

*The Taste of Spring*

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**LOW CHILL**

**STONE FRUIT GROWER**

No 2/05 – July 2005

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*The official newsletter of Low Chill Australia Inc, the industry body representing the interests of low-chill stone fruit growers*

***Your Industry Needs Your Support***

**LCA membership subscriptions for 2005/06 are now due, \$110 for growers, and \$275 for corporate membership (including GST).**

*Advertising* rates in this newsletter are very reasonable and provide a cost effective way of informing members about your products and services.

Please contact the LCA Communications Manager Peter McFarlane on mobile 0418 839 836 or email [peter@mc.com.au](mailto:peter@mc.com.au) concerning your particular requirements.

***In this edition*** – coming events, new corporate members, SAL update on packaging issues, APVMA and EPA updates, pruning field day tip sheet, and information from the low-chill phenology seminar.

***News Flash - ICA 21 to continue***

With the positive outcomes from last season's ICA 21 trial and the receipt of supportive documentation provided by DPI Victoria regarding their sampling intensities, we are advised that David Cartwright, SA Manager Plant Health, has approved the future use and acceptance by PIRSA of ICA 21 for low-chill stone fruit entry into South Australia.

During the trial, several consignments of low-chill peach and nectarine were received at Adelaide Produce Markets. All consignments were inspected by PIRSA's market inspection

staff at the international sampling rate for evidence of fruit fly. During the course of these inspections no evidence of fruit fly was detected and no other non-conformances relating to packaging, labelling and certification were evident.

***Diary Notices***

***Field Day (see notice on page 17)***

**Robert Clisdell's orchard, 713 Friday Hut Rd via Bangalow, NSW**

**Wed 20<sup>th</sup> July, from 10am to 1pm.**

The field day will cover flower and fruit thinning and crop load, plus a demonstration of nutrition software and chill unit software, and sponsor presentations by BCU and Agrichem.

*RSVP to Phillip Wilk by Monday 18<sup>th</sup> July on (02) 6626 2400, for catering purposes*

***Plant Breeder's Rights: Intellectual Property Issues for Horticulture Industries Seminars***

[http://www.acipa.edu.au/frame\\_seminars.html](http://www.acipa.edu.au/frame_seminars.html)

The Australian Centre for Intellectual Property in Agriculture (ACIPA) in conjunction with Horticulture Australia Limited (HAL) are holding a series of free seminars to provide growers with the opportunity to learn about relevant intellectual property issues in particular, plant breeder's rights, end point royalties and contractual issues.

**NSW - Alstonville - Centre for Tropical Research**

**Tuesday 19<sup>th</sup> July 2005, from 10.00am to 12.30 pm**

(Further information is provided on page 6, registration form also enclosed)

***Advance Notices***

LCA Field Days / Seminars in planning are:

- A low-chill new variety showcase for October 2005.
- A season debrief and seminar on new varieties and rootstocks for Dec. 2005
- A stone fruit nutrition workshop for early in the New Year.

***For Sale***

**KW Weight Grader - 6 bin circular as new \$10,000. Contact Alan Mathison on 02 6684 2147, or 0439 842 179**



### *The Taste of Spring*

#### **Low-chill Australia Inc Committee - Update**

##### **LCA Communications Manager re-appointed**

Peter McFarlane of *McFarlane Strategic Services* has been reappointed for a further 12 months as LCA Communications Manager.

Peter will continue to produce the LCA Newsletter, manage LCA membership, and assist the LCA Committee with the organization of special publications, events and projects.



*Peter McFarlane*  
*McFarlane Strategic Services*  
33 Phillips St, Somerton Park SA 5044  
Phone: 08 8376 2161  
Phone/Fax: 08 8376 7048  
Mbl: 0418 839 836  
Email: [peter@mc.com.au](mailto:peter@mc.com.au)

##### **Update 2006**

The LCA Committee has resolved to commence planning for *Update 2006*, proposed for April / May 2006 at Ballina.

It is suggested that the program include a profile on the South African industry, have longer session breaks for networking, and more sessions "in field". LCA Membership comment and suggestions on the *Update 2006* proposal are most welcome.

##### **Low-chill variety commercialization strategy**

The LCA Committee is advised that several marketing groups have expressed interest in the new low-chill varieties that are soon to be released from the QDPIF low-chill stonefruit breeding program.

The LCA Committee has expressed its strong view that given all growers have contributed funds to the QDPIF breeding and evaluation program, all growers must have access to these new varieties.

In discussion it was noted with regret that some overseas bred low-chill varieties have been locked up by marketing groups, to the disadvantage of the low-chill industry.

##### **Innovation Research (Plowman) Report**

The LCA Committee discussed the following key issues from the report:

*The need to increase expenditure on low-chill R&D* – Considerable concern was expressed by the Committee at the apparent and increasing remoteness of the Summerfruit IAC from industry and its needs, with only 2 growers now sitting on this body. There is no longer a low-chill industry representative on the Summerfruit IAC.

The Committee believes there is now a reduced value proposition to the low-chill sector, based on current levy funded programs. It was noted that SAL is required to consult with industry on these programs, however concern was expressed that levy funds are being wasted flying SAL directors to meetings around the country.

*The need to increase expenditure on low-chill promotions* – It was noted that the supermarkets now regard low-chill stonefruit as a separate category from high-chill. Committee members continue to be concerned that low-chill stonefruit also misses out on the industry levy funded promotional activities.

It is suggested that LCA would be better off to work with the Melbourne Summerfruit Marketing Committee to undertake future low-chill promotions.

