member of IHD Independent Horticultural Distributors**



- ☑ Control insects (e.g. fruit spotting bug) that damage fruit and help spread the fungus.
- ☑ Handle fruit carefully and keep harvested fruit in the shade.
- ☑ Treat harvested fruit with a registered post harvest fungicide (Sportak®, Protak® 450EC, Mirage®).
- ☑ After harvest cool and store fruit at the correct temperature within 24–48hrs (5°C for Hass and 6–8°C for other varieties).

### ***Insect pests***

- ☑ Monitor pest levels weekly throughout the growing season.
- ☑ Calibrate your sprayer regularly to ensure spray volumes match canopy dimensions.
- ☑ Check the spray coverage of your machine to ensure the spray is reaching all parts of the tree (tops & inside the canopy). Spray cards can be purchased from Spraying Systems (03 9318 0511) to assess spray coverage.
- ☑ Use an appropriate registered insecticide at the right time for the pest to be controlled.



Spray cards can be used to assess the spray coverage of your sprayer.

### ***Fruit spotting bug***

The native fruit spotting bug is a major pest of avocados and feeds on a wide range of plants (over 200 host plants) and it loves citrus flowers. The eggs take about 4–7 days to hatch into nymphs who don't start feeding for several days. The nymphs cannot fly and take about 5–6 weeks to develop into adults. There are about 3–4 generations



Damage from fruit spotting bug.

per year (1 in spring, 1–2 in summer and 1 in autumn). The bugs are not particularly good fliers especially in cooler weather (<20°C) but become very active when temperatures rise above 30°C. Hot windy conditions are favoured by this pest.

The adults and nymphs pierce the fruit and shoots repeatedly, and young fruit usually drop. Damage is usually on the tops or shoulders of fruit. The nymphs who cannot fly do not move far from their feeding site and so damage is often confined to individual trees or parts of trees.

- ☑ Start monitoring trees and fruit at flowering for the presence of bugs and nymphs and their damage.
- ☑ Pay close attention to perimeter trees particularly those close to natural bush and those adjacent to the main wind direction.
- ☑ Tag trees that have damage to help identify the bug's movement into the block.
- ☑ If damage is not widespread within a block then spot spray the affected areas (or "hot spots") using an appropriate registered insecticide.

### **For Sale**

#### ***Cold dip tank and creepfeeder***

Built by KW Engineering  
Both in good condition

Phone Andrew on 0412 092 603

---

# National program for screening and evaluation of new citrus rootstocks

## (Project CT03025)

---



*Tahir Khurshid (NSW DPI), Steve Sykes (CSIRO Plant Industry), Malcolm Smith (DPI&F) and Andrew Thompson (SARDI)*

**This is the technical summary extracted from the final report.**

The national citrus rootstock improvement program of Australia is a multi-stage process involving the establishment of source trees, ensuring uniformity of rootstock seeds and seedlings, glasshouse screening for disease and salt tolerance, short-term preliminary field trials to evaluate horticultural performance; and longer-term evaluation in semi-commercial plantings under a range of soil, climatic and management conditions.

This report describes results from preliminary field trials conducted to investigate rootstock effects on the horticultural performance of a range of scion varieties. The trials were conducted in major regions for citrus production in the Murray Valley and Queensland. The results from the trials will be used to identify rootstocks for entry into longer-term, commercially orientated and industry-based trials in the major citrus growing regions.

### **NSW DPI, Dareton and CSIRO, Merbein**

The research conducted at NSW DPI, Dareton focussed on short-term trials to evaluate a large number of experimental rootstocks to identify candidates for entry into longer-term, industry based commercial plantings. There were five modules of trials at Dareton, two of which had been established before project CT03025 commenced. Trees for the other three modules were propagated and planted during the course of CT03025. The first module involved just one trial in which Valencia orange was the sole scion variety. Modules 2 to 5, comprised four trials each, which reflected the number of scion varieties used to evaluate the performance of the various rootstocks.

The rootstocks evaluated in the trial modules at Dareton were sourced from the Peoples Republic of China, Vietnam and CSIRO's rootstock breeding program.

The introductions of various rootstocks from China and Vietnam were via seed and occurred during two projects supported by funds from ACIAR during the period 1992 to 2002. All the rootstocks included in this component of the project had been screened by NSW DPI and CSIRO for disease resistance and salt tolerance under glasshouse conditions.

Tree growth, fruit yield, and internal fruit quality data collected for five years are reported for trials established in 1997 (Valencia) and 1999 (Navelina, Lane Late navel, Imperial mandarin and Eureka lemon) at NSW DPI, Dareton. Root excavation was also carried out in the Valencia trial to investigate root distribution and structure. Chloride concentrations in leaves of scions are also reported to support earlier glasshouse experiments and investigate further the chloride exclusion capacities of the rootstocks. Chloride concentrations were measured over the course of the project in 12 trials involving rootstocks from China and CSIRO's rootstock breeding program.

Fruit yield and quality data were collected for trees in the first two modules planted. Based on cumulative yield, fruit size, internal fruit quality and tree size, a number of promising rootstocks were identified with potential for entry into longer-term follow-up industry-based plantings.

Generally, trees grafted to *trifoliata* rootstocks produced better yields and yield efficiencies for sweet oranges. Valencia trees grafted to Donghai Tanghe, Caoshi xiangju produced cumulative yields of 241, 231 and 251 kg/tree, respectively. Yield efficiencies were 4.2 and 3.6 kg/cm<sup>2</sup> for Valencia trees grafted to Donghai and Tanghe, respectively.

For Navelina, the most promising rootstocks were Donghai, Houpi, Anjiang hongju and Xiechen. Navelina trees grafted to Xiechen produced the highest cumulative yield of 135 kg/tree followed by those grafted to Anjiang hongju (110 kg/tree), Donghai and Houpi (105 kg/tree).

