

fruitgrower

A U S T R A L I A N

VOL 4/ISSUE NO. 8
SEPTEMBER 2010

www.apal.org.au
www.summerfruit.com.au

Avoiding core rots



Grower aims for 'a sustainable yield'
Deficit irrigation effects on fruit yield, quality

THE OFFICIAL MAGAZINE FOR APPLE, PEAR AND SUMMERFRUIT GROWERS IN AUSTRALIA



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Spotlight Plus enhances the control of a range of broadleaf weeds. In particular it has excellent efficacy on some of the more difficult to control weeds such as small flowered mallow.

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Editorial

Cheers

John Fitzsimmons

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NEWS

Australian Fruitgrower
 Australian Apple and Pear Ltd (APAL) and Summerfruit Australia Ltd (SAL) are the peak industry bodies representing the interests of commercial apple, pear and Summerfruit growers in Australia in matters of national importance including regulation, legislation, marketing, research and development.

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Editorial
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 Cover photograph submissions should preferably be digital taken at a resolution greater than 300 dpi. Web resolution images and colour prints (unless exceptional) are not of sufficient quality for full colour printing. Colour transparencies are also acceptable.

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October No. 9	6th September	13th September	4th October
November No. 10	8th October	15th October	1st November
December/January No. 11	5th November	12th November	29th November



Good rain...and now Taiwan

The Taiwan market opening has been officially announced, effective 2 August 2010, which is great news for Industry.

The protocol provided by the Taiwan Bureau of Animal and Plant Health Inspection and Quarantine (BAPHIQ) to Biosecurity Australia, 29 July, is posted on the Summerfruit Australia Ltd (SAL) website (www.summerfruit.com.au). The web page will be the spot to see all export information and general information as the year progresses.

The SAL website will benefit from the development during the Department of Agriculture, Fisheries and Forestry (DAFF) project SAL is undertaking - 'Promoting Australian produce' - and it promises to bring a wide range of detail.

With Taiwan opening for the importation of Australian peaches and nectarines, industry is arranging a re-run of the plum verification trials that unfortunately failed in December 2008. The conditions of the IRA will see phytosanitary and quarantine inspections undertaken by Taiwanese inspectors within Australia and it is logical to utilise this occasion for plums with every intention to have approval for plum exports to re commence as soon as possible, for the 2011-12 season. Fingers are crossed.

The most serious issue is the dimethoate and fenthion saga. While all affected industries await the Australian Pesticides and Veterinary Medicines Authority (APVMA) decision,

progress to date can be viewed at the website www.domesticquarantine.org.au

There is no commercially viable solution to use as a replacement for the chemicals if they are banned. An international search is on for appropriate substitutes. If there are extensions of withholding periods, producers may be able to work with these; however successful outcomes will be dependent on the orchard location.

Coastal producers will be the most anxious if the decision makers recommend extended application rates. Also, if the practise of dipping is curtailed, a raft of postharvest issues will evolve.

One thing that will be part of the pending decision-making process, is that a public consultation period will be available and I expect there will be plenty of comment if there is a particularly unfavourable finding.

For those of you wishing to see various recommended systems approaches, the website also contains a detailed paper from a workshop that offered the most combinations. Visit the 'news' section and follow the prompts to access these workshop papers. Please make your own opinion as to the success of utilising these recommendations. If you have suggestions please send or email me your thoughts.

Biosecurity Australia is continuing to provide good current information to industry and has been out and about at various locations publically speaking to producers on the USA situation with respect to *Drosophila suzukii* (spotted wing drosophila). With the American situation, there is really no change to my last update of no stone fruit arriving. Industry will be engaging with the California Tree Fruit Agreement to ascertain developments prior to their 2011 season and we will be certainly addressing quarantine measures.

Hopefully the Australian table grape Chinese protocol will have been squared away upon reading this edition of Australian Fruitgrower and the next priority is for summerfruit acceptance followed by cherries. Progress is slow but ongoing for USA and New Zealand. Biosecurity is seeking acceptance by India for 2°C and 3°C in-transit cold treatments while Indonesia is also considering recommendations on cold transit treatments. It is becoming more apparent that, where possible, producers have rapid communication channels and I urge you to make sure you have email contact with me. If you haven't received any emails of late, then you need to email and register your contact to ceo@summerfruit.com.au. The pace of developments and world change surely makes this imperative. ■

Easy access peach information

The third in Clemson University's (US) YouTube video series, 'Everything about peaches', has now been uploaded. The topic for the latest episode is 'Different kinds of peaches'.

The series covers several topics and, although primarily aimed at consumers in the US situation, also includes information of value to growers anywhere. *Australian Fruitgrower's* Technical Editor - Summerfruit, Prof Barry McGlasson, doesn't completely agree with the demonstration of sampling of SSC presented. He believes that taking a slice and squeezing a few drops of juice does not take into account the variability within the fruit. He advocates cutting at least one sector from stem to blossom end and using a garlic crusher to express juice.

Contact: Dr Desmond R. Layne, Associate Professor of Pomology and Extension tree fruit specialist, Clemson University, Clemson, SC. T: +1 864 656 4961
E: dlayne@clemson.edu ■



The latest Clemson University peach video is available at: <http://www.youtube.com/watch?v=XbMxm6hXk04>

The first video, "How to Pick the Best Peach" is available at: http://www.youtube.com/watch?v=_S7r-FtI98

The second video, "How to determine peach ripeness", is available at: <http://www.youtube.com/watch?v=15aU7QqBBgw>

James Burdekin



APAL Chair's Report WTO decision

It is always a pleasure to present the Chair's report at the Annual General Meeting, which was held on 12 August in the Yarra Valley, as it gives me a chance to reflect on the past year.

This year was slightly different in that we have now changed our financial year from 1 April to 31 March. This means we can have the necessary auditing completed in time to have the AGM in August to coincide with the apple and pear conference, when it is held at that time. So I reported on a nine month 'year'.

And while that year started out with concerns about the impact of award modernisation on labour costs on the orchard, certainly from the beginning of this year the prospect of apple imports has focused our minds like very few other issues.

In my last column, I described what happened with the apples from China IRA when it was announced on 30 June. Since then, on 10 August, we had the public release of the WTO report into apples from New Zealand and I am sure you know about that decision.

Tony Russell, John Corboy and I had prior warning about this result. In April, DFAT gave us a briefing of the decision after they had received a confidential copy of the report. We felt gutted by the decision, but at that time could not say anything. A few weeks later a leak to media in New Zealand revealed more widely the outcomes. The leaks were largely accurate.

On the day the 598 page report was released, the Minister for Agriculture, Tony Burke, and the Minister for Foreign Affairs, Stephen Smith, immediately announced that Australia would appeal the WTO decision. We are certainly grateful for such a swift and strong response from the government. There was enormous media interest in the issue across television, radio and print both here in Australia and New Zealand and I spent a lot of time on the phone talking with journalists across the board.

Later that day, we had a briefing from DAFF, DFAT and the Attorney General's Department.

It was obvious that, from the time they had the confidential WTO report, they had been working on Australia's response to it. They believe the grounds for appeal are indeed strong.

However, no matter what the outcome of the appeal, we still have to fight to get the right protocols in place. The more we are protected against diseases, the more competitive we end up being through our ability to produce clean 'green' fruit.

We now have to wait for the outcome of the appeal however I am sure that there is more to come in this ongoing saga.

Thanks Jos. Welcome Ken.

Jos Driessen finished his term as APAL Board director at the Annual General Meeting on 12 August. Jos has been on the board for 11 years, and saw the changeover from the Australian Apple and Pear Growers Association to the incorporated APAL body.

Jos has contributed greatly to the industry through his vast experience and wisdom and has on many occasions been a voice of reason when the Board has been confronted with difficult decisions. Thank you Jos, you have represented Tasmania and the industry well.

Replacing Jos on the Board to represent Tasmania is Ken Bell, Managing Director of Top-Qual Pty Ltd, a company that comprises six orchards throughout that state producing apples, cherries and stonefruit. Ken has experience across the industry and throughout the supply chain, as Top-Qual is a major exporter as well as a domestic supplier of fruit. I look forward to working with Ken and drawing on his expertise to help the industry steer its way through the challenges ahead. Welcome Ken.

And while on Board directors, growers in New South Wales and Victoria should start thinking about who they want to represent them on the APAL Board from next year as both Kevin Sanders and I finish our terms at the next AGM.



Election results

At the time of writing, the country still did not know who had formed government and who was Prime Minister, so I cannot make any specific comments on the outcome of what has been a most unusual election.

One thing seems clear, given the role that the rural independents look like playing in the new government, there will be plenty of focus on rural issues.

We have continued working with Stephen Carney and Grahame Morris to make sure we get good advice on how to get maximum advantage for the apple and pear industry from the political situation.

I look forward to seeing who ends up being Minister for Agriculture and Minister for Trade and developing a strong working relationship with them.

Grower meetings

Along with Tony Russell, I have been meeting with growers on their home territories.

The big issue amongst growers across the different regions has understandably been apple imports, and while growers are hungry for information about what is happening, I don't get a sense of despondency about the situation.

If anything, I get a sense of resolve; that we will be able to compete, so long as we have a fair deal in terms of quarantine and that no new diseases enter the country.

Also it is interesting that each district has different issues that are concerning them. As well as being interested about the state of imports, there was a lot of discussion in various regions around market access issues that related to exports, sustainability and climate change. It was a similar pattern across the country. ■



WTO appeal

APAL has welcomed the news that the government will appeal against the disappointing decision of the WTO to disallow Australia's concerns about diseases being imported into Australia on New Zealand apples.

The WTO panel upheld most of New Zealand's arguments, which challenged the scientific and risk assessments made by Australia supporting restrictions on New Zealand apple trade. New Zealand has asked the WTO to adopt its report, but the Australian government is going to make an appeal that the report should not be adopted. The Department of Foreign Affairs and Trade (DFAT) has continued to consult with APAL as it prepares the government's response. ■

Horticulture taskforce established

The chief executive officers from the major horticulture organisations in Australia have come together and established a new taskforce to respond to issues and lobby all political parties. APAL general manager Tony Russell, is the Chair of the new body.

"After the demise of Horticulture Australia Council (HAC) the new taskforce will enable the horticultural industry to continue to have a voice at the political level so that the industry is not overlooked," Tony said. Tony said the major horticultural organisations will be approaching other members of the horticultural industry and asking for their support so the body represents the whole industry. The new Horticulture Taskforce will focus on efficient and targeted use of resources on a defined number of important issues that members agree on. ■

"Horticulture is a very important industry for the Australian economy as it provides high quality fresh and value added product and jobs for many Australian families"



Flying-foxes and damage to fruit crops – NSW

The New South Wales Department of Environment, Climate Change and Water has updated its policy and procedures for managing the impact of flying-foxes on commercial fruit crops.

As in previous seasons, the Department can issue licences to growers who demonstrate damage to their crops from flying-foxes, including the threatened grey headed flying fox.

Licences are issued to growers to harm a limited number of flying-foxes in accordance with strict conditions, including adherence to standard operating procedures for the conduct of shooting, humane disposal and recording of animals killed.

The Department has made available on its website all the necessary information to assist growers who are either seeking further information about flying-foxes, the policy, or are requiring an urgent licence. (www.environment.nsw.gov.au/wildlifelicences/s120Licence)

This information is also available from local NSW Parks and Wildlife Offices. All licensed growers are advised that the Department undertakes random audits of properties to monitor compliance with its licence

conditions. Instances of illegal shooting should be reported to local National Parks and Wildlife area offices or the NSW Police Force.

The Department requests all growers who are concerned about the damage flying-foxes may cause to their commercial crops to implement netting where this is economically and logistically feasible. Netting has been identified as the most effective means of mitigating damage from flying-foxes and other animals such as birds. Further information and contact details of local National Parks and Wildlife area offices: T: (free call) 1300 361 967. ■



All flying fox species are protected in New South Wales. A licence is required to scare or shoot at these animals. Photo: Kylie McLelland.