The LCA Committee is now seeking to meet with SAL to review current industry levy funded R&D and promotions programs, and its application to meeting current and future low-chill industry needs

### **LCA Management Committee 2005**



*LCA Committee meets at Bangalow (left to right), Bill Hatton, Phil Stacey, Robert Clisdell, Glenn Dascombe, Graham Francis, Dennis Dugdell, Ray Hick.*

- President: Bill Hatton  
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Mbl 0416 157 434  
[edenwjh@nor.com.au](mailto:edenwjh@nor.com.au)
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[blackboy.ridge@uq.net.au](mailto:blackboy.ridge@uq.net.au)
- Secretary: Ray Hick  
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Ph 02 6687 2044  
Fax 02 6687 2145  
[hvfarms@bigpond.com.au](mailto:hvfarms@bigpond.com.au)
- Treasurer: Robert Clisdell  
713 Friday Hut Rd,  
Binna Burra NSW 2479  
Ph 02 6687 2988  
Mbl 0402 326 629  
[clisdell.rm@bigpond.com.au](mailto:clisdell.rm@bigpond.com.au)
- Committee Members  
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### **Vale - Helen Hick**

It is with much sadness that we report the passing of Helen Hick beloved wife of LCA secretary Ray Hick.

Helen and Ray moved to Bangalow in 1997 where they took over a mixed orchard with citrus, macadamia and low chill stone fruit, and established Heavenly Valley Farms.

Helen most unfortunately was diagnosed with cancer in the year 2000, and Helen and Ray fought hard to beat the disease, but recently lost her battle. Having been released from the pain and suffering endured over recent months, Helen will be sadly missed by all and fondly remembered by family and friends.

I am certain that all members of LCA join with me to offer our sincere condolences, friendship and support to Ray at this most difficult time.

*Phillip Wilk*

*NSW DPI, for Low-chill Australia Inc.*

### ***LCA Corporate Members***

A very warm welcome to our new corporate members:



#### **AUSTRALIAN PRIMARY SUPERANNAUTION FUND**

Australian Primary is the largest primary industry superannuation fund for rural and regional Australians.

Australian Primary's purpose is to meet retirement savings and associated insurance needs of the large segment of the Australian population located outside the major cities – people who often feel disadvantaged by distance and under-served by providers. The fund exists primarily as an industry superannuation fund for sponsoring employers operating in agriculture, horticulture, seafood and other rural and regional enterprises.

Members of Low-Chill Australia may already be familiar with HortSuper. In 2004 HortSuper became part of Australian Primary, and now offers its members the strength, security and service that members of Australian Primary have enjoyed for many years.

For more information about Australian Primary, or any superannuation issues that may affect your business, call our Regional Manager Paul Meredith on 0407 777 449.

Australian Primary Superannuation Fund is issued by Farm Plan Pty Limited (ABN 81 067 241 016, AFSL 219723). A Product Disclosure Statement is available from the issuer. You should consider the Product Disclosure Statement in deciding whether to acquire, dispose of or continue to hold, this product.
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*Let's talk banking*

#### **BCU - THE FARMER'S FINANCIAL FRIEND**

BCU – your Community Credit Union is a leader in Agribusiness financing because it understands the needs of the land and farmers.

Of course, you would expect that a Credit Union founded over three decades ago by a go-getting group of banana growers would have a strong agri-business focus. BCU has long provided the rural farming community with a complete rural finance package including; credit facilities, leasing options, Farm Management Deposits, Rural Insurance, Rural Investment advice and Internet and Phone Banking services. Furthermore, BCU continues to maintain its rural focus by committing to keeping rural Branches operational.

Your local Agri Business Manager, Peter McAuliffe, has over 20 years experience in the finance industry and has had a lifelong association with the farming community. Over the years he has assisted members with their finance requirements in the Dairy, Macadamia, Cattle, Horticulture, Stone Fruit and Tropical fruit industries.

As a key part of BCU's Mobile Lending Service, Peter spends much of his time with Members at their farm. He manages relationships with both BCU's larger and smaller rural members and can advise on a range of rural finance packages up to \$4 million, including overdraft and term loan facilities.

Contact Peter McAuliffe on 0417 462 705, or phone BCU's Sales and Service Centre 1300 228 228.
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### **BLACKBOY RIDGE**

Blackboy Ridge (BBR) is a group of 25 growers growing a range of fruit products. The brand has been developing over the last 6 years and now provides fruit to the market almost continuously throughout the year. Low chill stonefruit is our core business and we currently produce, pack and market 250,000 trays per season.

Blackboy Ridge also has a state of the art packing facilities situated at the Forestry Road property. The packing shed currently packs for 25 growers, and has the ability to pack stonefruit, persimmons, citrus fruits, mangoes, avocados and kiwifruit.

Consistent fruit quality is vital in achieving group success. This is why Blackboy Ridge was the first low chill stonefruit grower to achieve SQF 2000 accreditation.

Blackboy Ridge is the holder of SQF 2000 Quality Assurance Certification and is accredited under the Woolworth's Vendor Quality Management System.

Blackboy Ridge is also looking for new members - visit the web site for further information: <http://www.blackboyridge.com>

<p><b>Contact:</b> Mr. Ross Stuhmcke, Blackboy Ridge Pty Ltd, Forestry Road, Gatton QLD 4343 <b>Phone:</b> 07 5462 5202, <b>Fax:</b> 07 5462 5333, <b>Mobile:</b> 0413 179 133, <b>Email:</b> <a href="mailto:contact@blackboyridge.com">contact@blackboyridge.com</a></p>
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### **SUMMERLAND FRUIT PACKERS**

House With No Steps Summerland Region Established in 1971, Summerland House is nestled amongst 69 hectares of fertile farmland on the lush North Coast of NSW and is situated on the Alstonville Plateau between Lismore and Ballina.