For Lane Late, the most promising rootstocks were Houpi, Zao Yang, Donghai, Lunan and Zhoupi jiangnan. Most of the selected rootstocks (*trifoliata* type) for Lane Late navels were *trifoliata* types. Lane Late trees grafted to *trifoliata* produced a yield of 102–127 kg/tree; while trees grafted to Zhoupi jiangnan (*reticulata* type) produced yields of 117 kg/tree, a yield efficiency of 1.3 kg/cm<sup>2</sup> and Brix value 12.

The selected rootstocks for Imperial mandarin are Xiechen, Nianju, Nanju and Anjiang hongju. Although, Imperial mandarin trees grafted to Xiechen produced a cumulative yield of 103 kg/tree and trees grafted to Nianju, Nanju and Anjiang hongju produced yields of 70–73 kg/tree. These selected rootstocks had a smooth graft union.

The rootstock selected for Eureka lemon are Zao Yang (*P. trifoliata*) and Ichang papeda 2586. Eureka lemon trees grafted to Zao Yang produced higher cumulative yields (136 kg/tree) compared to standard Tri22, while trees grafted to Ichang papeda 2586 produced 119 kg/tree compared to standard Tri22. Trees on Ichang papeda 2586 had higher yield efficiency while trees on Zao Yang had larger fruit size. Both rootstocks had similar effects on percentage juice of Eureka lemons and on tree size. Trees grafted to Zao Yang also had lower leaf chloride concentrations than those grafted to other *P. trifoliata* rootstocks. The selected rootstocks for Eureka lemon had smooth graft unions.

Leaf chloride concentrations for trees grafted on the different rootstocks generally reflected data obtained in glasshouse experiments conducted during the course of earlier ACIAR-supported projects and in screening the initial population of hybrids generated in CSIRO's citrus rootstock breeding program. The results indicated that a number of the rootstocks may have value for entry into wider, industry-based evaluation trials, especially where root zone salinity is a problem. In particular:

- Significant differences attributable to rootstocks in chloride concentrations of leaves of scion varieties grafted to a large number of *Poncirus trifoliata* strains demonstrated a greater variation in chloride excluding capability within this species than previously demonstrated. A number of *P. trifoliata* strains should be considered for further testing and include Zao Yang, Xiaogan, No. 22, Wangchang large leaf 84-75, 75-85 and No. 5.
- Depending on how it performs with regard to fruit yield and quality, Mantou hong (*C. reticulata*) is

a promising new chloride excluding rootstock. In glasshouse experiments it also excluded sodium. Similarly, other mandarin (*C. reticulata* and *C. erythrosa*) rootstocks tested should be considered along with Mantou hong for further testing on the basis of their chloride excluding capacity. Again their selection for further testing should be determined by how they perform with regard to their impact on fruit yield and quality of the grafted scion variety, which also applies to the yuzu, ichangensis and sour orange types included in the trials.

- The fifteen CSIRO-bred hybrids included in the trials all demonstrated a capacity for chloride exclusion and should all be viewed as potential candidates for entry into further testing. The decision to continue testing these hybrids will be influenced by the fruit yield and quality data that will be forthcoming during the next project.

#### **DPI&F, Bundaberg, Queensland**

Ten rootstocks (Benton, C32, C35, Carrizo, Cleopatra, H639, Sweet orange, Swingle, Troyer and Volkameriana) were assessed under four early-season mandarin scions (Fallglo, Imperial, Nova and Nules). Detailed fruit quality and yield information was collected for the first seven years of fruit production.

Imperial was the most vigorous scion variety and produced the largest tree canopy. It also produced high yields of good quality fruit but had the most severe bud-union abnormalities. Nova produced acceptable fruit quality in most years but was very prone to granulation, particularly if fruit were left on the tree. Fallglo and Nules produced low-quality fruit (e.g. soft, coarse-skinned, seedy) and are unsuitable varieties for subtropical production areas.

Rootstocks had a significant impact on yield, fruit quality, tree growth and bud union abnormalities. Volkameriana performed very poorly, resulting in low quality fruit that consistently had the highest levels of granulation and the lowest Brix. Swingle produced good fruit quality with the lowest levels of granulation but matured later than any of the other rootstocks. It also featured severe benching at the bud union. The industry perception of Cleopatra as a late-maturing rootstock was challenged, with data showing that it matures internally at the same time as most other rootstocks but has delayed skin colour development. This warrants further investigation because the incidence of diseases like anthracnose and black spot have been linked to skin maturity, as has the propensity

of fruit to be stung by fruit-fly. Carrizo performed in a similar way to Troyer (the current industry standard) and was superior to stocks such as H639, C32 and Sweet orange. Benton was the most promising rootstock in the experiment. It gave high yields from a young age, good quality fruit, and smooth bud unions. In most years it also resulted in very low levels of granulation. Benton needs to be more widely evaluated as a rootstock for mandarins because although it performed well in this experiment, in a more recent experiment there are early signs of severe benching. Nevertheless, with its good disease resistance, high yields, and positive effects on fruit quality Benton has the potential to become an important new rootstock for Australian mandarin growers.

### **SARDI, Loxton**

Three trials were established in the Riverland of South Australia to test the effects of a range of new rootstocks

on the performance of navel orange and early and late maturing mandarin varieties. Trial 1 was planted in 1997 at Loxton and three navel varieties were grafted onto eight different rootstocks imported from Brazil, Florida, California and South Africa. Trial 2 was planted in 1999 on a commercial property to assess the performance of the early maturing mandarin varieties, Fallglo, Imperial, Nova and Nules on ten different rootstocks. This trial was a replicate trial to the one planted in Queensland. The third trial was planted in 2002 on a replant site to assess the horticultural performance of the late maturing mandarin varieties, Afourer, Murcott, Topaz and Fortune on the same ten rootstocks used in trial 2. Due to a range of changing circumstances and adverse weather in two seasons, it has proved impossible to recommend any of the stocks investigated in these three trials for entry into longer-term commercial trials.