Industry diary

APAL AGM and Levy Payers Meeting

Date, 12 August, 2010

Venue, Vines Restaurant, Coldstream, Yarra Valley

Annual General Meeting 10.00 am to 11.00 am

Morning tea 11.00 am to 11.30 am

Annual Levy Payers Meeting 11.30 am to 1.00 pm

2-14 November 2010: High Density & Productive Orchards in Northern Italy and the Machines Developed for Them.

Featuring technical orchard and machinery tours, Interpoma (the only exhibition in the world entirely devoted to the apple industry), and EIMA (the premier observatory for agricultural mechanization). Venice, Bolzano, Ferrara, Bologna. Tour leaders are Mauricio Frias (Chile; mauricio@scsf.cl) and Susan Pheasant (USA; susan@pheasantprojects.net). For more information, www.pheasantprojects.net. Shorter tour options are also available for **02-09 November 2010** (Interpoma and technical visits) and **07-14 November 2010** (technical visits and EIMA). ■

Lobby activities

In the lead up to the federal election, Apple and Pear Australia Ltd (APAL) had many meetings with the lobbyists Steve Carney and Grahame Morris to work on engaging candidates for the election to ensure that the apple and pear industry has its concerns heard after the election.

A major activity was to canvass candidates with a questionnaire which asked about their attitude toward five significant issues the industry faces. Many growers in each state assisted contacting their local candidates.

APAL had responses from Labor, Liberal, National and the Greens.

- All candidates said they would support country of origin labelling that is vigorously enforced with a strong legislative process.
- All candidates supported the testing of imported fruit for chemical residues to ensure they comply with Australia's Maximum Residue Levels (MRLs).
- All candidates supported changing the Import Risk Analysis (IRA) appeals process to ensure that failure to assess any pest is grounds for a successful appeal.
- And all candidates supported commissioning research into potential pests and diseases when there is doubt about their impact on Australian industries.

However, there was some divergence in responses to the last question. The Liberal, National and Greens candidates all supported growers receiving transitional assistance to adjust to being a more competitive industry once the import of apples starts.

The Labor response to the final question was that there are already avenues of support through existing assistance programs that fund adjustments such as climate change, drought, sustainable land management practices and access to export markets.

APAL will continue to work with the lobbyists to get the best advantage for the apple and pear industry from the unusual political environment that has emerged from the election. ■



Ken Bell - APAL Director

New APAL director from Tasmania, Ken Bell, has had very broad experience in the fruit industry and has worked in most facets of the industry including fruit production, harvesting, packaging, transport, marketing, export, promotions and international trade.

In the early 1970s, after developing a small nursery with his father, from which Ken sold seedling apple trees all around Tasmania, Ken went to work for a fruit exporter – Chilton Thompson & Co Pty Ltd. He organised the packing and loading of export apples and later took on managing the interstate domestic markets and marketing.

Ken became a director at the firm which was then renamed as Top Qual Pty Ltd, and after Harry Chilton retired, Ken became managing director. He took the company from being a commission-based export company to one of the largest producers of apples in Tasmania by leasing orchards and growing in a purchased orchard in the Tamar Valley.

Under Ken's direction, Top Qual invested in coolstores and packing facilities to service both apples and cherries in the Huon Valley.

Ken has been a director of many apple and fruit related companies and Chair of Top Qual Pty Ltd. ■



New South Wales

With the construction of Noah's Ark well underway in Orange, now comes the difficult task of selecting which two growers to ask to board this vessel to take the industry ahead in future years. Please send nominations to 'glutton for punishment.com'

All regions in NSW have experienced superb consistent rainfall over the last month; at long last nearly all farm dams are full and the major irrigation dams are well and truly on the way up. Due to the continual wet weather, outdoor orchard activities have certainly come to a halt, so things will surely hot up when the weather breaks.

There has been slight improvement in the demand for apples since the school holidays have finished and here's hoping the trend continues.

Thanks to Peter Darley for filling in for me last month with the monthly newsletter – notice the more professional approach. Peter has alerted me to a few issues being dealt with.

1. National Harmonising of Chemical Registrations – draft to be out later this year.
2. Continuing work to maintain chemical registration for Lebaycid and fenthion for fruit fly control.

There has been slight improvement in the demand for apples since the school holidays.

3. Continued pressure on both sides of government to reduce inefficiencies in the system that has led to the backlog of chemicals requiring review and a disincentive for companies to invest in cutting edge Australian technology.

The continuing work of people like Peter Darley and Darryl Ashton and others on these committees is certainly appreciated. Until next month, when the spray carts begin to hum...

David Gartrell

Tasmania

The last month has involved a number of events for Tasmanian growers including the APAL grower meeting on Monday 16 August. Grower attendance numbers were disappointing, however those growers that did attend appeared to find the information and update of activity provided by APAL very worthwhile. The climate change project presentation from Amy Russell was very well received with keen grower interest.

This meeting was followed on the Wednesday by the *Managing Your Business* workshop with Trevor Forshaw and organised by CGA through support from Horticulture Australia Ltd. The workshop was attended in Tasmania by around

The climate change project presentation from Amy Russell was very well received.

18 growers and was well received. The workshop was followed by an FGT hosted night seminar for berries which was also well attended by growers from all growing regions within Tasmania and included some apple, cherry & stone fruit growers.

On Friday 27 August, FGT's export registration and information day is scheduled and, at the time of writing around, 20 growers had indicated they would be attending. The program is for cherries/stone fruit in the morning and apples and pears in the afternoon. Quarantine Tasmania

staff will also be in attendance. Export registrations close on 2 September 2010.

In the time between the two sessions, FGT will hold its Annual General Meeting providing the Annual Report to growers in attendance.

Coming events include: AsiaFruit Logistica, the China apple promotion, an 'exploring organics' night seminar, a pre-season cherry night seminar, the FGT spring ball, and the September FGT newsletter. Details of all these events can be found at www.fruitgrowerstas.com.au or by contacting the FGT office.

South Australia

Early August has returned us to a 'proper' winter; finally the creeks are flowing with purpose. The wet weather and cold has seen some storms thrown in for a good measure. Apart from a few leaky roofs and some fallen trees I can happily report no great damage to grower's properties.

The Lenswood Cooperative was not so lucky however. A sharp downpour in late July saw some very large stormwater drainage pipes block, then subside, creating an enormous sink hole in the bin yard alongside the packing shed. This hole is more than eight metres deep and required massive excavation, removing more than 1000 tonnes of material just to get down to the pipes. This of course has caused considerable disruption to some of the Co-op's operations. Speaking of the Lenswood Cold Stores Co-operative, the Apple and Pear Growers Association (APGA) of SA will be moving to a

"One can only hope that the spring weather warms the spirits as well as animating the markets"

more permanent home within the Co-operative complex. The Association will occupy what was the export office, which is on the southern side of the buildings. While being housed within the Co-op, the Association's activities will remain independent of the Co-op's. The central location at Lenswood was desirable to give ready access and improved interaction with growers.

Early next month the Royal Adelaide Show begins and this will be the main promotional activity for the Association this year. The Royal Show provides a unique opportunity for interaction between growers and the buying public, on a scale unparalleled. Nearly one million people filed through the gates of the show over the course of nine days last year, and we have high

hopes for another successful event this year.

Apple and pear sales remain slow and steady; a very flat market has some growers reporting this season to be the worst for some time. A result of this has been very few young trees being planted. There many old blocks being pushed out, but it appears that they will remain fallow until growers see 'light at the end of the tunnel'. The low prices this season, compounded by the looming threat of imports, are casting a pall over optimism in the industry. Most of what is being planted is high-coloured strains of 'Cripps Pink', 'Gala' and a handful of 'Fuji'.

As mentioned, the weather matches the gloom in the industry and one can only hope that the spring weather warms the spirits as well as animating the markets towards some vitality for the end of the year.

Greg Cramond
APGA of SA

Victoria

▶ The Victorian market has improved recently with a lift in the quality of fruit being presented. Prices have firmed and most varieties for remainder of season should be able to be sold. The exception may be 'Granny Smith' which might come under pressure later on.

The Fruit Growers Victoria schools program has commenced in Northern Victoria and to date 12 government and private schools have booked a visit. The presentation has a stronger emphasis on eating Australian apples. Teachers are left with an information pack that has activities and materials to reinforce the message. There has also been some success in involving the schools in the north east.

This complements the good work done by Southern Victorian volunteers who for many years have carried the message of eating Australian apples and pears to school children. These programs will become even more important should growers face import competition.

Prices have firmed and most varieties, for remainder of season, should be able to be sold.

The northern Aussie Apple costume has been in high demand for both the schools program and commercial promotions.

The northern Victorian IDO project for technology transfer has been renewed for a further three years. This means as that the good work of Michael Crisera will continue.

Michael, together with Chris Peters as the state IDO for the pome fruit industry, represent a significant resource for all apple and pear growers to use. They have commenced an outreach program where they intend to make a personal visit to every orchard in the state over the next two years. The first visits were held in Shepparton East over the last month and the key issues growers were concerned

about were potential imports and reduced quotas with SPC Ardmona.

There have been good rains in Victoria and the expectation is that a 100 per cent water allocation will be made in the Goulburn and Murray irrigation areas by February if there are average spring rains.

The Fruit Growers Victoria AGM and annual dinner will be held at The Olive House, Melbourne Road, Shepparton, on Friday 24 September 2010. Bookings for the dinner can be made by phoning the FGVL office on (03) 5825-3700.

John Wilson
General Manager - FGVL

Queensland

Stanthorpe apple growers were excited to win third place at the Royal Brisbane Show this year with their apple display. The theme of the stand was 'Building a healthy life with Stanthorpe apples'. The latest national apple

Fruit buds are looking strong and fruit stocks are moving steadily with fruit keeping well.

fliers promoting 'an apple a day keeps the doctor away' helped to theme the stand and

were a great hit with the public. Approximately 300,000 people viewed the stand during the 10 day show period.

This activity was funded through Apple and Pear Australia Ltd's (APAL) state promotional allocation.

In early August apple growers were relieved to receive rainfalls of up to 62 millimeters. Soil moisture has now improved greatly. Fruit buds are looking strong and fruit stocks are moving steadily with fruit keeping well. This winter has been refreshingly normal with no really hot days and plenty of chilling hours.

Growers were also keen to speak with APAL representatives at the recent regional meeting with strong attendance from the area.

Julie Moore
Growcom



Apple stand at Royal Brisbane Show.

Introduction of APFIP Certified Nursery Trees

The commercial advantage of using certified pome fruit planting material has been overwhelmingly validated in every growing region where it has been implemented.



Ruby M26

There is widespread distribution of viruses of economic significance (apple stem grooving, apple stem pitting, apple chlorotic leaf spot and apple mosaic viruses) in the Australian pome fruit industry. This was confirmed in a HAL funded survey where 94 per cent of all samples taken were infected with one or more of these viruses.

The Australian Pome Fruit Improvement Program (APFIP) has a registered certification trade mark which has been licensed to eight nursery entities in Australia. Nursery trees and rootstocks bearing the trade mark are certified as testing negative for the viruses listed above, are pomologically true to type, and meet minimum nursery tree standards.

APFIP has been working closely with its trade mark licensees to establish commercial production of certified dwarfing rootstocks. The production of certified M26 rootstocks has reached commercial levels but there is still work to do to get M9 to this level.

APFIP is the exclusive Australian licensee for the NAKB® M9T337 rootstock and its production has been licensed to APFIP's certification trade mark licensees.

Certification of varietal propagating material is critical to provide certified nursery trees to the Australian industry. APFIP is not a variety manager or agent, so it has to rely on those that are to ensure that their commercial varieties meet the certification requirements.



New orchard

The APFIP certification trade mark indicates virus-free material that is true to type and trees that meet minimum nursery tree specifications.