The project currently provides vocational training and employment for almost 60 people with disabilities in its business areas of avocado and macadamia nut farming, tropical fruit packing, restaurant and hospitality services, retail nursery, macadamia dehusking services, garden maintenance and office administrative services. It also provides assessment and training for life skills such as budgeting, hygiene, travel and home duties.

The fruit packing area provides training and employment in tropical fruit packing and transportation. Fruit is graded, packed and sent to market for Summerland House and many local growers.

Tourism also plays a very big part here, with over 45,000 people visiting the project annually. A visit to Summerland has become 'a must', with travellers enjoying the gardens, visiting work areas and dining in the restaurant. Next time you are up our way, make sure you spend some time with us, to see the beauty of our projects and meet our people.

<p><b>Address,</b> 253 Wardell Road, Alstonville, NSW, 2477. <b>Phone,</b> 02 6628 0610. <b>Fax,</b> 02 6628 3718. <b>Email,</b> <a href="mailto:shwns@shwns.com.au">shwns@shwns.com.au</a> <b>Web,</b> <a href="http://www.hwns.com.au/">http://www.hwns.com.au/</a></p>
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### **Plant Nutrition for Professional Growers**

Plant nutrition has changed considerably since the days when farmers simply applied bulk fertiliser in the hope it would lead to greater crop yields. For more than 20 years Agrichem has partnered with government departments, agronomic organisations and professional growers around the world in extensive research and trial programs to unlock the complexities of plant nutrients. As a result of this research, professional growers no longer use a “one size fits all approach”; instead they follow a specific program targeted to crop growth stages and deficiencies.

Agrichem understands that each crop type needs a precise proportion of the major and minor elements at different growth stages in order to achieve its best potential. The crop’s nutrient needs are also affected by local climate and soil type. Agrichem’s crop nutrition liquids combine major and trace elements in high concentration, liquid solution and suspension formats which facilitate immediate and total uptake by the plant.

Agrichem’s tailored Plant Nutrition Programs are designed to promote healthy growth and enhance yield improvement. We also provide specialised programs to rectify the effects of nutrient deficiency or to correct problems caused by soils and other environmental factors.

Agrichem is a world leader in the development, manufacturing and distribution of plant nutrition solutions and disease control products.

<p><b>Contact:</b> Matthew Holmes, Agrichem’s QLD Regional Manager <b>Tel:</b> 07 3264 7086, <b>Mbl:</b> 0412 706 926, <b>Email:</b> <a href="mailto:matthewh@agrichem.com.au">matthewh@agrichem.com.au</a> , <b>Web:</b> <a href="http://www.agrchem.com.au/">http://www.agrchem.com.au/</a></p>
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### ***Plant Breeder's Rights: Intellectual Property Issues for Horticulture Industries Seminar***

**NSW - Alstonville - Centre for Tropical Research**

**Tuesday 19<sup>th</sup> July 2005, from 10.00am to 12.30 pm**

*(Registration form enclosed)*

[http://www.acipa.edu.au/frame\\_seminars.html](http://www.acipa.edu.au/frame_seminars.html)

The Australian Centre for Intellectual Property in Agriculture (ACIPA) in conjunction with Horticulture Australia Limited (HAL) are holding a series of free seminars on intellectual property issues for growers to be held in various districts throughout 2005.

Recent developments in intellectual property, particularly in the area of plant breeder's rights, are having more and more impact on the horticulture industry.

New varieties are now commonly protected by plant breeder's rights, leading to more growers having to pay tree and/or end point royalties to breeders.

Growers are also being presented with contracts that give intellectual property

owners additional rights. These threaten the ability of growers to save propagating material and seed. They also often provide owners with rights to enter onto property to search and seize for breaches of intellectual property.

These free seminars will give growers the opportunity to learn about relevant intellectual property issues in particular, plant breeder's rights, end point royalties and contractual issues.

**To register** please fax or mail a completed registration form to:

*Carol Ballard  
Australian Centre for Intellectual Property in Agriculture  
Griffith Law School, Griffith University  
Nathan QLD 4111  
Fax: 07 3875 5511*

### **Seminar Enquiries**

ACIPA  
**Phone:** 07 3875 7772  
**Email:** [acipa@griffith.edu.au](mailto:acipa@griffith.edu.au)



### **National Packaging Workshop Report**

Robert Clisdell (LCA committee member, and Sal director), has provided the following update on the recent National Packaging Workshop, "Black Boxes" and Returnable Plastic Crate (RPC) issues:

At the workshop, in principle agreement was reached on national standards covering the following issues:

- **Box** - Colour, footprint, height, security, compliance, RPC compatibility and temperature
- **Liner** - Footprint, colour, stock run out, size and depth
- **Label** - Clarity and consistency of information
- **Weight/Cost** - Tiered weight during season, costing, minimum weight product dependant, communication, labour cost, standard weight/size by product and OH&S

### **2005 PROPOSED NATIONAL PACKAGING STANDARDS**

#### **BOXES**

##### **Colour**

- Black

##### **Standard footprint**

- 6 per layer footprint as per Standard 576 x 384
- 12 per layer footprint 384 x 288

##### **Standard heights**

- Height of containers not relevant, height variations will be accepted by marketplace

##### **Product security**

- Lids are not an issue, products will be accepted with or without lids
- Preference for no lids

##### **Compliance**

- Brand packaging with logo to indicate compliance with standard

##### **RPC compatible**

- Compatible in terms of footprint
- Mixed options according to the retailer of your choice

##### **Temperature**

- Need for work

#### **LABELS**

##### **Clarity/consistency of info on labels**

- Working group to be identified to then gather common information required on label - grower names, weight count, etc
- Look at specialist information required
- Ensure all legislated requirements are met
- Truth on labelling
- Working Group
  - Ken Walton, Compass Labels
  - Bruce Mackie, DPI
  - Graham Honeywell, Coles QC
  - Heather Chong, SAL
  - Mark Kelly, NFM
  - Woolworths
  - Freshcare

#### **WEIGHTS / COSTS**

##### **Tiered weight during season i.e. 5kg 6kg**

- Consult with Industry to decide on dates when adoption should take place

##### **Costings**

- DC handling, Transport efficiencies
- Pallet weight/height
- Start at DC to identify requirements and negotiate outcome.