## **Permit for foliar application of phosphorous acid in avocado trees** **Permit number – PER10722**

This permit is in force from 10 APRIL 2008 TO 30 SEPTEMBER 2009.

### **Persons who can use the product under this permit:**

Persons generally.

### **CONDITIONS OF USE**

#### **Products to be used:**

All registered products containing either: 400 g/L, 600 g/L, 620 g/L OR 625 g/L PHOSPHOROUS ACID as their only active constituent.

#### **Directions for Use:**

<b>Crop</b>	<b>Disease</b>	<b>Rate</b>
Avocado	Root rot  ( <i>Phytophthora cinnamomi</i> )	400 g/L products Apply 1250 mL/100L
		600 g/L products Apply 825 mL/100L
		620 g/L & 625 g/L products Apply 800 mL/100L

#### **Critical Use Comments:**

**DO NOT** apply more than 5 applications per year with a minimum re-treatment interval of 3 weeks between applications. Apply as a foliar spray by knapsack or air-blast sprayer. Apply high volume spray to the point of run-off (i.e. 2000-3000 L/ha for mature trees).

#### **Withholding Period:**

Not required when used as directed.

#### **Jurisdiction:**

ALL States

#### **Additional Conditions:**

This Permit provides for the use of a product in a manner other than specified on the approved label of the product. Unless otherwise stated in this permit, the use of the product must be in accordance with instructions on its label.

Persons who wish to prepare for use and/or use products for the purposes specified in this permit must read, or have read to them, the details and conditions of this permit.

#### **RESIDUES:**

To allow produce from treated plants to be supplied or otherwise made available for human consumption, the APVMA has established a temporary Maximum Residue Limit of 500 mg/kg for phosphorous acid in avocado. This limit applies only to produce marketed and consumed in Australia. Therefore, if treated produce is to be exported, due account should be taken of the residue definition and residue limits/import tolerances of importing countries and that any residues must not exceed those requirements of the importing country.



**Australian Citrus Growers Inc.  
Co-hosted by Griffith & District  
Citrus Growers Inc.**

**13–15 October 2008**

*“Working in Partnership for  
Production, Profit & Power”*

The Australian Citrus Industry Conference is a major event for the citrus industry. Delegates from regional associations, commercial providers, researchers, exporters, packers, growers and marketers will all be attending.

This year's Conference will focus on the theme *Working in Partnership for Production, Profit & Power*.

Maximise your exposure to the citrus industry by joining us at this year's Conference from 13th–15th October, at Griffith in New South Wales.



---

# Practical recommendations to improve sour rot control using GRAS compounds

---

Source: Packer Newsletter No. 90, April 2008.

Nancy Cunningham, SARDI

Over the last few years the SARDI citrus postharvest team have made an effort to combat what seems to be an ongoing problem for Australian citrus packers – the presence of sour rot in early and late season citrus varieties. *Geotrichum citri-aurantii*, the pathogen that causes sour rot on citrus, is still a large problem for citrus packers and one that can be unpredictable from year to year and difficult to control using our currently available conventional fungicides.

Packers processing fruit for the Australian domestic fruit market have few problems as the industry can use fungicides with the active guazatine (e.g. Panocrine®, Guazacure®, Zanoctine®), the only currently registered active in Australia that controls sour rot in citrus. However, in many export markets, the use of guazatine

based fungicides is restricted; this includes emerging markets such as China and some of the main export markets such as the USA and Japan. Fungicides such as imazalil (Fungaflor®, Magnate®, and Imazagard®), thiabendazole (Tecto®) and carbendazim (Spinflo®, Bavistan®) that can be used for these export markets will control *Penicillium* moulds (green and blue mould) but often has little effect on controlling sour rot causing spores of *Geotrichum citri-aurantii*. Packers then frequently ask “what else can we do if we can’t use our regular fungicides?” The alternative choice is to use “friendlier” chemistries or compounds that are “generally recognised (or regarded) as safe” (GRAS).

## What is a GRAS compound?

A compound can be considered as generally recognised as safe if: “there is scientific evidence of safety as determined by competent experts and by published and available safety information” (Food Standards Australia<sup>1</sup>)

GRAS compounds are chemicals that have been used in the food industry for many years. The system of “Generally Recognised as Safe” is used as the benchmark by which all foods are assessed for safety by organisations like Food Standards Australia and the United States of America’s Food and Drug Administration. When a compound is given GRAS designation citrus packers can treat and export their fruit without the restriction of conforming to a Minimum Residue Limit (MRL) that would normally be imposed on fruit otherwise treated with chemical fungicides.

## Using GRAS compounds effectively

GRAS compounds should be seen as yet another weapon in the citrus packer’s arsenal against the development of sour rot. GRAS compounds can fit well into current packaging processes with a number of methods of application available so citrus packers can get the best result for their fruit.

## The effective use of Carbonate Salts

One of the main examples of a GRAS compound being used widely as a replacement for fungicides is that of carbonate salts. We have devoted considerable time in various packer newsletters to both sodium carbonate and sodium bicarbonate as a treatment to reduce the incidence of decay and more specifically sour rot.