A heat treatment service for the elimination of viruses is available, and testing protocols are in place for new varieties whilst they are in quarantine to test for the viruses listed above.

APFIP is working with its licensees to facilitate increased availability of certified commercial varieties and this process is ongoing. Commercial pressure from the nurseries' customers (growers) is now a key component of the certification process.

Nursery trees bearing the APFIP certification trade mark will become readily available in this next phase of certification - Introduction.

What this means for the fruitgrower

The APFIP certification trade mark certifies that the propagules are from sources that are certified as testing negative for the viruses and are true to type and the trees themselves meet minimum nursery tree specifications.

In the study reported below, heat-treated trees that tested negative for the viruses resulted in a 17 per cent increase in yield over the life of the orchard.

Wilhelminadorp Research Station in Holland evaluated the effect of virus on the production of 'Golden Delicious' over 14 years by comparing virus-free and virus-infected trees in the orchard. The results are detailed below.

- **Virus-free:** Total production in 14 years was 327 kg per tree
- **Virus-infected:** Total production in 14 years was 279 kg per tree (17 per cent less)

With a difference of 48 kg per tree, over 2300 trees a hectare means 110,400 kg (110 tonnes) per hectare in the 14 years. That equates to 7.8 tonnes a hectare per year less production from virus infected trees.

The same loss in production was consistent in other varieties and also with pears. This trial looked at production only and did not take into account the fact the fruit quality (russet etc) was also affected by virus. ■

Summerfruit Grower M E E T I N G

New protocols for Taiwan Updates on the USA stonefruit *Drosophila suzukii*.

**A UNIQUE OPPORTUNITY TO HEAR
GUEST SPEAKERS FROM BIOSECURITY AUSTRALIA**

Dr Vanessa Findlay, General Manager- Plant Biosecurity
Darryl Barbour, Americas, New Zealand, Europe & Africa
Plant Biosecurity

P Anne Gardner, Manager Plant Biosecurity
John Slaughter, Burchell Nurseries USA

**Growers will also get updates on rootstock programs,
sale trends of stonefruit in USA and Europe, and current
programs Australian growers can benefit from.**

Venue: Commercial Hotel, Swan Hill
Date: 29th September 2010 Time 7:00
RSVP: Vanessa Wight 0447 511 344
ido@summerfruit.com.au

More information see:
www.summerfruit.com.au



Taiwan opens – promotion begins

Report by Vanessa Wight, Summerfruit IDO

The announcement of Taiwan opening to Australian peaches and nectarines for the coming season is good news for Summerfruit growers. The official reopening of Taiwan has allowed us to progress work on the Summerfruit Australia project to promote exports of Australian stone fruit.

The first stage of the project has seen the development of new promotional material for Australian summerfruit. This includes new leaflets on each of the summerfruit varieties, buying guides and materials to assist Australian exporters of stone fruit. As part of this program, Biosecurity Australia representatives including Dr Vanessa Findlay (General Manager - Plant Biosecurity) will be at a meeting for growers and exporters to be held in Swan Hill on 29 September. Key speakers will present information on the new protocols to Taiwan, along with providing updates on USA stone fruit and *Drosophila suzukii*. More information on this meeting and other aspects of the program can be found on the SAL website (www.summerfruit.com.au). ■

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Tim Hall: Growing good fruit is only half the job

Tim Hall is passionate about growing good fruit but says that is only half the job. He is even more passionate about marketing his fruit and believes that marketing is going to become more critical in the times ahead. Stuart Gray spoke to Tim Hall in Orange, NSW.



Grower Tim Hall (left) and brother Bernard at Orange, NSW: "If we can't be competitive on price, we have to supply a superior product and service."

Tim's parents, Fred and Pam, wanted a better lifestyle for themselves and their six children so moved to Orange, NSW, in 1973. Fred was an electrical contractor, but the lure of the land saw him purchase 18 hectares of orchard near Orange and over time, purchased another three orchards to total 110 hectares of land. A good neighbour, Phillip Hawk, helped Fred develop his orcharding knowledge and he made a good income from his efforts.

Meanwhile, Tim studied accountancy part time and worked in a bank for a few years then furthered his studies to include refrigeration and horticulture.

"Orchardists were making a reasonable living off about four hectares and each had their own coolroom, so either horticulture or refrigeration was a bit of a winner.

"Back then in 1973, there were about 250 orchardists in the region, now there are about 50, so things have changed dramatically."

Tim returned to the orchard and some 10 years later he was joined by his brother Bernard. A number of properties were bought and some sold over a 20 year period.

"We bought our first orchard at Nashdale in 1981. At that time our varieties were 'Jonathan', 'Granny Smith' and 'Red Delicious'. Now we grow Pink Lady™, 'Ruby Pink', Sundowner™, 'Royal Gala', 'Buckeye Gala', 'Kanzi', 'Fuji', 'Granny Smith', 'Crimson Snow', Cameo® and 'Braeburn'. We will concentrate on block red 'Fuji', high coloured Pink Lady, red strains of 'Gala' and 'Kanzi'."

"The cost of netting is worth it just on hail protection alone, without (the other) benefits"

Average tree density is 1250 trees a hectare and most are freestanding. Good blocks are producing 50 to 70 tonnes/hectare and the 'Cripps Pink' achieved 80 per cent packout this year but the 'Fuji' and 'Granny Smith' had a much lower packout.

Tim believes that high density is also high risk. "We have pulled striped 'Fuji' because of a colour problem. We are experiencing 'Braeburn' colour slipping away as well."

"However, in some blocks where we are really familiar with the varieties and growing

characteristics, we plant at 1500 to 1600 a hectare on trellis with M26 rootstock. That would be about 20 per cent of the orchard."

"We were pushing blocks and replanting each year but recently, we have put capital into hail netting, and I think we may only plant new trees every second year. We are aiming for a sustainable yield."

Tim has 24 hectares of orchard under netting which they have installed themselves in the past four years. They now use the Batlow Tuffnet system.

"Netting is a time consuming job as we have to roll it up each year because of snow. However, not only has it saved us from hail damage, it protected the fruit from cold winds and reduced sunburn. Overall, the fruit finish was better, there is a lot less stress on the trees and we had better water retention.

"A big plus was that our trees were protected against the flying foxes, even with open sided netting. I suspect the flying fox problem is not going to disappear quickly," Tim said. "This year the season was looking very promising, however, we lost 30 per cent of the 'Cripps Pink' and Sundowners from trees outside the netting due to the invasion of the flying foxes.

"Some exercises we did through the Future Orchards 2012 project showed the cost of netting is worth it just on hail protection alone, without all the other fruit and tree benefits and the reduced stress level on the grower. We may be better off having smaller fully covered orchards rather than exposing fruit to the elements. "The market just does not tolerate marked fruit," Tim said.

Emphasis on marketing

Tim and his brother Bernard are passionate about finding the best markets for their fruit. Part of the reason for recently building a new packing shed was to improve the separation of different lines of fruit and its presentation.

"It's easy to sell the right sized and well coloured Pink Lady but outside of those specifications, prices are tight," Tim said.

"We spend a lot of time separating out the different qualities of fruit and finding markets for the different grades. ▶

► "We have also diversified our market outlets as you cannot guarantee you will have the same quantities of specific grades from year to year."

Tim believes that the emphasis on marketing pays good dividends.

"I believe you need to be in charge of your own marketing unless you have specific and well detailed performance agreements with an outside marketer. I do think those growers in charge of their marketing are doing better than those who do not have control of their marketing."

"Growing apples is only half the job. If you don't put effort into marketing, you are not doing a full job on your fruit."

"I don't believe you can just rely on solely on growing anymore; marketing has to be part of your operation unless you can find someone else to do it for you, but I cannot find anyone who is going to be as passionate about marketing my fruit as I am.

"And in future, growers or grower groups will need to 'own' and service their customers to get best value for their fruit. When I say customer, I mean retailers. To go directly to consumers is too big a job for most growers. However, you can get to the consumer via the retailers," Tim said.

"For example, we have a local Harris Farm fruit and vegetable store. They have a very good reputation for having trained staff who look after their produce and consumers, and generally present their fruit very well. Yet our local marketing co-operative, Towac Fruit Export Cooperative, did a special promotion of 'Gala' at Harris Farm and we achieved a 200 per cent increase in sales for the week!"

"The fruit was good; it went from our coolstore to the Harris Farm coolstore and was well presented. But it shows what can be done."

"We will need to do this sort of thing to compete with imports. If we can't be competitive on price, we have to supply a superior product and service. We need to develop relationships, even friendships with the people we are dealing with" Tim said.

"Marketing is not a physical job, but it can be emotionally exhausting. Sometime it is difficult dealing face to face with people but it still can be very rewarding.

"If we don't take control of our marketing, someone else will do it for us.

"And marketing is not just about selling your best fruit. By developing relationships with our customers (retailers), often we can do a deal and even sell slightly blemished fruit so long as it eats well. It gives us another option and everyone can win, the consumer, the retailer and the grower" Tim said.

Continued over... ►



More recently the Halls have put capital into hail netting and may only plant new trees every second year aiming for a sustainable yield.

Continued...

Tim Hall: Growing good fruit is only half the job

▶ "I saw the TV adverts with the doctor saying *"don't eat apples as it is bad for my business"*. They showed a green apple and I thought 'Great, there are heaps of green apples around this year and at least someone has seen fit to promote them. It is usually the pinks that get promoted but there is always demand for pinks so they don't need to same amount of promotion."

Tim gets the coolstore stock report from APAL and belongs to AFFCO to get marketing information.

"You need to be involved to get the information, it is important to get all the marketing information that is available to be able to make informed decisions."

Tim is chair of the Towac Fruit Export Co-Operative which has 30 members - some who grow only apples, some grow cherries, and others produce apples and cherries. He said they want to increase their marketing efforts.

"We are looking at a number of things, particularly promoting the region in our marketing. I think people like to associate with a local area and even with individual growers. We have established a Regional Fruit Branding Project, with the aim of making local fruit as well known as local wine."

Fruit juice

Tim has also been on the board of Appledale juice factory for many years. Appledale produces single strength fresh juice which sells at the high end of the juice market.

"The juice factory does give a reasonable return to growers though a grower could not survive by just supplying fruit for juice." "Appledale requires more fruit than is available locally. The juice factory has helped considerably in years with hail and frost damage."

Tim said they do not do their own bottling as they do not have the economies of scale for that.

"The juice is just another way in which we extract value for our fruit. While we aim to produce mostly Class One fruit, we need to be involved in many market outlets to ensure that as much fruit as possible has value. Not addressing these marketing outlets would make it quite difficult to make a good living out of orcharding," Tim concluded. ■



The Halls were pushing blocks and replanting each year until recently.



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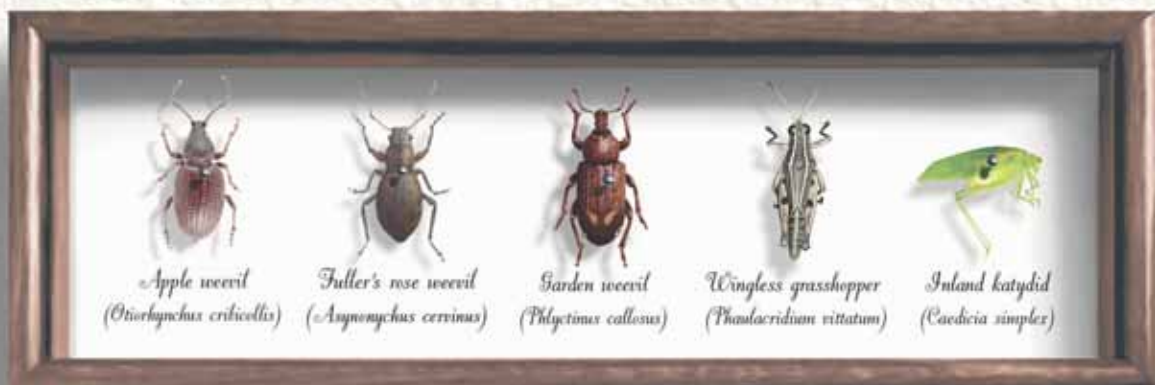
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Fuji and Red Delicious growers beware: Core rot chemicals no longer available.