##### **Minimum weight product dependant**

- Should be determined by dimension of 6 per layer

##### **More transparent, open communication**

- Involve peak industry bodies and key stakeholders

##### **Cost of labour**

- Benchmark to identify where costs can be minimised and report to industry

##### **Standard weight or size for each product**

- Issue that market will indicate

##### **OH&S Issues – max weight**

- Government legislation will determine, recommend abolish packaging beyond current legislation

- Requirements for flexibility RPC and cardboard Packers should not be excluded from cardboard if plastic not available

## LINERS

### Liners

- Footprint *waiting for info*
- Colour – Black plastic, neutral in cardboard. Specifically NOT white
- Pulp liners will be neutral
- Blue stock will be accepted until stocks run out

### Standard sizes

#### Stonefruit (Plastic/Cardboard)

- 22 with mm range
- 25
- 28
- 30 variation
- 33
- 35
- 39
- 42
- 45
- 50/51
- 54/55
- Cardboard Bulk 5kg Apricots 12 footprint
- Cardboard Bulk 13kg Nectarines/Peaches (140mm depth box) 6 footprint
- Cardboard and RPC 5kg Plums 12 footprint
- RPC 13kg Plums (late season fruit) 6 footprint
- Cardboard by set weight 5kg Peaches/Nectarines (NOT cup diameter) 6 footprint
- Volume fill RPC 12kg Peaches/Nectarines 6 footprint
- Row or tray packed RPC 10kg Peaches/Nectarines 6 footprint

### Size, depth

- Liner dimensions of Chep are equal to the internal dimensions 577 x 385

Full details of these specifications are available on the SAL Website - <http://www.summerfruitaustralia.com.au> . It is envisaged that a complete set of National Standards will be adopted by the end of June this year.



### *Australian Pesticides and Veterinary Medicines Authority - Update*

APVMA has provided the following update on its Existing Chemical Review Program (ECRP) of relevance to low-chill growers:

#### *Carbaryl*

Currently the OHS assessment for the agricultural products is being completed and as is the normal process it will be considered by the data owner in the first instance, the report will then be incorporated into an APVMA report.

In regard to use of carbaryl on stone fruit at different times during the year, this has been considered in regards to residues in fruit and it is more than likely that the recommendation will be to retain the use of carbaryl on stone fruit for periods where there is no fruit on the trees, this would include flowering. We cannot completely confirm this at present or the exact time frames for use as the report is still pending.

It is possible that there will be two reports for carbaryl one report will just consider the home garden and home veterinary uses, with the second report considering the agricultural uses. We will keep you updated with any developments and ensure that you are involved if industry input is required.

#### *Fenthion.*

The review of fenthion has been divided into two parts, the first part is assessing the non food uses of fenthion and the second part is looking at the food uses. The non food use report will be released for comment first.

The food uses assessment will take longer as there is more information to consider. As for carbaryl we will keep you up to date with any information regarding the food use report for fenthion and involve you in any industry consultation. At this stage we expect it will take some time before this assessment is ready for draft release.

### **Dimethoate**

The assessment for this review is currently being undertaken, there was considerable data submitted and as a result we expect it will be some time before it is completed.

In regard to dimethoate and fenthion, the APVMA is aware that these two chemicals are used by growers in the stone fruit industry and also that there are limited alternatives. The APVMA will involve industry in consultation regarding any recommendations for both chemicals. As identified above, at this time there has been not assessments completed for either fenthion or dimethoate and as such no recommendations have been considered.

*Liesl Schiller*  
*Pesticides Review*  
*Australian Pesticides & Veterinary Medicines Authority*  
*Ph: (02) 6272 5521*  
*email: [liesl.schiller@apvma.gov.au](mailto:liesl.schiller@apvma.gov.au)*

### **APVMA**

The Australian Pesticides and Veterinary Medicines Authority (APVMA) is an Australian government authority responsible for the assessment and registration of pesticides and veterinary medicines and for their regulation up to and including the point of retail sale.

*For further APVMA information and announcements visit: <http://www.apvma.gov.au>*



### **NSW Compulsory Training In Pesticide Use**

We are writing to remind you that the *Pesticides Amendment (User Training) Regulation 2003* (the Regulation) requires that **from 1 September 2005** anyone who uses pesticides as part of their business or their job must be trained in the safe use and handling of pesticides. This includes farmers, market gardeners, flower growers, nursery operators, landscape gardeners and greenkeepers.

Pesticide users who have not completed

compulsory training in pesticide use will risk a \$400 fine. Penalties also apply for engaging a person to use pesticides if the person does not have the training required by the Regulation.

There is a range of training available to suit all types of pesticide users. In most cases, the training involves a two-day course, based on the National Agriculture and Horticulture Training Packages.

You can also become qualified by demonstrating to a registered training provider that you know how to use pesticides in your job or business.