The top image shows a single piece of fruit with sour rot developing; the bottom image shows the “nesting” effect sour rot can have in a fully packed citrus carton

Overseas research has shown that carbonate salts are very effective at reducing the incidence of green mould and research we have done here in the SARDI labs has also shown that when carbonate salts are used alone or in combination with imazalil based fungicides a reduction in the incidence of sour rot also occurs. However, there are some important practical issues that packers need to keep in mind when incorporating carbonate salts in their shed:

- Treat fruit as quickly as possible on arrival (ie within 24hrs), this is standard procedure for most sheds, and if treating with carbonate salts, reducing the time between possible infection and treatment becomes crucial for controlling infections of sour rot.
- Sodium carbonate is effective but can be difficult to dissolve and at high concentrations has been known to cause some phytotoxicity so rinsing after treatment with clean potable (or sanitised) water is important.
- Research at SARDI<sup>2,3</sup> has shown that both carbonate salts are effective when heated to 45°C giving the same or better level of decay control when the same concentration was used at 20°C. Limiting the heating temperature to 45°C also ensures that phytotoxicity is unlikely to occur.
- When combining with imazalil based fungicides carbonate salts will raise the pH of a solution, imazalil becomes less soluble in an alkaline environment, so adequate agitation of tanks is needed.
- Carbonate salts are often used by themselves at 3%. If used at rates over this level sodium carbonate has been known to cause fruit weight loss, but if combining with imazalil the concentration can be reduced without compromising efficacy against decay.
- Carbonate salts should be used along side or in combination with imazalil based fungicides for the best protection against all the major citrus pathogens.

For more information on the use of carbonate salts refer to volumes 82 and 85 of the Packer Newsletter.

## References

1. Food Standards Australia (2007) *Novel Food Review*, Final assessment report <http://www.foodstandards.gov.au>
2. Cunningham N M & Taverner P D, 'Efficacy of integrated postharvest treatments against mixed inoculations of *Penicillium digitatum* and *Geotrichum citri-aurantii* in 'Leng' Navel Oranges', *New Zealand Journal of Crop and Horticultural Science*, 35:187–192
3. Cunningham N & Taverner P 2006, 'Can carbonate salts reduce levels of sour rot on citrus fruit?', *Packer Newsletter* 85.

## Reducing the risk of sour rot using sanitisers

When citrus exports to the USA first began in the early 90's, packers were not aware of the impact that sour rot development would have on fruit during long transit times. Left with no adequate fungicides in their packing lines to control this disease, the initial effect was devastating.

Since then, the incidence of sour rot has been reduced significantly through the increased use of sanitisers. Using sanitisers to clean and disinfect equipment and to clean dip tanks and recirculating solutions of sour rot spores had an immediate effect, but there was a number of issues with sanitisers that needed clarification. Below I have attempted to briefly answer these questions but they are more deserving of longer explanations than I have given here!!

*What kind of sanitisers?* There are many available and this topic has been the subject of several Packer Newsletter Articles, the most recent being Packer Newsletter, Vols 78, 80 and 81.

*What concentrations?* Depending on the sanitiser anywhere from 5–200 ppm.

*What's the best part of the packing line to use sanitisers?* Sanitisers are recommended for anywhere where water comes into contact with fruit, dip tanks and recirculating washes are especially important as sour rot spore build up can easily wash on to healthy fruit.

*Is it compatible with fungicides?* Most fungicides have at least one kind of sanitiser it is compatible with although caution is needed when considering mixing; the best decision is to adhere to the label recommendations!

*Do sanitisers have MRL's for our export markets or are they considered GRAS compounds?* Sanitisers are not considered GRAS compounds but are recognised processing aids allowed by food industries. Many countries do not set MRL's for sanitisers. A full list of sanitisers used in citrus packing sheds can be found at: <http://www.apvma.gov.au/index.asp>

All issues of the Packer Newsletter can be found at the SARDI website at [www.sardi.sa.gov.au/index.shtml](http://www.sardi.sa.gov.au/index.shtml) and follow the links to post harvest and supply chain.

---

# Noxious weeds – what are they?

---

*Philip Blackmore, Regional Coordinator (Weeds), Armidale*

The following information has been extracted from Primefact 254 'Noxious weeds or just obnoxious?'

## Introduction

Weeds are plants that cause problems. They cause problems for farmers, for gardeners, for public utilities and for conservation.

Many weeds are little more than a nuisance, while others can cause serious losses to crop and livestock production, threaten ecological communities and harm the health of people. Some significant weeds are required by law to be controlled. These are known as noxious weeds and the law in New South Wales is the Noxious Weeds Act 1993. The Act requires all landholders in a defined area, including local government and state government agencies, to control noxious weeds on land they occupy. It also prohibits the sale of some noxious weeds and the sale of goods contaminated by those noxious weeds.

The term 'noxious weed' is a descriptive title for a legal definition. Weeds declared noxious have a range of characteristics. As well as the potential to cause harm to community and individual interests, they will be controllable by reasonable means but most importantly, they will be likely to spread within an area and to other areas.

Weeds are declared to be 'noxious' under the Noxious Weeds Act 1993 by the Minister for Primary Industries. The Act makes control of most noxious weeds compulsory.

## Externalities and weed spread

Underpinning the Noxious Weeds Act is an economic principle known as 'externality' or 'external cost'. Externalities occur when the actions of individuals impose unintended impacts on others.

When weeds spread to new areas, the landholders in the newly infested areas suffer economic losses because of the weed spread.

State governments in Australia have attempted to manage the problem of weed spread by making law that requires landholders to control particular weeds before they spread to other areas. The Noxious Weeds Act is the current law for managing weed spread in NSW.

## What is the economic effect of noxious weeds?

Noxious weed law attempts to minimise the economic costs associated with weed spread. Weed spread that is unchecked by landholders imposes costs to other landholders. The cost of controlling a plant at an early stage of spread will be an imposition to a few individuals but this is preferable to allowing a far greater burden to be imposed on the community by unrestrained weed spread.

## Many of the weeds that cause the biggest problems are not noxious. Why not?

Most noxious weed species must be controlled by landholders to prevent spread to other properties and to other localities. A noxious weed declaration is most effective at minimising the rate of weed spread if it is made at the early stage of a weed's invasion of an area. However, if there is delay in declaring the weed noxious and it becomes widely distributed before it is declared, further spread of the weed will be more difficult to prevent.