By Dr Gordon Brown, Technical Editor – Apple and Pear

In writing this article, initially intended as a reminder to apply core rot fungicides at flowering, I discovered that the fungicides once used against core rot have been recently de-registered, and that the field consultants for two of Tasmania's chemical supply companies were not aware of this. Hence the conclusion to this article changed from a reminder to spray for core rot to one of what to do until an alternative approach is developed.

Core rot is a problematic disease of apples caused by a variety of fungi. Fruit infection occurs either during flowering or as a consequence of postharvest infections through dip tanks. The disease affects most apple varieties but is particularly evident in those varieties with an open calyx. Both 'Red Delicious' and 'Fuji' possess an open calyx and are highly susceptible to core rot. Special care is needed with these cultivars at flowering to minimise infection.

Apples exhibiting core rot disease have damaged the reputation of Australian orchardists and marketers both locally and overseas. To demonstrate this, in the early 2000s I was involved in an insurance claim for 23 containers of Australian fruit lost to this problem in an overseas market with a value of well over \$500,000 at that time.

The low level of market acceptance, typically less than five per cent for internal disorders, makes accurate quality assurance detection and documentation difficult and expensive, as at least 500 fruit per line will need to be cut to ensure the market tolerance levels are not exceeded.

Complicating the matter is that assessments in the marketplace are out of the grower's control and the assessments carried out - both by importers and insurance agents - are often poorly conducted; so it is easy for a sound line of fruit to be rejected. This, in combination with the inability to identify and grade out fruit with core rot prior to consumption, heightens the requirement for the lowest possible incidence of the disease in marketed fruit.

In the orchard, during the growing season, flowering time is when critical control of this disease is needed. Control in the packing shed is also needed if fruit are postharvest dipped

or drenched, either prior to storage or prior to grading.

Research into core rots, over a 15 year period, was conducted in Tasmania by the Department of Primary Industry from the mid 1980s using state government funds and apple industry funds which, from 1988, were matched by the federal government through three grants from Horticulture Australia (HRDC – AP011, AP604 and AP97007). James Wong was the original team leader and the project was taken over by Chris Archer when James left the department. Chris, despite many years as an apple researcher, never managed to gain permanent employment and consequently has since retrained and is now a pharmacist. Much of this article is based on their research.

The early years of the project confirmed that field infections occur at blossom time. The fungi enter the core cavity through the open calyx tube, infect, and later penetrate into the fruit flesh.

These studies confirmed that the incidence of core rots varies greatly from one orchard to the next. It was identified that core rots after long term storage were predominantly caused by *Pezizula* spp as well as *Alternaria* spp. It was also established that after short term storage *Alternaria* was the main cause of the problem with *Pezizula* developing during long term storage. Internationally *Penicillium*, *Mucor* and *Rhizopus* have also been identified as causing core rots.

There are two different types of core rot – dry core rot, usually caused by *Alternaria* and wet core rot, caused by the other fungi. Core rot caused by *Alternaria* results in tissue appearing dry and corky with air pockets, being straw to dark brown in colour. Lesions are usually small with diffuse edges. Seeds of core rot fruit are



Dry core rot showing fungal growth in the core cavity.

covered by hyphae and conidia. *Alternaria* can survive in the soil in the form of resting bodies (microsclerotia and chlamydospores). Under favourable conditions conidia are produced in large numbers on leaf debris and are spread by wind and rain.

There are two species of *Pezizular* that cause wet core rot but for practical reasons they are the same. This fungus survives as mycelium and conidia in branch cankers and in infected fruit left in the orchard. Conidia are exuded in a gelatinous matrix from infected tissue throughout the year and splashed onto wound sites and fruit by rain. Fruit infections after flowering often do not penetrate to the core but infection leads to target and ripe spot on harvested fruit skin.



Wet core rot.

Initially the studies investigated chemical control methods. Given that two different fungal genera dominated, different fungicides were needed. Many fungicides were evaluated but two were identified as being particularly effective.

Figure 1 provides data for two orchards where the background levels of core rot were high and fruit from these orchards would have been at risk of being rejected in the market. This shows that Rovral® was effective against dry core rot (orchard 1) and Benlate® effective against wet core rots (orchard 2) but either of these two materials alone did not reduce the incidence of core rot to a level where market rejections could be ruled out. It was not until both were applied together at flowering that

Figure 1. Incidence of core rot with eight spray applications at weekly intervals commencing at pink bud.

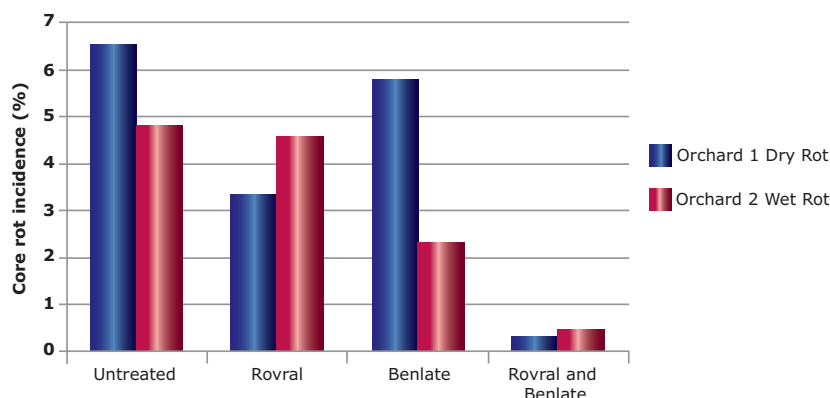
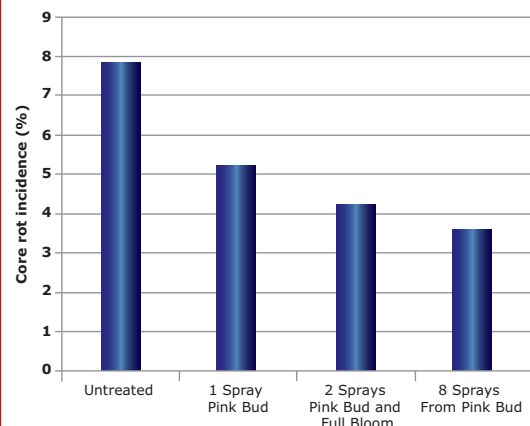


Figure 2. The number of sprays at flowering versus control of core rot.



reliable and good control of core rots was achieved. These two compounds appear to have been working synergistically or better than expected when they were both applied.

The next question was how many sprays were needed. Figure 2 provides a summary of the conclusion of this part of the study. Here it was found that two sprays were all that was needed and that these should be applied at pink bud and again at full bloom.

As a result of this work, by 1992, the recommendation that two sprays of Benlate plus Rovral at late pink and full bloom for the control of core rot became industry standard practice.

While this has proved to be a reliable method of controlling core rots in 'Fuji' and 'Red Delicious', as of this season the treatment is no longer legal. While Benlate was removed from the market several years ago, earlier this year, the alternative to Benlate, carbendazim, had

its registration for use on apples (and stone fruit) removed so it is now illegal to use any of the carbendazim products in apple orchards. In addition Rovral has had its registration for preharvest use on apples removed. This now means that no chemicals are currently registered for use against core rots in apples in Australia. Hence we can expect to see an increase in core rot problems until new control practices are developed.

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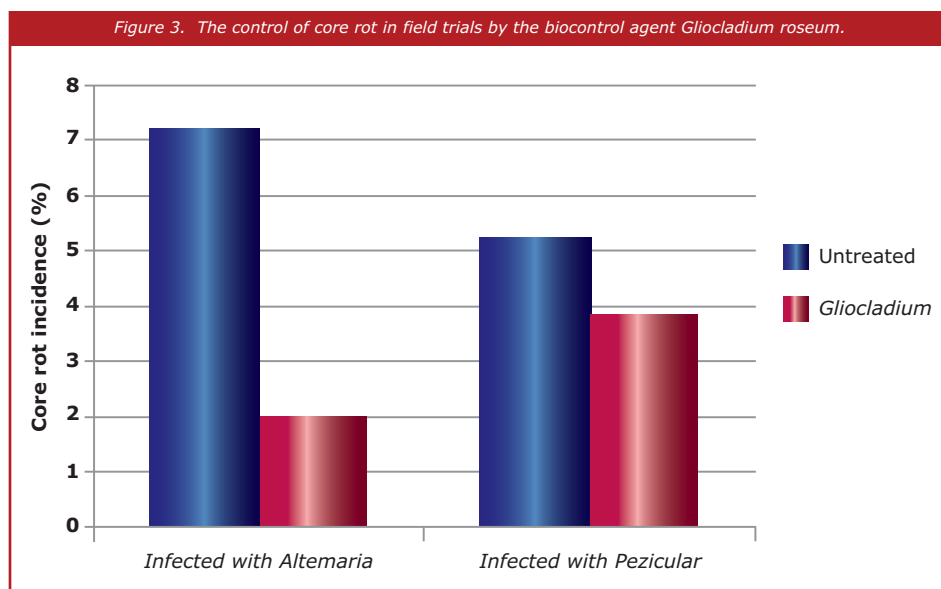
Fuji and Red Delicious growers beware: Core rot chemicals no longer available.

Until alternative control strategies are developed, this may present an interesting problem particularly for growers of 'Red Delicious' and 'Fuji'. Initially spore loads of core rot fungi in orchards will be low so there will be little effect in the first few seasons, but, as orchard spore loads increase, core rots may start to become a significant problem again. One of the unknowns in this prediction is the efficacy of black spot sprays registered for use from pink bud to full bloom, such as thiram, mancozeb, Delan®, Topas®, Flint® etc. against core rots. This will depend on the efficacy of the materials used against the core rot fungi and their application timing.

It may be wise in the short term to ensure that black spot cover sprays are maintained through flowering and that a variety of different materials be used until more is known. This approach against black spot may have a positive effect on core rot infections.

Of interest is that the fungicide thiram, which has been about for decades, is registered against target spot in apples and is also active against grey mould so this product may prove to become useful again. There are other issues with this material that I am sure growers are aware of.

Of course the other practice that should be employed in 'Fuji' and 'Red Delicious' blocks, while they are still relatively free of core rot fungi, is general orchard hygiene. As described above, the core rot fungi over-winter on leaves and remnant fruit. If these are removed from the trees and removed from the orchard or



their rapid breakdown in autumn encouraged with urea sprays, sweeping to the centre of the tractor alley and repeated flail mowing in winter, then this should reduce the quantity of primary inoculum thereby reducing the level of infection of the crop in the following spring.

It may be that eventually some funds have to be provided by industry to identify the efficacy of the new spray materials against core rot and obtain the information necessary for a permit or registration. Alternatives such as biological control agents and fungicide applications to the crop residues should also be investigated.

In the short term, to reduce the chance of fruit rejections in the marketplace due to core

rots, growers of 'Fuji' and 'Red Delicious' should ensure their orchard blocks are free of last year's crop residues before spring (sweeping, fertilising and mowing) and to ensure a range of different cover sprays for black spot control are applied to their crops from pink bud through to full bloom.

Of interest is that the original research into core rots outlined at the start of this article considered the chemical approach as a temporary fix while a more sustainable approach was developed.