Information on training courses, providers and assessors is available from:

- **ChemCert (NSW) Ltd**  
Phone: (02) 9387 4714  
Website: [www.chemcert.com.au](http://www.chemcert.com.au)
- **NSW Agriculture**  
Phone: (02) 6391 3317  
Website: [www.lg.tafensw.edu.au/smarttrain](http://www.lg.tafensw.edu.au/smarttrain)
- **TAFE NSW**  
Phone: (02) 6393 5900  
Website: [www.lg.tafensw.edu.au/smarttrain](http://www.lg.tafensw.edu.au/smarttrain)
- **Arilan Training**  
Phone: (02) 4928 4008  
Email: [arien.triggs@arilan.com.au](mailto:arien.triggs@arilan.com.au)
- **GM Rural Training**  
Phone: 1800 444 228 or (02) 6658 1894  
Website: [www.gmtraining.com.au](http://www.gmtraining.com.au)

Further information is available at [www.environment.nsw.gov.au/pesticides](http://www.environment.nsw.gov.au/pesticides).

If you have any questions about the training regulation or would like copies of an information brochure, please contact Ms Kate Snow at DEC on (02) 9995 5796 or via email at [kate.snow@environment.nsw.gov.au](mailto:kate.snow@environment.nsw.gov.au).

*Janet Dawson*  
*Manager Chemicals Policy*  
*Policy and Science Division*  
*NSW EPA*



NSW DEPARTMENT OF  
PRIMARY INDUSTRIES



Queensland  
Government  
Department of  
Primary Industries  
and Fisheries

### Technology Update- Reflective Mulches, Fruit quality and light penetration

By Phillip Wilk (NSW DPI), Alstonville, and Bob Nissen, QLD DPIF, Nambour

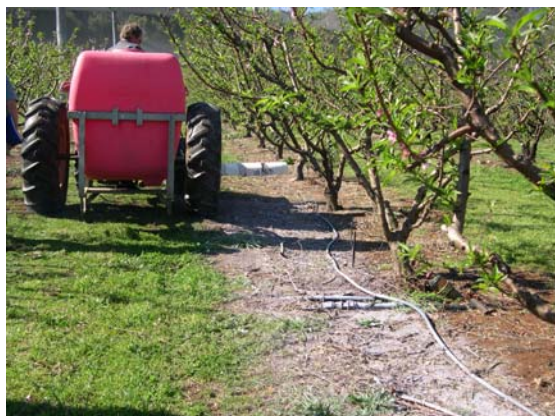
Coastal stone fruit trees are very vigorous and pre harvest pruning of watershoots and suckers is essential to allow light penetration into the tree canopy. This aids in colouring fruit before harvest and promotes flower bud development lower down in the canopy.

In 2004 season, a few low chill stone fruit growers were trialling two products to enhance their on farm production. The products tested were a liquid reflective mulch and white plastic mulch.

Both mulches aim at minimising the effects of shading and improving fruit quality lower in the canopy as well as some ancillary benefits such as reducing soil water loss through minimising evaporation.

#### Liquid mulch

Grower reports on the liquid mulch were that it was not cost effective. It tended to break up and was not rain fast. The rainfall event that occurred 2 weeks after the application was extreme however with 125mm falling in one overnight event.



*Applying a liquid reflective mulch to low-chill stonefruit trees*

Other reports from growers were that it was more effective when applied to a grass mulch that had been side thrown by a mower before the liquid mulch was applied. This gave the liquid mulch a better base with which to attach rather than applying straight to bare soil.

#### Reflective plastic mulch

The other product that was being trialled was white reflective plastic mulch, 1.2 metres in width, which is rolled out and then removed after the first harvest pick. In the orchard where it was being trialled, the mulch was applied to the west side of the trees only of a variety called *Sunbob*.



*Applying a white plastic mulch to low-chill stonefruit trees*

Initial observations were that the fruit from the treated section was far more coloured than fruit from the untreated area. Fruit pickers thought that the treated fruit was a different variety than the control. Ripening was more advanced in the treated trees than the untreated. Unfortunately sugar levels were not measured in the fruit.

The effect of the plastic mulch was noticeable on vase trained trees but had little or no observed effect on palmette trained trees.

The other effect of plastic reflective mulches is the improvement in bud development low down in the trees. This area is usually shaded by rapid vegetative growth and fruiting wood tends to move to the tops of the tree. After a few seasons of having reflective mulch under trees the bud development is greatly improved. Mulches also aid in minimising evaporation. Drip lines are placed under the mulch and aid in sizing fruit more uniformly as even if rain occurs there are no surges of moisture which results in less fruit cracking.

One of the negative effects of the plastic mulch was the difficulty of working on such a highly reflective surface. The highly reflective surface was uncomfortable for casual labour due to the high light and heat reflected. It meant that pickers would be only able to work on trees with this mulch treatment in the early part of the day.

The cost of the liquid mulch product equates to \$2000/ hectare to purchase and 35-40cents/ m<sup>2</sup> to apply. The plastic mulch is \$5000 / hectare but will last 3-5 years. There is also the additional time and cost to lay it down and remove it.

Further observation work will be carried out in the 2005 season on the same orchards.

It is important when trialling any new product to always leave a control area of untreated trees of the same variety for comparison.



## NSW DEPARTMENT OF PRIMARY INDUSTRIES

### ***Growth Retardant Chemicals***

*By Phillip Wilk, NSW DPI, Alstonville*

At the recent Low Chill Australia seminar in Bangalow, a number of speakers outlined some ways profitability could be maintained or improved for stone fruit growers.

One of the easiest and most immediate methods was with the use of chemicals such as Austar®, Cultar®, Payback®, and Cutback® to reduce tree size. The main reason these chemicals are now being widely trialled and routinely used on many orchards is the huge drop in the purchase cost in recent years.

Although these chemicals (containing Paclobutrazol) to control tree size have been around for a number of years there are a number of advantages and disadvantages to keep in mind when using them.