The purpose of noxious weed law is to prevent the creation of external costs caused by weed spread but when a weed species has spread to the point that it occurs on most properties in an area, external costs are no longer being created. It then becomes difficult to justify a legal requirement that landholders must control the weed species in that area, unless the majority of landholders support compulsory control.

## Conclusion

The Noxious Weeds Act 1993 requires landholders to control particular weeds. It also prohibits the sale of particular weeds. The Act may restrict the way individuals choose to manage their land or engage in trade. The purpose of these restrictions is to prevent weed spread and the external costs caused by that spread.

Imposing these restrictions at an early stage in a weed's spread is cost effective and the best use of resources. It minimises the number of individuals who are affected by the weed and also those who are burdened by the compulsory control measures. In so doing, it achieves the best outcome for the whole community.

## Further Information

A full list of noxious weeds and requirements under the NSW Noxious Weeds Act 1993 and a complete list of NSW DPI weed publications can be found at [www.dpi.nsw.gov.au/weeds](http://www.dpi.nsw.gov.au/weeds)

## ***“Citrus Australia Ltd” heralds new industry structure***

Media release, 3 June 2008

**New company “Citrus Australia Ltd” will be set up as a first step towards a staged industry restructure that growers and industry leaders across the country have identified as crucial for the future.**

The Board of Australian Citrus Growers Inc. (ACG) used its 60th AGM on 29 May 2008 to outline a staged approach in which grower industry bodies will be encouraged to move to a single integrated structure.

A single structure model integrates existing state and regional grower organisations and the majority of the state statutory board functions into a new national body that is owned by and accountable to growers for service delivery to benefit growers.

The first stage will be to proceed with the establishment of a new national peak body – Citrus Australia Ltd – on or before the 14th of October, 2008 to replace ACG (subject to delegates voting at a proposed Special General Meeting).

This will include the finalisation of a new Constitution and Implementation Plan. The Implementation Plan, which will include further due diligence in relation to a single structure model and transitional arrangements to ensure continuity of services, will guide industry through the change.

The restructure process is based on the findings of an exhaustive three-year consultative review of the industry’s growth opportunities and grower support structures, as well as independent research by legal and financial experts.

ACG President Mark Chown said Citrus Australia Ltd would have the ability to deliver professional services on a regional, national and global basis. “For the first time, individual citrus growers will own and direct their national body,” Mr Chown said.

Citrus growers will be able to join Citrus Australia direct through an annual voluntary membership fee based on their area (hectares) or volume (tonnes) of production.

Voting will reflect the grower members’ area or volume of production and hence their level of investment in the industry.

Citrus Australia will be governed by a seven person Board of Directors, appointed by grower members through a transparent process based on skills criteria but with a minimum of four grower members and three with commercial or supply chain skills.

The Board could be advised by a set of national issues or variety-based committees, and regional advisory committees/branches where necessary.

“It is essential that we begin to transfer the high costs of duplication and administration into more targeted export, marketing, research and development, biosecurity, supply chain, communication and natural resource management programs supported by a more accountable, flexible and market-focused structure” Mr Chown said.

More information about the legal and financial aspects of the restructure was presented to growers and observers at the AGM, and after considerable discussion, ACG delegates unanimously directed the Board to proceed.

## ***Attention Nadorcott (Afourer) growers – legal access for licensed growers into restricted markets***

Nadorcott is a protected cultivar which is owned by Nadorcott SARL in France. This variety is protected by Plant Breeders Rights in several countries of the world, including European Union, United States of America and the Republic of South Africa. Fruit of this cultivar is commercialised under different trademarks and names: Afourer, ClemenGold, and Delite.

Citrogold a South African Horticultural Intellectual Property management company has the rights to manage the cultivar in several countries of the Southern hemisphere, including Australia, and commercialise all the fruits produced within those territories.

Citrogold has licensed Variety Access Pty Ltd as the Australian Licensee for Nadorcott.

All Australian growers of the variety should therefore have authorisation to grow the cultivar from Variety

Access should they wish to access specific markets. Any trader/marketer who wishes to sell the product should obtain a licence from Variety Access to market fruit to restricted markets. Over and above the commercial rights of Citrogold in respect of growing and marketing the cultivar, in the core markets of the EU and USA these rights are further reinforced with the Plant Breeder Rights and Plant Patent rights.

This proposal is being presented to Australia, Argentina, Brazil, Chile, New Zealand, Peru, and Uruguay and other Southern African countries.

If you are interested in becoming a licensed grower and would like more information on the Australian licensing program for Nadorcott, please forward your contact details back to Wayne Parr of Variety Access Pty Ltd for details.

Variety Access Pty Ltd (ABN: 99 114 570 697)  
P O Box 281, Torbanlea, Queensland, 4662  
Ph: (07) 41 294 147, Fax: (07) 41 294 463, Mob: 0418 862 016  
Email: [ggrove@bigpond.com.au](mailto:ggrove@bigpond.com.au)

## ***Mandatory requirements for moving fruit through Melbourne market***

Source: Department of Primary Industries, Victoria.

This is to inform you of the minimum requirements of the *Plant Health and Plant Products Act 1995* (the Act).

### **Packaging - Section 34**

Fruit, vegetables and nuts must not be packed for sale, unless packages are clean and in good repair.

In addition:

1. Bags and sacks must be free from patches
2. Fibreboard and polystyrene packages must not have been used before or have been reconditioned in accordance with regulations so as to be readily indistinguishable from a package that has not been used before.

### **Labelling - section 35**

Accurate labelling is essential for product description

to facilitate trade and trace back should pest, disease or chemical residue above permissible levels is detected in the produce:

1. The type of produce (nectarines), and
2. in the case of prescribed fruit, vegetables or nuts grown in Australia, the name and postcode of the nearest city or town nearest the locality where the fruit, vegetables or nuts were grown (eg Swan Hill, 3585).

Inspectors of the Department of Primary Industries are responsible for the surveillance of the packaging of produce in the Melbourne Markets and throughout the state.