Hence for the eight years after the chemical recommendation was developed a biological control approach to core rot was investigated. This started with an investigation into the

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Unharvested apples left to over-winter both on the tree and on the ground which could potentially provide a source of inoculum for core rots and other pests and diseases.

potential for both bacterial and fungal isolates sourced from apples for their control of core rot organisms. From this several bacteria that were active against core rot were isolated and one fungi, *Gliocladium roseum*, was found to overgrow the pathogens. Field trials were then conducted and the fungal biocontrol agent was found to be effective against both *Pezizula* and *Alternaria* core rots (Figure 3). In the final few years the use of a dish containing the fungal control agents placed at the entrance of honey

bee hives - in a position that forced the honey bees to come into contact with it as they exited the hives - proved to be an effective method of distributing the biocontrol agent and control core rots without the need for tractor operations. A common problem relating to biological control agents is the difficulty in translating research into commercial reality. There is a need for a significant financial investment by a commercial company to conduct the research to confirm efficacy, human safety and environmental impacts

prior to product protection and registration. While *Gliocladium* has a significant advantage over other biocontrol agents, in that it is easily bulked up on a variety of carbon and nitrogen sources, unfortunately commercialisation of this biocontrol agent did not occur. It is a shame that the person who developed this treatment and was the driver of its development could not find permanent employment in plant pathology and left the industry to pursue another non-agricultural career. ■



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Meeting the challenges of global food security: Implications for horticulture

The world's population is predicted to reach nine billion by 2050, additionally a growing middle class in developing nations will place even greater pressure on global food supply. It's no surprise therefore, that global food security has become a red hot issue for the media and governments worldwide.

In July 2009 at the G8 summit in L'Aquila, Italy, 26 countries, including Australia, and 14 multilateral agencies endorsed *The Joint Statement on Global Food Security*¹ which outlines a coordinated approach to food security.

The supporting countries and agencies (among these the United Nations, World Bank and World Trade Organisation) agreed "to act with the scale and urgency needed to achieve sustainable global food security". They acknowledged that "the food security agenda should focus on agriculture and rural development by promoting sustainable production, productivity and rural economic growth".

So what does 'food security' mean? According to the United Nations Food and Agriculture Organisation (UN FAO) the following definition applies: "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." Horticulture Australia's submission to the Agriculture and Food Policy Reference Group (C2005) provided a more 'local' definition: "Food security refers to the ability of Australians to have access to a safe and healthy food supply grown domestically."

The productivity and sustainability of food-producing industries, like horticulture, is now firmly part of the international and national agendas. In March 2010, the Minister for Agriculture, Tony Burke, raised the issue of global food security at the ABARE Outlook Conference, noting that food security is one of the "three biggest issues in the world" along with climate change and the global financial crisis.

The CEO of the Australian Centre for International Agricultural Research, Dr Nick Austin, also spoke on the need for a revolution in productivity to deal with global food security: "Population growth and constraints on food production, including from the anticipated affects of climate change and shifting supply and demand

patterns, must be balanced by improved agricultural yields. What is necessary is not one revolution in agricultural productivity, but a series of country specific responses to spark a range of mini-revolutions in productivity that leverages off intellectual capital and an understanding of the environment."

For more than 20 years Australia's horticultural industries, along with other agricultural industries, have been investing through rural research and development corporations, such as Horticulture Australia Limited (HAL), in sustainably improving their productivity. Productivity improvements in horticulture have been achieved through developments across all areas of production including improved seed and nursery stock through breeding and evaluation programs, optimising plant densities and growing systems, and management of soil, water, nutrition, pests, diseases and weeds. The apple and pear industry has invested in many of these areas.

Additionally, climate change will affect productivity across all industries and therefore will impact on food security. Some of the risks to food supply because of climate change include increased crop failure, new patterns of pest and disease occurrence, lack of appropriate seeds and planting material, and loss of livestock.

Speaking at the UN Secretary-General's High-Level Task Force on the Global Food Security Crisis in January 2009, Minister Burke said the global financial crisis and climate change were interrelated with food security. "Climate change represents a significant risk to the sustainability of the world's agricultural production... We face the challenge of improving food security, while at the same time reducing the emissions profile of agriculture," he said.

All industries that receive R&D funding through HAL contribute to the Across Industry Program. One of the projects being completed through the program this year aims to increase industry capability and understanding of climate change

and climate variability implications and begins to identify the actions required to address these impacts. In essence it is a national strategic response to the risk of climate change and climate variability.

The long-term goal is to increase the resilience of the horticulture industry to respond to climate challenges and subsequently maximise sustainable production, increase productivity and decrease the commercial risk of climate change and climate variability.

The project is being implemented from March 2010 to March 2011 under the three objectives of positioning and planning, research and development, and communication. It will result in the following outputs:

- The final version of the Horticulture Climate Research, Development and Extension (RD&E) Matrix
- A horticulture climate position paper, which will include a summary of commodity specific climate RDE needs and gaps
- Up to 10 topic-specific grower fact sheets based on currently available information
- A research-industry forum/workshop
- A consumer fact sheet

The Positioning & Planning component commenced in April 2010. Growcom's climate change officer, David Putland, has been commissioned to develop a strong industry position on the climate research, RD&E needs of industry and increase the incorporation of climate RD&E within commodity investment plans. David's role is to consult with industry, identify synergies/opportunities within investment plans, highlight any gaps in the Preliminary Horticulture Climate RD&E Matrix, and then develop the Horticulture Climate Position Paper. The Horticulture Climate Position Paper will sit in front of the Climate Matrix as a public summary and both documents will be available for all industry members to use. David will use the Climate Matrix as a trigger for discussions with industry members regarding their commodity-specific climate RD&E needs.

Australia and its horticultural industries have a vital part to play in meeting the challenge of the global food crisis. The investment in programs to increase productivity over the past 20 years and going forward will not only benefit the apple and pear industry, it will help to meet the increasing global demand for food. ■

¹ http://www.g8italia2009.it/static/G8_Allegato/LAquila_Joint_Statement_on_Global_Food_Security%5B1%5D,0.pdf



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Apricots: Does size really matter

By Michael Rettke (SARDI) and Marion Delanchy (Ecole Nationale Supérieure d'Agronomie de Montpellier, SUPAGRO – France)

A survey last season indicated that consumers may not be as fixated on the size of apricots as we might think. Could it be consumers are really looking for something else, flavour perhaps, but size is often all we have to offer them?



This apricot has real flavour, where can I buy it.

At the conclusion of the survey, participants frequently enquired as to where they could purchase the 45mm "SBTcot" apricots. Not a single participant asked where the 50 and 55mm 'Castlebrite' fruit were available.

Supply side perceptions

There is little doubt a high degree of importance is placed on producing large apricots, just ask anyone involved in the apricot industry - from the nursery promoting a variety to the retailer selling the product - and the response is almost unanimous. Common responses are "you need large size" or, put more precisely by some, "50mm is the minimum to aim for".

"Does the price differential seen, truly reflect the thought processes of the majority of consumers buying the product?"

A visit to your local retailer is likely to reinforce your belief in the necessity to produce large sized fruit. Last season it was common to see 52-55 millimetre apricots beautifully presented and carrying a price tag of \$10 per kilogram, while out the front of the same store were 1kg bags of 45-47mm apricots selling for \$4 or less! Combined with the higher costs to pick, pack and handle a smaller sized apricot, this is a dangerous message for anyone in the apricot supply chain to ignore.

However, does the price differential seen, truly reflect the thought processes of the majority of consumers buying the product? Often the eating experience delivered by both products is similar; all too often that is poor in both cases.

Consumer insights

To test how strong the bias of consumers is for large sized fruit, and to see if flavour has the potential to override it as a price driver, last season we conducted a 'willingness to pay' survey. Shoppers arriving to purchase fruit at a greengrocer's store were surveyed in Adelaide. All participants in the survey liked to eat apricots.

The first surprise was that the majority of participants (59 per cent) responded that they did not care about the size of apricots when specifically asked. Mostly this was because

they consider that "size does not determine the best fruit" and that "different sizes can be good" and for them "it is flavour that is important" and "taste and size are not related".

That said, when participants were presented with actual fruit of different sizes rather than simply asked, most participants expressed a size preference. Three different sized individual apricots (45mm, 50mm, and 55mm) of the 'Castlebrite' variety were placed in a line.

More than half (56 per cent) of the participants chose the 50mm sized apricot (Figure 1). The 45mm apricot was chosen by 23 per cent and the 55mm apricot by five per cent of people.

The remainder of the participants either did not care (three per cent) or nominated two sizes: 10 per cent chose both the 45mm and 50mm and three per cent chose both the 50mm and 55mm.

Results were similar when participants were shown fruit of the same three sizes in bowls each containing a sample of five fruit. In this case the 45mm fruit was not 'Castlebrite', but was an unreleased breeding line which we will call "SBTcot" for the purpose of this article.

SBTcot of 45mm size proved a little less popular on appearance than the 'Castlebrite' fruit of the same size previously surveyed, only being chosen by 18 per cent of participants.

Apricots 50mm in size were again the most popular (51 per cent). The 55mm 'Castlebrite' presented in a bowl did better than when presented as an individual fruit, with 15 per

Table 1: Top 4 priorities when selecting apricots to buy from highest (1st) to lowest (4th). Ranking of priorities conducted by survey participants on the list of six criteria provided. (Total number of participants = 40)

Selection Criteria	Percentage of participants nominating selection criteria (%)				TOTAL
	1st Priority	2nd Priority	3rd Priority	4th Priority	
Flavour#	43	15	5	7	70
Price	26	26	13	8	73
Appearance	15	15	20	13	63
Texture#	8	26	13	13	60
Colour	8	15	31	23	77
Size	0	0	13	18	31
Did not respond	0	3	5	18	

#Some participants mentioned flavour and or texture, but did not list them as a priority as they felt they could not be assessed at the time of purchase.



► cent of people choosing it. The remainder of participants (16 per cent) either did not care or chose more than one size.

"I would not buy those big ones at any price now I know what they taste like"

What do consumers focus on when selecting apricots?

Participants were shown a list of six selection criteria and asked to rank from highest to lowest priority (appearance, colour, size, price, flavour, texture). Flavour was the greatest concern to the participants surveyed (Table 1).

Once again this question indicated a lack of consumer concern for size, with no participant

listing size in their top two priorities and less people including it in their top four priorities than any of the other five selection criteria provided.

Does real apricot flavour override the appeal of fruit size?

Results of this survey would suggest the answer to this question is "yes" as, after tasting the three samples, over a quarter (26 per cent) rejected the 50 and 55 mm 'Castlebrite' apricots saying they had no value whatsoever: "I would not buy them now I know what they taste like".

'Castlebrite' is a widely grown variety. If they are all like the commercially sourced fruit used in this survey, we can only guess the suppressive impact this would be having on sales of apricots. On the other hand, once they had tasted them, 100 per cent of the participants indicated that

they would buy the SBTcot apricots. ("I would not buy those big ones at any price now I know what they taste like") SBTcot has a characteristic apricot flavour, good sugar levels (20°Brix) with a reasonable acid balance and standard eating texture. Simply described it is a classic looking apricot having a real apricot flavour.

What about the impact on willingness to pay?

To quantify the relative impacts of size and of eating experience on price, participants were asked twice what they would be prepared to pay per kg for each of three samples of apricots.

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Apricots: Does size really matter

► Firstly they offered a price per kg for each sample based on appearance only. Then after pricing each of the three samples they were allowed to taste a representative fruit of each sample before being asked to reprice them. All samples were of a similar firmness.

Size of the fruit had an influence on the average price participants were initially willing to pay. On looking at the samples, participants were willing to pay \$4.86 for 55mm 'Castlebrite' apricots, \$4.54 for 50mm 'Castlebrite' apricots and \$3.77 for 45mm SBTcot apricots (Table 2).

Tasting the apricots resulted in a major shift in the prices participants were willing to pay. After tasting, 82 per cent of participants assigned their highest price per kg to SBTcot apricots, delivering an average price of \$5.09. This is a higher average price than offered for any of the apricots prior to tasting.

Negative taste responses for 'Castlebrite' resulted in a substantial downgrading in the price per kg participants were willing to pay, with on average only \$3.97 and \$3.84 being offered for the 50mm and 55mm 'Castlebrite' apricots respectively. These prices do not take into account the 26 per cent of participants who were lost sales and now not willing to buy the 'Castlebrite' fruit at all.