#### **Some of the advantages are:**

- The amount of summer pruning is reduced because there is less growth in vigorous leaders
- It offers a potential increase in fruit yield and fruit size by at least one size count
- It reduces the cost of pruning by cutting down the amount of wood produced
- It makes harvesting easier

- Fruit is better coloured by exposure to light and through better spray penetration
- Trees are less crowded, are more compact and produce short thick fruiting laterals especially on some varieties (eg UF Gold)
- Flowering is advanced by up to two to four weeks and fruit maturity by up to five days.



*Phillip Wilk, NSW DPI, addressing the May LCA Seminar on “New science – New technology - New opportunities” – with fellow presenters Bob Nissen, and Dr Alan George QDPIF*

#### **The disadvantages are;**

- The chemical has a residual effect in the soil. Replanting within three years may result in poor regrowth.
- Trees that are under stress or waterlogged may be killed by the treatment
- Treated trees need a higher plane of nutrition and are therefore more susceptible to nutrient deficiencies
- There is a need for more fruit and flower thinning as the number of flower buds is increased
- The tree response is variable depending on the soil type and variety to which it is applied.

#### **Practical tips to applying Growth retarding chemicals**

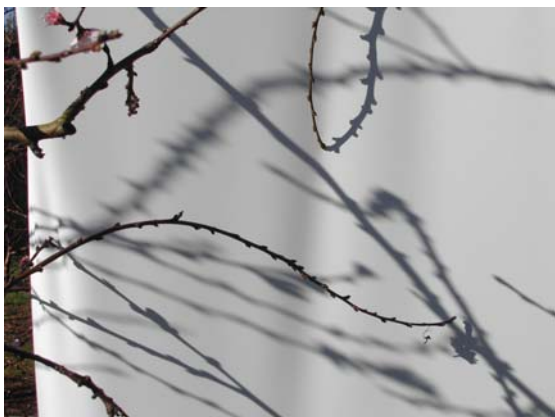
- Wait until trees have reached their desired size before treating (2-4years)
- Try the product on a few trees of a specific variety before applying it to the whole orchard
- Irrigate the soil well or wait for good soaking rains before applying the chemical to the soil. Irrigate well after applying it.

- Reduce nitrogen rates to compensate for reduced growth.
- Many growers use a drench gun and backpack to apply the correct amount of chemical at the base of the tree as a collar drench. This has shown to be effective and efficient.
- Treat trees with between 2ml-4ml /tree depending on the variety.

Do not exceed the label rate and apply to healthy vigorous trees only. Growers have found that it is more effective to split the total tree application rate into two smaller applications. One 2 weeks before budburst and the other in February after bud formation and some shoot elongation has occurred. Growers will need to apply the growth retardant annually but may reduce the rate applied in subsequent years.

On lighter sandy soils the lower rates of Paclobutrazol are suggested as opposed to the heavier clays where the higher rates should be used.

Growers will begin to notice the initial effect of the uptake of Paclobutrazol on trees by the wavy leaf margins. Sometimes this may take one to two seasons to show up. The complete effect is seen with the reduction in tree size and the downward curving 'S' shape of the short laterals.



*Photo above shows a Cultar® treated tree with 'S' shaped laterals*

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*LCA President welcoming growers to the "New science – New technology - New opportunities" Seminar, which presented the application of the latest science and technology to low-chill stone fruit production, as well as the new market opportunities available to the industry.*



### *The Taste of Spring*

#### ***Your Industry Needs Your Support***

**LCA membership subscriptions for 2005/06 are now due, \$110 for growers, and \$275 for corporate membership.**

Annual membership of *Low Chill Australia* is \$110 for growers and researchers, which comprising \$50 membership fee, \$50 devoted to research and development, plus \$10 GST. The Corporate membership rate is \$275 comprising \$50 membership fee, \$100 devoted to research and development, \$100 advertising fee for the *Low Chill Stone Fruit Grower*, plus \$25 GST. Please note that membership runs from 1st July to 30th June.

Your annual subscription assists in funding important research projects including the low chill varietal breeding and evaluation programs, which are critical to the future success of our industry.

Membership of *Low Chill Australia* is an investment in the future for you and your family.

**Please find attached a membership application for *Low-chill Australia Inc.***

## **Stone Fruit Tree & Fruit Growth Patterns (Phenological Cycle)**

*(Extracts from a SARDI publication)*

### **Growth cycle and nutrition implications**

Stone fruit has a growth cycle which can be separated into five distinct growth stages. The nutrient status of the tree has important consequences for fruit quality.

*Dormancy* - Nutrient uptake ceases during dormancy and does not recommence till after bud break.

*Blossom to stone hardening* - During the early period of growth beginning at budswell, tree nutrient reserves are being used for growth and little uptake of fertiliser by the root system occurs. Fertiliser uptake requires energy and does not begin until shoot and leaf growth is well advanced, thus the fertiliser practices of the previous season have a significant effect on early growth and flowering. The amount of stored nutrients influences blossoming, fruit cell division (thus potential fruit size), and vigour of initial shoot and leaf growth. As the trees nutrient reserves deplete and when leaf growth is established the use of soil nutrients increases. Soil nutrients should be in adequate supply to meet this demand. However excessive levels of nitrogen in the period leading up to stone hardening should be avoided as this may encourage vegetative growth at the expense of fruit development.

*Stone hardening*- Commencement of stone hardening is indicated by the developing stone offering resistance to cutting with a knife. During the stone hardening phase fruit sizing slows dramatically, but rapid seed development places a heavy drain on nutrients and carbohydrates.

At this time trees are utilising soil nutrients rather than reserves, thus fertiliser practices should ensure that nutrition is not limited at this stage. Applying excess nitrogen at this stage should be avoided as it may promote unwanted shoot growth.