**Effective immediately: Any person not complying with Section 34 and 35 of the Act will incur a \$550.60 on the spot fine.**

If this fine is not paid within 28 days of notice, a breach of this Section carries a substantial penalty and upon conviction, a Court may impose a pecuniary penalty of up to \$11,012.00.

If there are any further queries please contact the Plant Standards Centre on (03) 8371 3500.

## ***Poultry litter fertiliser option***

Source: *Agriculture Today*, May 2008.

### **Stocking rate up ninefold**

Seven years' application of poultry litter and a program of soil testing have pleased James and Ian Bird on their all beef property near Gresford in the Lower Hunter.

Soil tests have changed from being deficient in all major nutrients to no deficiencies.

"Litter is not cheap per hectare but it is highly effective," James Bird said.

Paddocks which once struggled to run one cow to 2½ hectares on couch and carpet grass dominant pastures, now produce lush ryegrass, clover and kikuyu.

James and Ian now run 60 cows or steers on 16 hectares after litter application and have been cutting up to 16

bales of silage per hectare when they can't keep up with the feed.

Fertiliser alternatives such as poultry litter and manure provide a good option to offset hiked up conventional fertiliser costs.

Poultry litter is bulky and variable but can be very attractive at current prices, provided all its nutrients can be used, says NSW Department of Primary Industries district agronomist at Tocal, Neil Griffiths.

"If a soil test shows that phosphorus and potassium are needed as well as nitrogen, then poultry litter should be costed and compared with the price of superphosphate and urea or other fertilisers delivered and spread on the paddock," Mr Griffiths said.

"Because it is variable, poultry litter must be significantly cheaper than alternatives with a guaranteed nutrient analysis on the label. If the costings look attractive, then it becomes important to spread the litter safely, to minimise any side effects on neighbours or the environment.

"When spreading poultry litter, ensure that dust does not cause problems for neighbours and take care to minimise the risk of nutrients in runoff from the paddock."

The first step in minimising environmental problems is to limit poultry litter to areas needing phosphorus fertiliser.

In the past, poultry litter was used as a nitrogen fertiliser, risking water pollution on some farms through overuse.

Mr Griffiths says if soil tests indicate an area would benefit from poultry litter, then try to spread when runoff from rainfall or irrigation is unlikely.

"Leave a non-fertilised buffer of at least 20 metres around dams and water courses," he said.

"Use litter where groundcover exists in pastures or, if cropping, cultivate it into the soil to further reduce the risk of it washing off paddocks."

Cattle owners must ensure that stock do not have access to poultry litter stacks and must not enter or graze a paddock for at least three weeks after spreading with poultry litter or poultry manure.

They should also vaccinate for botulism to further reduce the risk of animal health problems.

Further information is contained in NSW DPI Primefact 534 'Best practice guidelines for using poultry litter on pastures'.

For more information contact Neil Griffiths (District Agronomist), Paterson, (02) 4939 8948, [neil.griffiths@dpi.nsw.gov.au](mailto:neil.griffiths@dpi.nsw.gov.au)

## ***NSW Government strengthens exotic disease response laws in the wake of Equine Influenza (EI)***

**Media release, 19 Jun 2008**

The Lemna Government will make sweeping changes to laws that govern the State response to exotic disease outbreaks like horse flu, foot and mouth disease and mad cow disease, Minister for Primary Industries Ian Macdonald said.

"The NSW response to EI was swift and highly effective, but these changes will further improve the response to any future emergency disease outbreak," he said.

"The changes to the Exotic Diseases of Animals Act 1991 that went through the Lower House yesterday, will further improve the speed and effectiveness of our response to exotic and emergency disease outbreaks," Minister Macdonald said.

"We are streamlining the response and taking precautionary action early to make sure we are ready in the event a devastating exotic disease makes its way onto our shores.

"This means extending the reporting duty of private veterinary practitioners of suspected infection and providing additional powers to prevent the spread of diseases.

"Compensation arrangements will be clarified, new offences will be introduced for providing false or misleading information (maximum of \$22,000 or six months in prison) and provision for issuing penalty notices for minor breaches of the Act will be introduced."

Mr Macdonald said the State Government will extend the limitation period for commencing prosecutions under the

Exotic Diseases of Animals Act 1991 and the following Acts from six months to two years:

- Apiaries Act 1985
- Exhibited Animals Protection Act 1986
- Non-Indigenous Animals Act 1987
- Noxious Weeds Act 1993
- Plant Diseases Act 1924 and
- Stock Diseases Act 1923.

"These changes will bring NSW into line with national emergency disease management," Minister Macdonald said.

"We need to be vigilant and take all precautionary measures we can to prevent disease reaching our shores and containing any outbreak in the unfortunate event one occurs."

## ***Details of national review of drought policy released***

**Media release, 19 June 2008**

The Rudd Government has released the terms of reference for the three separate investigations which form the national review of drought policy.

The three parts of the review are:

- An economic assessment by the Productivity Commission;
- An assessment of the social impacts of drought by an expert panel; and
- A climatic assessment by the Bureau of Meteorology and the CSIRO.

Minister for Agriculture, Fisheries and Forestry, Tony Burke, said he expected to receive the Bureau of Meteorology and CSIRO report in the next month and the two other reports later in the year.

"This is another important step forward in the Government's efforts to ensure drought policy meets the future needs of our farmers in a changing climate," Mr Burke said.

"The Rudd Government is determined to support our farmers to build even more competitive, productive agricultural industries.

"Unless we change the system, farmers may not qualify for future drought support under current definitions because droughts may no longer be something that occur only every 20-to-25-years.

"There are also concerns about the current process of drawing lines on a map as the first step in defining who is eligible for drought assistance, which can exclude farmers in need of support.

"The drought policy review will complement other initiatives such as the \$130 million Australia's Farming Future package which will increase on-farm preparedness, boost research and provide more professional advice and training to primary producers."