Will it translate at the checkout?

In this era of value chain thinking, ideally we should be guided by the consumers, but even they do not always act as they say. This is exemplified by their behaviour within this survey.

The majority of participants in the survey said they preferred the 50mm (or even the 45mm) apricots over the 55mm apricots based on their size. Yet 48 per cent of those that said they

preferred the 50mm and/or 45mm apricots went on to price the 55mm apricot at a greater dollar amount per kg and a further 38 per cent the same dollar amount.

It seems these participants had a strong ingrained perception that you have to pay more for larger fruit, even despite them actually saying they preferred the medium or smaller sized fruit presented. The market has trained them well (?). Temporarily at least, the taste test in this survey quickly re-educated them. Providing in store samples for tasting would have a similar impact and no doubt generate substantial sales on the day, as long as the apricot being promoted tasted good, irrespective of its size.

However, for fruit shoppers to continue to buy apricots after the taste samples disappear, would require consumer trust in the eating quality of the apricots being sold. Marketing alone will never achieve that; it needs to be in conjunction with consistent delivery of a good eating quality apricot and that is the real challenge.

Marketing flavour is not as easy as marketing size

It could be argued that targeting the segment of the market that is attracted to large sized fruit and extracting a substantial premium is good business. It probably is. Size is easy to specify, fairly easy to grade for, clearly differentiates the product, and is understood at the wholesale and retail level. If a grower were to try and sell a 45mm apricot as a 50mm line, they could expect a call either rejecting the product or reducing the price.

Irrespective of merits at the consumer level, size is currently a strong determinant of price in the market place and as such is focused on by all members of the supply chain. That does not mean this strategy is maximising value of sales for the industry. Increasing apricot consumption relies on repeat sales.

Done successfully, a marketing strategy targeting the large segment of consumers looking for real flavoured apricots could grow overall consumption of apricots.

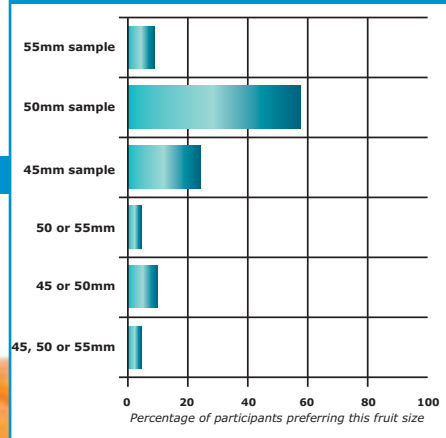


Table 2: Impact of tasting compared with only viewing 55 mm Castlebrite, 50 mm Castlebrite and 45 mm "SBTcot" apricots on survey participants willingness to purchase and to pay. (Total number of participants = 40)

Fruit Category	Average price offered by participants that were willing to purchase		Rejected the product – would not buy	
	Appearance only	After tasting	Appearance only	After tasting
Castlebrite 55 mm 	\$4.86	\$3.84	3 %	26 %
Castlebrite 50 mm 	\$4.54	\$3.97	0 %	26 %
"SBTcot" 45 mm 	\$3.77	\$5.09	3 %	0 %



Figure 1: Survey participants preferred size of apricot chosen from three Castlebrite apricots (45mm, 50mm, 55mm). (Total number of participants = 40)



► In reality, what is going to have the greatest impact on whether a consumer will buy more apricots the next time they shop?

- Eating a fruit that is 45mm and not 50mm (given they paid for it by the kg) or
- Eating a fruit that tastes like an apricot, rather than like acidic cardboard (given they paid for it as an apricot)

Compared with size, flavour is not easily specified, is more difficult to grade for, not apparent to the consumer without tasting, and difficult for wholesalers and retailers to legitimately and consistently differentiate on. As such, across the industry, there is a poor level of discipline on the marketing of apricots with no or objectionable flavour.

Yet it is the flavour and eating quality that drive repeat sales.

The need to become more flavour conscious

Trying to produce 50mm apricots that look good is still important, but over and above this the market is crying out for industry to focus on having a product that meets the consumers' number one priority – good eating quality – whether it be in an apricot that is big, medium or small. ■



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InfoStone - helping summerfruit growers make better informed decisions

Summerfruit Australia's new online data collection system - InfoStone - is collecting plantings and production data from stonefruit growers across Australia.

The aim is to then publish aggregated reports so that stonefruit growers have more accurate industry information on which to base management and marketing decision. The reports should assist growers to identify opportunities for future growth and maximise profits.

The data being collected from growers includes fruit type, number of trees planted, tree age and harvest time. On an annual basis, growers will also be asked to record an estimate of the volume of fruit they expect to produce and at the end of the season to provide updated information on actual yield.

The data provided by individual growers is strictly confidential. Contributors will only receive aggregated data reports, and it is not possible for contributors to see the individual data provided by other businesses. To date, presentations about InfoStone have been held in the Swan Hill and Cobram regions. Growers

Swan Hill and Cobram growers at an InfoStone presentation.



were presented with a draft of what is being proposed and asked for feedback. Overall the response from growers has been positive.

Data collection systems similar to InfoStone are being used successfully by a number of other horticultural industries, including the avocado, citrus and macadamia industries. Avocados Australia collects and correlates avocado crop flow data via its online system 'Infocado'.

Western Australian avocado grower Russel Delroy was recently quoted in regard to the benefits that good industry data has provided to the avocado industry. He commented on the flow of information, "In the past this was one of the biggest issues we had in dealing with the supply chain - knowing what the rest of the industry was doing or what the size of the

crop the rest of the industry had, because there was a lot of misinformation that floated around. It was difficult to work out if we needed to push a product hard to get through a period of high supply or there wasn't a period of high supply." Mr Delroy recalled that a lot of growers were once guarded about what information they supplied, whereas now they look at it as an industry.

"Together we have a crop of a particular size that we need to sell and we're all in the same boat. If we work together we can manage to sell the national crop, whether it's a big crop or a small crop, and we can maximise the returns and sell it in a better condition and more timely and planned manner that works better for retailers."

Citrus Australia has also developed the 'InfoCitrus' data system as a management tool to enable packing businesses in the Queensland citrus industry to understand what is happening in the market place. They use this information to their advantage with an aim of maximising returns for their businesses and their suppliers. John Moore, CEO of Summerfruit Australia, commented that he is very enthusiastic about this project.

"InfoStone will collect important industry data that will open up a lot of strategic planning advantages for businesses in the industry. I am encouraging all stonefruit growers to participate as it is important that the data is as accurate and complete as possible."

Summerfruit Australia is looking for all stonefruit growers to enter data so that the data is as accurate as possible. Access to the InfoStone system is free and only growers that provide data will have access to the reports. For more information on InfoStone contact: Vanessa Wight, Industry Development Officer (Vic). T: 0447 511 344, E: ido@summerfruit.com.au ■

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Deficit irrigation increased fruit cracking in Pink Lady

Report by Ian Goodwin and Dario Stefanelli, DPI Victoria

Heavy rainfall in February and March 2010 combined with deficit irrigation resulted in a high percentage of fruit cracking in a Pink Lady™ irrigation experiment in the Goulburn Valley. Scientists from the Department of Primary Industries Victoria are investigating the effects of deficit irrigation on fruit yield and composition as part of the APAL-funded PIPS (Productivity Irrigation Pests and Soils) program.

Apple firmness, colour, sweetness and antioxidant concentration as well as physical damage are being measured in response to different amounts of irrigation during the season. Some of the results from the first season are presented in this article.

Site

A deficit irrigation experiment was established in a commercial Pink Lady apple orchard in Shepparton East in Spring 2009. Trees were trained as central leader and spaced at 2.5 metres along rows and 5.0m between rows.



Mid-season effective area of shade (Goodwin et al., 2006) was approximately 40%.

Trees were micro-irrigated using turbulent flow jet stream sprayers located midway between trees along the tree-line approximately 0.4m above the soil surface. Pests, diseases and weeds were managed by the grower and were the same for all treatments. Harvest was in late-April 2010.

Treatments

The experimental layout was a randomised complete block design with five treatments replicated five times. A plot consisted of four

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Deficit irrigation increased fruit cracking in Pink Lady

trees and measurements were made on the central two trees in each plot.

Irrigation treatments were 38, 50, 74, 100 and 162 per cent of grower irrigation practice. To achieve the appropriate levels of irrigation, emitters were installed with a range of flow rates. Irrigation run time was the same for all treatments. Irrigation inputs were applied and managed by the owner of the orchard.

Irrigation inputs

In the 2009-10 season an equivalent of 4.4 megalitres per hectare (i.e. 440mm) of irrigation was applied by the grower to the 100 per cent treatment while approximately 7.1 Ml/ha (i.e. 710mm) was applied to the 162 per cent treatment (Table 1).

Table 1. Irrigation amount applied to each treatment (% of grower practice), rainfall, estimated apple orchard water use (WU) and reference crop evapotranspiration (ET_o) for 2010 (1 Oct 2009 to 30 April 2010) inclusive.

Treatment	Irrigation (mm)	Rainfall (mm)	WU (mm)	ET _o 1 (mm)
38 %	162	330	755	1056
50 %	220	330	755	1056
74 %	324	330	755	1056
100 %	441	330	755	1056
162 %	713	330	755	1056

¹ET_o was sourced from SILO (<http://www.longpaddock.qld.gov.au/silo/>)

Rainfall was 330mm. Three significant rainfall events occurred during the season. The first was in late November (346mm over a three-day period), the second in early February (52mm in one day) and the third in early March (101mm over a five-day period) (Figure 1).

Figure 1. Cumulative reference crop evapotranspiration (ET_o), estimated apple orchard water use (WU), irrigation amount applied to the 100 % treatment (grower practice) and rainfall for the 2009/2010 season.

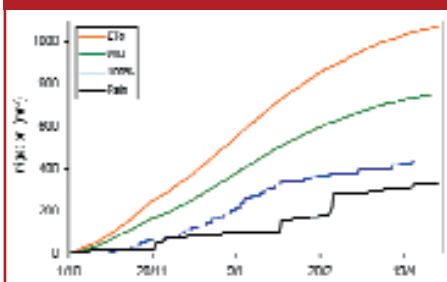
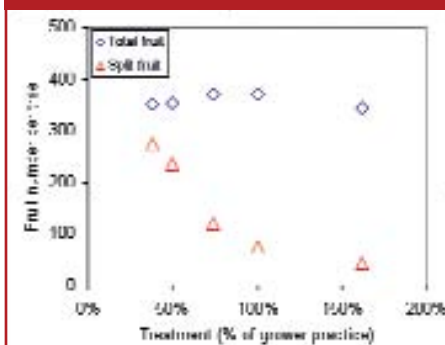


Figure 2. The effects of irrigation treatment (% of grower practice) on the total number and the number of split Pink Lady fruit per tree at harvest.



Reference crop evapotranspiration (ET_o) – equivalent to water use of grass – was 1056mm for the season and our estimate of apple orchard water use (WU) for the season was 755mm. Irrigation by the grower (i.e. 100 per cent treatment) matched WU during December and January (Figure 1). Irrigation was cut back during February and March because of rainfall and there was a clear divergence between WU and irrigation.

Yield and fruit size

Total yield (kg fresh weight) and fruit number were determined by removing, counting and weighing all fruit from each plot. Fruit that was severely cracked (non-marketable), minor cracked (marketable) and physically damaged

from pests and disease or small (<100 g) (non-marketable) was separated, counted and weighed. Average fruit weight (g fresh weight) was calculated from fresh weight yield per plot and fruit number per plot.

Irrigation deficits had a significant impact on the number of fruit with cracking (Figure 2). There was no difference between the 100 and 162 per cent treatments. The number of fruit with cracking increased with increasing water deficits.

Cracking was predominantly around the calyx (Figure 3) and varied from deep cracks to surface scarring. Fruit with surface scarring around the calyx was deemed to be marketable.