*Stone hardening to Harvest* - Once the stone hardening process has been nearly completed the rate of fruit sizing increases. This growth is largely due to cell expansion rather than cell division.

*Postharvest to leaf fall* - Once a crop has been removed from the tree a slight delay occurs

before shoot growth recommences. Nutritional control of this growth stage is critical to ensure high productivity in the following season. The aim is to ensure adequate lateral growth, leaf functioning and carbohydrate storage without promoting excessive vegetative growth. Nitrogen is important at this stage to ensure development of strong fruit buds that will set the next spring.

In mature trees, terminal growth continues until early autumn, following which little or no new vegetative growth takes place but existing leaves still function effectively in manufacturing plant reserves. These are stored in the stems and roots ready for use in Spring.

Roots continue to actively absorb nutrients for up to three weeks after leaf drop commences.

### **Growth cycle and irrigation implications**

*Dormancy* - The tree crop will not require irrigation. However if a cover crop or sod is planted, irrigation may be needed to boost growth, particularly in drier winters. It is not advisable to let the profile dry out completely, even though the trees are dormant.

*Budburst* - Root activity commences prior to blossoming and if soil moisture level is low, irrigate to fill the soil profile 3-4 weeks before blossoming.

*Early fruit development* - As the leaf area increases and temperatures rise so does the water demand. Trees should not be water stressed in the period from fruit set until stone tip hardening. Cell division in the fruit occurs in this period and water stress will reduce potential fruit size.

*Stone hardening* - Fruit growth slows at this stage.

*Fruit filling* - This is the most critical period to maintain soil moisture levels, particularly in the four weeks leading up to harvest. Water stress will reduce fruit size and yield.

*Postharvest* - Water requirement is reduced, but adequate levels of soil moisture must be maintained as root uptake of nutrients continues and fruit bud formation occurs. Water stress can reduce the following years crop.



### *The Taste of Spring*

#### **Pruning Field Day Notes**

By Phillip Wilk (NSW DPI), Alstonville, Bob Nissen and Dr Alan George, QLD DPIF, Nambour

#### **Background**

The primary aim of peach and nectarine production is to produce a tree structure that is efficient at capturing sunlight and ultimately in producing fruit. Too often the tree is efficient at capturing sunlight but this then results in vegetative growth at the expense of fruit production.

A stone fruit tree's ability to convert sunlight to fruit production is highly dependent on the amount of light reaching the lower canopy which is a reflection of the tree shape.

Peach and nectarine trees are highly sensitive to shading. Young buds and shoots do not initiated or do not fully develop due to low light levels reaching the lower canopy. This causes the most productive parts of the tree to move higher up in the canopy and barren zones developed in the lower parts of the tree if correct pruning strategies are not carried out.

Pruning is one of the necessary operations for deciduous fruit growers that can modify a tree's shape. It is an important step in producing highly productive stone fruit trees and high quality fruit. Pruning is the first stage of thinning flowers.

Low chill stone fruit trees however are different to high chill stone fruit trees in cooler regions due to the number of times they are pruned. The main reason for this difference is the very high growth rates that trees experience over the spring and summer in coastal areas. It is therefore necessary to remember that trees must be pruned over the winter, summer and pre harvest (spring) to produce high quality fruit in the following season.

#### **Pruning Strategy**

The overall strategy of pruning is to grow a tree whether palmette or vase that will fill an orchard space and maximise production. Trees that are one year old should be approximately two metres tall with the major structural limbs evenly spaced in the tree to enhance light interception. The main aim now is to encourage development of the main leaders on the tree and new fruiting wood (laterals).

The pruned tree needs to provide a framework to hang fruit evenly spaced so they will receive equal light. Stone fruit trees bear fruit from last season's wood.

Pruning of low chill stone fruit trees in the sub tropics is usually performed according to harvest order with the earliest maturing varieties pruned first and latest maturing varieties pruned last.

Trees are pruned throughout the season (spring, summer and winter). It is best to do a number of light summer and spring prunings than one heavy one. Heavy pruning during spring causes strong upright growth in new wood and delays floral bud initiation, flowering, fruiting and harvesting.

#### **Spring pruning**

Prune trees about one month before harvest, generally from early September to mid September depending on varieties. The aim is to open up the canopy to allow light and spray to penetrate easily to the fruit. This is a light pruning only.

#### **At spring stage**

- Prune out the strong upright growth in the centre of trees to allow light to enter. Leave some small weak laterals to protect trees from sunburn.
- Top trees to the framework height (palmette) or reaching height (vase)
- Remove all strong upright watershoots or growth that is shading fruit.
- Remove all suckers (Okinawa generally 'suckers' more than coastal)

#### **Summer pruning**

Summer prune two to three weeks after harvest. Early varieties need to be pruned first which usually begins around mid to late November.

Summer pruning allows light to penetrate the tree canopy. This is especially important for growers with tall palmette and vase shaped trees. This ensures good flower bud development and induces new fruiting wood close to the main leaders for next season.

#### **At summer stage**

- Remove strong watershoots in the centre of the tree. Leave weak laterals to protect from sunburn. Many will be removed in winter.
- Top trees to the framework height (palmette) or reaching height (vase)
- Do not allow strong upright wood in the centre of the tree to develop into heavy branches. Where new young laterals have been produced on old wood remove it to the required height or reach. Encourage new growth on old wood by cutting out spent wood to a stub of two to three buds. This will generate new growth in the coming months and fruit next season.
- Remove shoots that are crossing over other shoots and shoots that cause excessive shading of branches.
- Remove dead shoots and all sucker growth within 500mm of the ground

#### **Winter pruning**

It is the main pruning time. The main purpose of a winter pruning is to remove surplus growth and part of the fruiting wood produced throughout the season. It is also used to reduce the overall height or framework of the tree. This reduces the amount of fruit and flower thinning required later.