Terms of reference for the three assessments were developed in consultation with state and territory governments and relevant Commonwealth agencies.

Mr Burke recently announced the members of the expert panel for the social review, which will be chaired by AgForce Queensland chair Peter Kenny.

The panel will visit rural communities to hear first-hand how the drought has impacted on them.

For more information on the drought policy review, go to [www.daff.gov.au/agriculture-food/drought](http://www.daff.gov.au/agriculture-food/drought), or free call 1800 200 876.

## ***State Government to modernise Rural Land Protection Boards (RLPB) system***

**Media release, 18 June 2008**

The Iemma Government will modernise the State's Rural Land Protection Boards – including consolidating the number of boards from 47 to 14 – after adopting a series of recommendations contained in an independent report.

Primary Industries Minister Ian Macdonald announced the modernisation plans, which have been supported by the RLPB State Council, at the Rural Lands Protection Board Conference in Coffs Harbour.

“The State Government will support the recommendations and embark on a path to reform and modernise RLPBs in a way that meets the interests of the State’s 138,500 RLPB ratepayers and RLPB frontline workers,” Mr Macdonald said.

“Today I have unveiled a series of sensible changes to secure the future viability of the RLPB system and renew its purpose and relevance across the rural sector.

“Frontline staff such as rangers and vets will not be affected by the change - and there will be careful consultation with workers and Unions involved on the proposed changes.

Major changes include:

- The number of RLPBs will change from 47 to 14 with new clearly identified boundaries;
- Creating a State Board of Management to replace the State Council of RLPBs;
- Forming a new policy making forum known as the State Policy Council; and
- Restructuring election, selection, membership and appointment processes for boards.

“This is in response to the Independent IMC Report on the future of the organisation which was commissioned by RLPB State Council and presented to the Government seeking immediate action,” Mr Macdonald said.

“I stress that these changes do not affect frontline services of RLPBs, but rather at reducing costs and streamlining the organisation’s governance functions.

“RLPBs have existed in one form or another in NSW since 1863 and play an important role in animal disease control and surveillance, pest and insect management, travelling stock and pest animals - they will continue to do so.

“The reform process is designed to provide a more efficient, effective and modern world-class service that better addresses the changing needs of our farming community and rural landholders in general, especially in the area of animal health management and biosecurity.

Visit the RLPB website for more information at [www.rlpb.org.au](http://www.rlpb.org.au)

## ***\$46.2 million to help farmers adapt to climate change***

Media release, DAFF08/5B, 7 July 2008

The Rudd Government has committed \$46.2 million for a new Climate Change Research Program to help prepare Australia’s primary industries for climate change by closing gaps in research and development.

The new fund is part of the \$130 million Australia’s Farming Future initiative, announced in the Federal Budget to ensure our \$38 billion agricultural industries are resilient into the future.

The \$46.2 million program is a significant boost in research and will target three key priorities:

- Reducing greenhouse pollution
- Better soil management
- Adapting to a changing climate

It follows the release of a joint report by the CSIRO and Bureau of Meteorology showing that in the worst scenario droughts could occur twice as often and cover twice the area.

The report found there was a need for better ways of getting information about climate change preparedness to farmers.

In December last year, ABARE released a report showing Australian production of key commodities could fall by up to 10% by 2030, worth around \$4.2 billion in today’s terms, if we fail to act on climate change.

The \$46.2 million Climate Change Research Program will support research with an emphasis on showing how it can be applied on the ground in agriculture, fisheries, forestry and food industries.

Research which could be funded includes how carbon is stored in soil, new technology, helping primary producers reduce greenhouse pollution and improving productivity in response to climate change.

Specific projects could include research to reduce methane emissions from cattle by changing the animals’ diet or breed, or even by immunising against methane-making microbes.

# News in Brief

Expressions of interest will be called shortly for collaborative research proposals which help primary producers to reduce emissions and adapt to climate change.

Large-scale collaborative research proposals covering multiple industry sectors will be encouraged, including partnerships between research providers and farmers using new technology on their properties.

“The Rudd Government is serious about addressing the challenge of climate change and working with our primary industries to prepare them for the future,” Mr Burke said.

“Research and development will be essential to boost productivity and global competitiveness, while ensuring

our primary industries are resilient in the long-term.

“As the CSIRO and Bureau of Meteorology report showed, failing to act on climate change could be catastrophic for those working in our farming, fisheries, forestry and food industries.”

## For Sale

### *Cold dip tank and creepfeeder*

Built by KW Engineering  
Both in good condition

Phone Andrew on 0412 092 603

## Other newsletters on the DPI website

Available at [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

- Aquaculture News** A biennial newsletter that reports aquaculture industry information, including research results, policy directions, news and events.
- ASSAY Newsletter** ASSAY is a national, quarterly newsletter about current acid sulfate soil issues. It is funded by the Federal Government’s Natural Heritage Trust.
- Beef News** Regional newsletters for beef cattle producers in NSW.
- Dairy News** A quarterly newsletter containing the latest information and news for the dairy community.
- NSW Flower News** Provides research updates, flower industry news, pests and pesticides news and details of upcoming events. Issued twice yearly.
- Lettuce Leaf** Information on all aspects of the lettuce industry. Produced six times a year by the National Vegetable Industry Centre.
- Organic News** Provides research results, field day reports and other information relevant to organic agriculture, including news, publication, commentary and events. Issued monthly.
- NSW Vegetable IPM Newsletter** Integrated Pest Management newsletter for insects and viruses in Sydney vegetables.
- Vegiebites** A newsletter produced by the National Vegetable Industry Centre at Yanco. Includes information on trials, insect pests, vegetable plant diseases, workshops, conferences and other aspects of the vegetable growing industry.