Many of the fruit from the 74 per cent treatment were marketable and hence total marketable yield in the 74, 100 and 162 per cent treatments was similar but decrease rapidly in the 38 and 50 per cent treatments (Figure 4). Marketable fruit weight was highest in the 162 per cent treatment and lowest in the 38 per cent treatment.

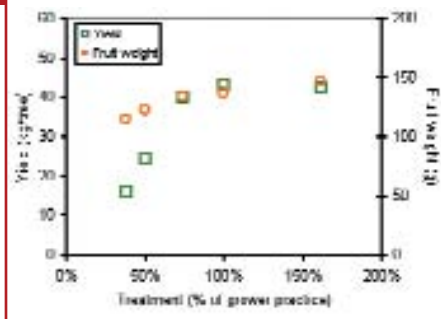
Weekly measurements of fruit diameter showed that there was a spike in fruit growth rate immediately following the rainfall event in February and the magnitude of the spike was inversely related to irrigation treatment (Figure 5). Growth rate response post-rainfall event was lowest in the 162 per cent treatment and

Figure 3. Pink Lady apples at harvest showing cracking around the calyx. Both these fruits were graded as non-marketable fruit.





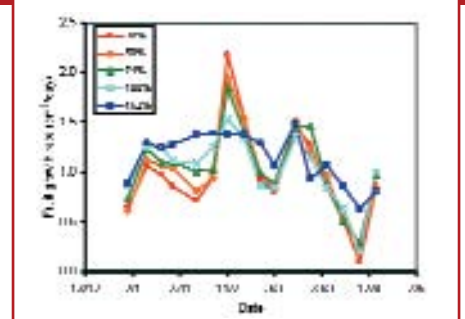
Figure 4. The effects of irrigation treatment (% of grower practice) on Pink Lady fresh weight yield per tree and average fruit weight per tree of marketable fruit.



Conclusion

Heavy rainfall in February and March 2010 combined with deficit irrigation resulted in a high percentage of fruit cracking. Irrigating to 75 per cent of estimated crop water requirement did not impact on marketable yield however this assumes that surface scarring around the calyx would be tolerated by the market.

Figure 5. The effect of irrigation treatment (% of grower practice) on Pink Lady fruit growth rate from late December to harvest.



Further information:

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E: ian.goodwin@dpi.vic.gov.au

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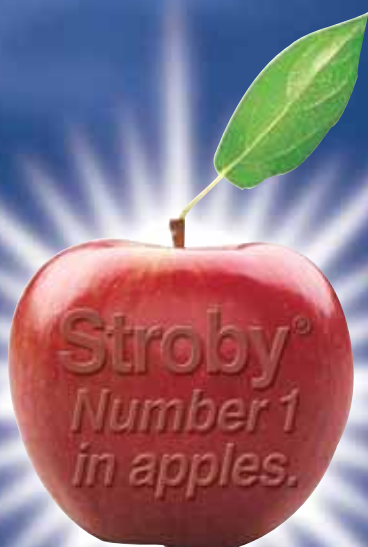
Goodwin, I., Whitfield, D.M. and Connor, D.J. (2006). Effects of tree size on water use of peach (*Prunus persica* L. Batsch). *Irrigation Science* 24:59-68. ■

highest in the 38 per cent treatment. There was another spike following the rainfall event in March but this did not relate to irrigation treatment.

Previous studies on apple have shown that water deficits increase the concentration of soluble solids in the fruit predominantly through a reduction in fruit size. Such an increase in soluble solids predisposes the fruit to rapid uptake of water and cell expansion. The skin of Pink Lady cannot tolerate the internal pressure created by the rapid expansion and thus cracks in vulnerable positions like around the calyx and stem.

From these results it is difficult to determine if the rapid expansion in the fruit was from direct water absorption through the skin or uptake by the roots.

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Summerfruit resrach update

Compiled by Prof. Barry McGlasson, Technical Editor - Summerfruit

Orchard management

Seasonal pattern of net nitrogen rhizodeposition from peach trees (*Prunus persica* (L) in soils with different textures

This Italian study examined nitrogen levels in coarse and fine textured orchard soils. Rhizodeposition refers to the accumulation of organic matter in the soil, mainly from the death of tree roots. The fine textured soil retained more organic matter and mineral nutrients and had lower pH. The peach trees grown on peach x almond rootstocks transferred significant amounts of nitrogen back to the soils through rhizodeposition, especially during the autumn-winter period. Soil texture affected the availability of nitrogen and its uptake. These differences could be partly responsible for the limitations on growth of trees in fine textured soils. *Scandellari F et al. 2010 Agriculture, ecosystems and environment 136, 162-168.*

Mitigation of severe water stress by thinning in 'O'Henry' peach; implications for fruit quality

In Spain, water restrictions may be imposed in mid-summer before the harvest of mid-season cultivars. In this study the trees were watered according to standard practices by drip irrigation until Stage 3 of fruit development. Fruit thinning was delayed until the beginning of Stage 3. The authors found that water status had much more impact on fruit quality than fruit thinning. Severe water stress during Stage 3 reduced fruit size, delayed maturity, increased both SSC and acidity levels, reduced juiciness and reduced eating quality. *Lopez G et al. 2010 Scientia horticulturae doi:10.1016/j.scientia.2010.04.003.*

Soil fungal communities as indicators for replanting new peach orchards in intensively cultivated areas

The decreasing availability of land for fruit tree crops in Italy, Spain and France has required replanting of intensively cultivated orchards leading to 'replant disease'. The authors conducted an intensive study of the species of fungi in replanted peach orchards and in intensively cultivated vegetable sites near the orchards. They identified some fungal species that could be used as indicators of soil health. Retention of high levels of organic matter in soils can encourage a better balance between pathogenic and beneficial fungi. *Manici LM and Caputo F 2010 European journal of agronomy doi:10.1016/j.eja.2010.05.005.*

Quality analysis of 'Redhaven' peach fruit grafted on eleven rootstocks of different genetic origin in a replant soil

This trial was conducted in Slovenia in an orchard previously planted to peaches. The rootstocks included a wide range of different species and intraspecific hybrids. Several of these rootstocks produced fruit of excellent nutritional quality and health-promoting properties. The authors reported that peach has been accepted as a functional food, presumably in Europe, because of its low caloric content, antioxidants, vitamins, minerals and fibre. *Orazem P et al. 2010 Food Chemistry doi: 10.1016/j.foodchem.2010.07.078.*

Long-term effects of managed grass competition and two pruning methods on growth and yield of peach trees

This trial was conducted in West Virginia, (USA) for 14 years. The trees were trained with wide-angled scaffold limbs and open centres. Pruning at two intensities was conducted to maintain canopy size. The inter-row area was kept vegetation-free or sown to grass. The authors found that reduced pruning increased number and yield of fruit but fruit size was

decreased. Grass cover reduced fruit load but maintained average fruit weight. They concluded that a level of pruning and competition from ground covers could be used to manage tree size and crop load without sacrificing preferred fruit size. The authors cautioned that these results were obtained under humid climatic conditions. *Tworokski TJ and Glenn DM 2010 Scientia horticulturae doi:10.1016/j.scientia.2010.06.020.*

Infrared canopy temperature of early-ripened peach trees under postharvest deficit irrigation

California has been under extended drought conditions and it is necessary to improve irrigation efficiency. Controlled deficit irrigation for summerfruit was developed by Chalmers et al. (1981) in Victoria to improve SSC in fruit and to control excessive canopy growth. When trees are water stressed, transpiration is reduced and leaf temperatures rise. These authors evaluated the use of infrared thermometers after harvest for scheduling irrigation. The trees were grown in sandy loam soil and irrigated by furrow or a subsurface trickle system. The trial began in 2005 after peach harvest but measurements of yield, weight and external fruit quality were not made until 2007-08 and 2008-09. A reasonable correlation ($R^2 = 0.67-0.70$) was found between stem water potential and the difference between canopy and air temperatures showing that it is possible to use canopy temperature to trigger irrigation. *Wang D and Gartung J 2010 Agricultural water management doi:10.1016/j.agwat.2010.06.014*

Dormancy and winter chill requirements

Effects of shading and thidiazuron + oil treatment on dormancy breaking, blooming and fruit set in apricot in a warm-winter climate

This study was conducted in Spain at latitude N38 from 2005-2008 on 'Poppy' that were seven years old in 2005. Shading (80% shade cloth) during autumn-winter reduced maximum daily temperatures by 5°C indicating a 20% increase in chill units compared to unshaded trees. However, this effect did not increase precocity in blooming and ripening dates as expected. Overall, shading gave variable results over the three years. Treatment with thidiazuron (TDZ) and winter oil (applied when 2/3 to 3/4 of the chilling requirement had been met) induced earlier and more uniform flowering. Pistil abortion was increased when chilling accumulation was low and this led to reduced fruit set. Harvest date was advanced by up to 9 days by application of TDZ and winter oil. *Campoy JA et al. 2010 Scientia horticulturae doi:10.1016/j.scientia. 2010.03.029.*

Gene expression of DAM5 and DAM6 is suppressed by chilling temperature and inversely correlated with bud break rate

Molecular biology techniques are being applied to the study of regulation of dormancy in deciduous fruit trees such as summerfruit. These genes are highly expressed in dormant buds of peaches before exposure to winter chilling and their expression falls to a minimum when chill unit requirements have been met. *Jiménez S et al. 2010 Plant molecular biology 73, 157-167.*

Identification of genes associated with bud dormancy release in *Prunus persica* by suppression subtraction hybridization

These authors used microarray analyses to detect genes associated with the maintenance and release of seasonal dormancy. They confirmed that genes DAM4, 5 and 6 are associated with dormancy in peaches. *Leida C et al. 2010 Tree physiology 30, 655-666.*

Nutritional quality

► Changes in physicochemical and nutritive parameters and bioactive compounds during development and on-tree ripening of eight plum cultivars: a comparative study

The authors performed comparative studies on changes in physical, chemical and nutritive parameters and bioactive compounds in eight yellow and dark purple plum cultivars. Changes in flesh and skin colour, total soluble solids, firmness and bioactive compounds began early in fruit development. Total antioxidant activity was always higher in the skin and the flesh. Water soluble antioxidants mainly comprise phenolics and total anthocyanins (purple colours) and fat soluble antioxidants were positively correlated with carotenoids (provitamin A). Purple plums contain twice as much water soluble compared to fat soluble antioxidants but the ratios were reversed in yellow plums. To achieve maximum nutritional properties the authors recommend harvesting plums at the fully ripe stage. *Díaz-Mula HM et al. 2008 Journal of science food and agriculture 88, 2499-2507.*

Changes in hydrophilic and lipophilic antioxidant activity and related bioactive compounds during postharvest storage of yellow and purple plum cultivars

This study was done by mostly the same group of authors who conducted the above study on the same series of plum cultivars during fruit development. No significant loss of bioactive compounds and total antioxidants was found during prolonged cold storage at 2°C. *Díaz-Mula et al. et.ai.2009 Postharvest biology and technology 51, 354-363.*

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Postharvest

Postharvest management of gray mold and brown rot on surfaces of peaches and grapes using electrolysed water

Hypochlorous acid is produced by passing a 1% sodium chloride solution through an electrolytic cell that contains a separate anode (oxidising) and cathode (reducing) chamber. At the electrode chloride ions and water are converted to chloride oxidants. The pH of the solution is maintained at 6.6 to slow loss of the high oxidation-reduction potential of the solution. Electrolysed water can be used instead of commercial bleach for sterilizing surfaces by dipping or spraying with low chlorine residues. The high pH of the solution reduces the release of free chlorine. *Guentzel JL et al. 2010 International journal of food microbiology doi:10.1016/j.ijfoodmicro.2010.07.028.*

Synergistic effect of heat treatment and salicylic acid on alleviating internal browning in cold-stored peach fruit

Heat treatment at 38°C for 12 hours at high RH and salicylic acid (1mM) either alone or combined reduced the incidence of internal browning, a form of chilling injury, in an unnamed peach cultivar stored at 0°C for up to 35 days. The combined treatment was more effective than either treatment alone. *Cao S et al. 2010 Postharvest biology and technology doi:10.1016/j.postharvbio.2010.05.010. ■*



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The facts for a levy increase and the process involved

Report from Ian McAlister, Chair - Summerfruit Australia Ltd

At the Summerfruit Australia Ltd (SAL) annual general meeting held in Cobram on 28 August last year, a motion was proposed and passed by a large majority of those who attended to raise the current levy. This action was the direct result of a presentation, put forward by the SAL Board, of the important projects that weren't possible purely through lack of funding.