Depending upon location, early varieties may be pruned from April-May onwards provided the weather is cold enough. Pruning too early in the season encourages uneven early out of season flowering, fruiting and development of poor quality fruit.

#### **At winter stage**

- Remove strong secondary growth (piggybacks) that are competing with the main leaders or shoots thicker than 1/3 of the main lateral
- Remove strong watershoots.
- Top trees to the framework height (palmette) and reaching height (vase)

- Remove sucker growth within 500mm of the ground
- Remove every second or third lateral (refer to crop regulation sheet for lateral numbers)
- Tip laterals over 400mm long to remove excess flower buds.
- Leave short sturdy fruit spurs
- Prune any strong upright growth especially lower down in the canopy

#### **How do I know how much or little to prune?**

Your orchard tree spacing and tree shape determines the number of fruit you carry on a tree. Once a mature tree has filled the allotted space, excessive vegetative growth reduces light penetration into the canopy effecting floral bud development fruit set and fruit quality.

**For mature palmette trees 4-5 years or older with a spacing of 4.0m between rows and 2.5 m between trees (1000 trees per hectare).**

One would expect 5-6 trays/tree which equals 5000-6000 trays/hectare. This equates to approximately 150-160 pieces of fruit (25 count size or bigger) per tree.

If a tree has four tiers or main leaders on either side of the central leader then there are eight sections producing fruit. Therefore each lateral needs to be able to hang  $(160 \div 8)$  about 20 pieces of fruit.

One lateral can hang two pieces of fruit. Therefore pruners only need to leave about 10 -15 good laterals on main leaders for each tier.

**For mature vase trees 4-5 years or older with a spacing of 4 m between rows and 3 m between trees (833 trees per hectare).**

One would expect at least 8 – 10 trays per tree but preferably 12 trays which equals 6000-8000 trays/ ha. This equates to approximately 250-320 pieces of fruit (25 count size) per tree. If there are 4 main leaders per tree then each leader needs to hang 50-60 pieces of fruit. One lateral can hang two pieces of fruit. Therefore each main leader needs to be pruned so there are approximately 30 -40 laterals having at least two flower buds each.

### Tips to keep in mind

Remember that time and labour (picking, packing, pruning, thinning) are the most expensive parts of your production costs. Any method that minimises the labour component needs to be adopted to reduce these costs, hence pruning is a major operation that can reduce labour costs and chemical costs due to improved pest and disease control.

1. Prune laterals to a strategy that minimises the numbers of fruit, flowers and times they need to be thinned.
2. Count the number of laterals needed to produce a known fruit volume
3. Many growers have used the palmette system of tree training as it maximises the number of trees under netting. The site slope also affects this decision.
4. Growers have moved away from the 'tall palmette' system to the 'mini palmette' as they can then harvest, thin and prune whilst on the ground. This saves on the need for expensive equipment and more flexibility with these operations. The smaller tree also means that row spacing can be reduced which increases the number of trees per hectare.

Many growers are now using pneumatic and electric pruning equipment to save time and reduce repetitive strain injuries to themselves and contract labour. The benefit of using these devices needs to be weighed against the costs of the equipment and the extra risk of injury.

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### Out & About – LCA Pruning Field Day



*Phil Stacey and Robert Hood demonstrates the finer points of pruning low chill peach trees*



*The April LCA pruning field day was a great success, with 56 in attendance.*



*LCA Field Day Sponsor - BCU Agri Business Manager, Peter McAuliffe observing the pruning demonstration*



*John Gough Jr contemplates his options at the LCA pruning field day.*



LOW CHILL  
AUSTRALIA  
INC.

(ABN 28 381 271 244)

*The Taste of  
Spring*



NSW DEPARTMENT OF  
PRIMARY INDUSTRIES



Queensland  
Government  
Department of  
Primary Industries  
and Fisheries

### *Low-chill Stonefruit Flower and Fruit Thinning Field Day*

**For new growers entering the industry, and those interested in honing their skills**

*(This field day will cover flower and fruit thinning and crop load, plus a demonstration of nutrition software and chill unit software, plus sponsor presentations, followed by a BBQ lunch.)*

**Where:** Robert Clisdell's orchard, 713 Friday Hut Rd via Bangalow

**When:** Wednesday 20<sup>th</sup> July 2005, 10.00am to 1.00pm  
To be followed by a BBQ lunch

**Program:**

1. Introduction / basics of flower & fruit thinning and crop loading, Phillip Wilk (NSW DPI)
2. In orchard demonstration and hands on flower and fruit thinning.
3. Fact Sheet - *Flower & Fruit Thinning Tips*, prepared by Phillip Wilk (NSW DPI), Robert Nissen & Dr Alan George (QDPI)
4. Sponsor Presentations:
  - a. Rod Kilby, "BCU - a viable alternative for all your Agri. Commercial and Family Banking Products & Services"
  - b. Matthew Holmes, "Agrichem nutrition solutions for fruit set and fruit growth"
5. Demonstration of computer software- Phillip Wilk (NSW DPI), developed by John Slack (NSW DPI)
  - a. Nutrition scheduling
  - b. "Chill Units" Calculator
6. Finish at 1pm (*followed by a BBQ lunch provided by sponsors*)

*RSVP to Phillip Wilk by Monday 18<sup>th</sup> July on (02) 6626 2400 for catering purposes*

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**Matthew Holmes**, Agrichem's QLD Regional Manager can be contacted on 07 3264 7086, or mobile 0412 706 926