# What's new on the web

## **Healthy Soils – an Australian Government initiative**

<http://www.healthysoils.gov.au>

The Healthy Soils for sustainable Farms Programme is a wide-ranging, \$5 million programme that covers a variety of agricultural sectors across almost all the states of Australia.

The current range of agricultural industries involved in the Healthy Soils for Sustainable Farms Programme includes: grain and crops, cotton, sheep and wool, sugar, vegetables, organics. The scale of the projects supported ranges from multi-state projects to catchment-focused initiatives. Some projects are taking highly sophisticated, multi-factored approaches. Others are delivering simple, kick-the-earth guides. All have a valid role in ensuring the ongoing productivity of Australia's precious soil heritage.

The website includes information from projects, newsletters and conference proceedings.

## **The Living and Working in Rural Areas handbook**

[http://www.dpi.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0018/208530/Living-and-working-in-rural-areas-complete.pdf](http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0018/208530/Living-and-working-in-rural-areas-complete.pdf)

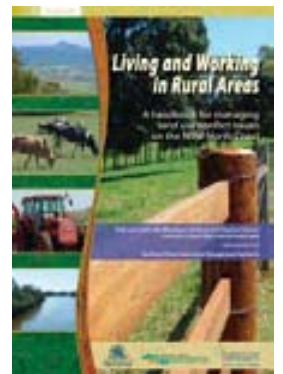
The Living and Working in Rural Areas handbook is a practical reference containing tools, resources and checklists aimed at reducing and avoiding rural land use conflict and pressures on key natural resource assets on the NSW North Coast.

The handbook which is a joint initiative of NSW Department of Primary Industries and Southern Cross University in partnership with the Northern Rivers Catchment Management Authority and funding support from the Natural Heritage Trust reinforces the richness of our rural areas and the diversity of people and land uses that share these areas.

There are seven sections to the handbook reflecting the range of strategies to manage land use conflict issues and the wide cross section of people with an interest in these issues including rural residents, farmers, rural industries, local and state agencies, consultants, real estate agents, environmental groups and organisations involved in natural resource management.

The Living and Working in Rural Areas handbook is available for download below in full or in sections. The book contains the following chapters:

- [Introduction to land use conflict \(Chapter 1\)](#)
- [Buying and living in a rural area \(Chapter 2\)](#)
- [Rural land use and duty of care \(Chapter 3\)](#)
- [Common questions and answers \(Chapter 4\)](#)
- [Land use planning principles \(Chapter 5\)](#)
- [Development guidelines \(Chapter 6\)](#)
- [Dispute resolution \(Chapter 7\)](#)



## **Rural Residential Living Guide**

<http://www.ruralresidentialliving.com.au/index.html>

This Guide has been developed especially for those living on rural residential properties. It aims to bring together in one central location a range of useful information and resources to assist you to enjoy the rural lifestyle you have chosen and to achieve the personal goals you have set for your property. These could include raising livestock, keeping horses, growing your own food or recreating your own personal patch of the Australian bush. In particular, the Guide aims to assist you in ensuring that these activities complement the natural environment and community in which you live.

This Guide therefore brings together for you a range of existing information and resources to assist in implementing activities that may be suited to your property. It will also assist in understanding and addressing the many land management issues and challenges that you may face. The resources included in the Guide have been developed by a range of government agencies, local councils, community organisations and others, however have not previously been brought together in one readily accessible location.

# What's new in publications

## ***Review of the Declaration of Lantana species in New South Wales***

This review has been prepared by Dr Stephen Johnson and looks at the basic biology and management of Lantana species in NSW. To view this publication go to: <http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds>

Printed copies can be ordered through the NSW DPI Bookshop on 1800 028 374.

## ***'The introduced flora of Australia and its weed status'***

Every introduced plant species, past and present, in Australia is listed in this publication, with information on its weed status here and worldwide. To view this publication go to: [http://www.weeds.crc.org.au/weed\\_management/intro\\_flora.html](http://www.weeds.crc.org.au/weed_management/intro_flora.html)

## ***Using gibberellic acid (GA) sprays on navel oranges Primefact 800, June 2008***

Available at the NSW DPI website at [www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au) and follow the links to the citrus page.

# What's on

## ***21-25 September 2008 – World food exchange, South Australia***

In a South Australian first, World Food Exchange will be held from 21-25 September 2008. This event is a unique symposium for anyone involved in the business of producing or providing sustainable food and wine and an interest in delivering high quality tourism experiences. The event showcases elements of the State's world class ecologically sustainable primary produce industries and culinary tourism experiences. For more information visit [www.worldfoodexchange.com](http://www.worldfoodexchange.com) or contact Jan Douglas on (08) 8463 4650.

## ***13-15 October – Australian Citrus Industry Conference, Griffith, NSW***

For more information go to the ACG website on [www.australiancitrusgrowers.com](http://www.australiancitrusgrowers.com)

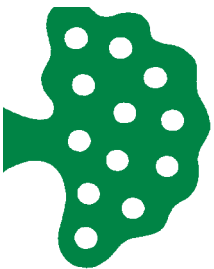
## ***26-30 October – 11th International Citrus Congress, China***

Form more information to go <http://icc2008.hzau.edu.cn/index.html>

## ***26-28 November 2008 – Agri-Food XV Conference, University of Sydney***

For more information go to the Conference website [http://www.geosci.usyd.edu.au/news\\_events/afrn08/index.shtml](http://www.geosci.usyd.edu.au/news_events/afrn08/index.shtml) and follow the prompts.

Print Post Approved  
PP255003/00759



# 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  
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.

PRINT  
POST

PP 255003/00759

POSTAGE  
PAID  
AUSTRALIA

Editor - Sandra Hardy  
NSW Department of Primary  
Industries

GHI Locked Bag 26

Gosford NSW 2250

Ph: 02 4348 1900

Fax: 02 4348 1910

email: [sandra.hardy@dpi.nsw.gov.au](mailto:sandra.hardy@dpi.nsw.gov.au)