To raise a levy or to increase one already in place, there is a standard 12 point process that must be followed. On 5 March this year the summerfruit Industry Advisory Committee (IAC) approved a project to have a business plan for the levy increase drawn up, and also the funds to conduct a road show Australia-wide. A consultant was duly appointed but unfortunately, as a result of a restructure within Horticulture Australia Ltd (HAL), the project wasn't signed-off on until mid-July 2010. Then the Federal Government decided to call an early election.

This, combined with the fact that a particular person or a group conducted a phone poll around the country - without any of the real facts - in a bid to scuttle the whole process, left the Board in a totally untenable position. The Board decided that, with all the distractions in August and with the 2010 season in the wings, it would be a far better strategy to conduct a road show in May or June next year.

As the Federal election was in campaign mode for what seemed like forever and as polls are conducted every day, it would be a great option to be able to conduct a poll to see what growers really think; it would save a hell of a lot of directors' time and would certainly save valuable funds that could be allocated to a myriad of other projects. There is also the perception out there that myself and the Board are pushing the levy barrow; this is certainly not the case and we are obligated to honour the AGM motion.

While the current funding level is in place, the Board and -IAC have an almost impossible task allocating funds to projects that desperately need to be put in place to ensure our industry can continue to grow. A particular project may get the nod while five other projects that are equally deserving and important to industry are thrown in the bin.

Shortly, the table grape protocol for China will hopefully be signed off. Summerfruit is next in the queue and a large amount of time and money will be required to ensure that a quick resolution is achieved. Other industries recompense their chairperson and directors for the time spent away from their personal businesses; we don't. And, as market access is a very time consuming exercise, we really struggle.

With the reopening of Taiwan it is paramount that our presence is established in the most professional manner possible. Although we have budgeted for this for over 18 months we are underdone and, as the re-launch will be in peak season, time will again be critical.

If, as a grower, you think a congested domestic market is manageable and/or market access and market maintenance is unimportant, then you wouldn't vote for a levy increase. But if you think export will help your business then the answer is obvious. To expect someone else - at their own expense - to deliver extra markets to your front door is ridiculous.

The dimethoate and fenthion issue has really burnt up a lot of resources of late. Without these two chemicals fruit fly-free areas will cease to exist. None of the other growing areas are safe either as a fruit fly incursion would shut them down. Without these chemicals as a dipping protocol there is no other protocol to ship fruit anywhere! (There is no other replacement chemical available or on the horizon at this point in time).

The review of these chemicals has been in progress for a long time. Fred Baronio and John have attended countless meetings and teleconferences all over the country battling for our industry. I must thank Fred for the days of unpaid service. Once again, if you can farm without chemicals (there is a huge list that the AVPMA are looking at) don't vote for a levy increase.

Promotion of our product is the hard question - do we or don't we? It doesn't matter what the Board seems to do (with \$300,000 we can't do much any way), someone will come out of the woodwork and complain

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that we are favouring someone! The facts are that the retailers promote themselves and the price they are selling the product for; the marketing companies do the same. Unless we, as the industry, promote why our fruit should be the consumer purchase of choice (providing health benefits etc), then the category will never grow.

The small amount of consumer research conducted over the last two years doesn't show the category in a good light at all, and industry has a long haul in front of us to win back consumer confidence. A well-run promotional campaign and more R&D into what the consumer really wants is critical in my opinion.

One of the standouts for me last season was the success of the 'Con the Fruiterer' campaign on a very small budget. As a matter of fact, an independent retailer with several shops confided to me at one of the promotional workshops that he personally spent more on advertising than the whole of the summerfruit industry in a financial year. Once again, if promotion and consumer research is unimportant to your business then a levy increase is out of the question.



One of the other problems SAL has along with many other industries is that we don't have an agri-political voice. Prime matters of concern like water security, biosecurity (pest and disease incursions) and the award modernisation etc all go without query because, once again, maintaining a political voice costs money and it is a luxury we don't have.

Next year SAL should have a simple business plan to present, I don't think it needs to be 200 pages, all the Board asks is that the levy issue is given a fair hearing without prejudice. We will present the case. The growers will vote on the industry's future. ■



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International apple and pear research update

Compiled by Dr Gordon Brown, Technical Editor – Apple and Pear

Nursery and Varieties

Turkey

Microscopic examination of graft healing in apple over time found that for all rootstock/scion combinations, vascular connection had occurred within 90 days and all spaces had filled with callus tissue by 120 days after grafting. It was noted that for Pj80/Redchief and M16/Red Spur there was excessive callus formation between the stock and the scion.

China

Apple genetic markers showed a high transferability to the pear genome indicating their suitability for application in germplasm evaluation and genetic relationship analysis of pears.

Greece

The apple cultivar Achilles is a natural red coloured mutation of a Greek cultivar Firiki with white, aromatic, crisp and juicy flesh which maintains its firmness, juiciness and flavour in standard cold storage for 7 months.

Romania

A new system of selecting diseases resistance in juvenile apple breeding lines has been developed

that reduces the time needed to select the disease resistant lines from 28 years to 20 years.

Turkey

In studies of rooting in softwood cuttings of M9 rootstocks it was found that the highest percentage, 46%, occurred with cuttings growing in 95-100% RH without the use of rooting hormones.

USA

The apple cultivar Wa 2 originated from a seed collected in 1994 from an open-pollinated fruit on a Splendour tree. It is an attractive bicoloured apple which is very firm, crisp and juicy. It loses very little firmness in storage.

Production

New Zealand

In two field trials using commercially available *Trichoderma* formulations against apple replant disease it was found that the improved growth observed with the materials was due to a formulation additive and not the 'live' *Trichoderma* inoculum.

Italy

Field trials were conducted in 2009 to study the effects of benzyladenine, ethephon, naphthaleneacetamide (NAAM), naphthalene acetic acid (NAA) and commercial foliar nitrogen fertilisers based on ammonium thiosulfate on apple thinning and the results confirmed interactions between the treatments and weather conditions and showed that all the treatments studied were good alternatives to carbaryl.

Germany

Research on Pinova and Fuji Kiku 8 apple quality after growing under different coloured hail nets found that nets increased chlorophyll and reduced anthocyanins in the skin. The red-white and white hail nets had the least impact on the fruit quality.

China

In studies of pollen growth in the style of self compatible and self incompatible apple cultivars it was found that after 24 hours of growth the pollen tube stopped half way down the style and this was accompanied by an increase in the style of various enzymes and ABA while in self compatible varieties there was no change in enzyme activity and an increase in GA₃ and a decrease in ABA.

China

The environment in an apple orchard under hail net was studied and it was found that the net increased air and soil temperature, reduced daily temperature extremes, reduced wind, light, photosynthesis and yield but it decreased fruit damage and increased the fruit value.

China

In a study of pear trees with different growth habits it was found that in the shoot tips of compact types of tree there were lower levels of ABA and GA₃ and higher levels of cytokinins.

Romania

A report on hand thinning five varieties of apple in the first 10 days of July found that the treatment increased fruit size but not tree yield.

Brazil

Growing Japanese pears in two locations found that insufficient winter chilling led to a small number of flower buds per plant and reduced numbers of flowers per bud. There was a delay in the appearance of leaves compared to flowers which slowed the initial development of the fruit.

Romania

A series of mathematical models and agrochemical tables to determine the optimum rates of N, P and K fertiliser rates for fruiting apple and pear trees has been developed.

USA

In a study using radioactive nitrogen application to wood chip, clean cultivated or legume cover-cropped apple orchards it was found that wood chipped orchards took up more nitrogen but cultivated orchards partitioned more dry weight to the fruit so had the same yield. In spring the nitrogen was allocated to the fruit and leaves while in summer it was allocated to reserves for use in the following spring. Wood chipped trees had the highest capacity to build nitrogen reserves.

Romania

An economic analysis of high density apple orchards (2500t/ha) using disease resistant varieties on M9 rootstocks without hail netting found that the costs of establishment are recovered at year 6 after planting.

China

A new robotic hand has been developed, specifically for the harvesting of small and large apples, which does not damage apples due to pressure feedback to the control system.

Pest and Diseases

China

Experiments with beta-cyfluthrin micro-emulsion against peach fruit moth, *Carposina niponensis*, on apples identified a commercially acceptable application rate.

USA

In a 12 year study of genetically engineered apple trees with resistance to fire blight, it was found that the inserted gene remained active, the trees remained resistant to the disease and the gene did not affect fruit shape, size, acidity, firmness, weight or sugar level, tree morphology, leaf shape or flower morphology or colour.

China

In studies on heat treatment of *Pyrus pyrifolia* to eliminate viruses a treatment of 42°C during the day and 34°C at night for greater than 55 days was successful.

China

Apple scab, caused by *Venturia inaequalis*, is regarded as one of the most serious apple diseases in the world and in recent years, apple scab has been threatening apple production in China.

India

In laboratory and later field tests of fungicide activity against *Alternaria mali*, it was found that among the systemic fungicides hexaconazole 5EC at 0.05% was superior and among the non-systemic fungicides, copperoxychloride or ziram, both at 0.4%, proved effective.

Canada

The first report of pear decline caused by *Candidatus Phytoplasma pyri* in Ontario has been documented.

India.

In a study of fungal pathogens of apple stem borer, *Aeolesthes sarta*, it was found that *Beauveria bassiana* proved most promising followed by *B. brongniartii* and *Metarhizium inosopliae*.

Turkey

In a survey of plant parasitic nematodes in 20 pear orchards, 35 species were identified with *Pratylenchoides alkani*, *Pratylenchus penetrans* and *Filenchus filiformis* being the most abundant and *Filenchus andrassyi*, *Filenchus sheri*, *Coslenchus franklinea*, *Basiria hiberna*, *Basiria shahidi* and *Paratylenchus nawadus* being identified for the first time in Turkey.

Processing and Human Health

France

In a study of apple texture after thermal processing it was found that processed texture was not related to fresh fruit firmness but to the cultivar with Gala and Cripps Pink retaining good fruit texture and Granny Smith being soft after thermal treatments.

Iran

The browning of pear juice from mature fruit of Asian pear (*Pyrus serotina*) was treated with heated onion or garlic extracts and the inhibitory effect of these extracts against juice browning seemed to be due to their impact on PPO activity

Hungary

Several carotenoids found in Golden Delicious fruit skins have been found to have anti *Helicobacter pylori* activity. This bacteria has been linked to the development of duodenal and gastric ulcers and stomach cancer.

Postharvest

China

Studies using pressure sensitive papers in packaged apples subjected to controlled drops found that the percentage of damaged apples in boxes increased with drop height, the damage to apples in the lower layer was higher than that in the upper layer and the bruise area of apples in single-wall corrugated fibreboard box was greater than that in double-wall boxes.

China

In a storage trial with Pink Lady® apples it was found that treatment with 8% propolis after harvest reduced water loss and ethylene production and resulted in stored fruit that were firmer.

China

In a study of sugar and acid composition of apple fruit it was found that in freshly harvested fruit fructose ranged from 31.8 to 85.7 g L⁻¹, glucose from 9.9 to 44.2 g L⁻¹, sucrose from 23.1 to 76.9 g L⁻¹, and sorbitol from 0.8 to 15.3 g L⁻¹. The malic acid content ranged from 5.6 to 21.7 g L⁻¹, succinic acid from 0.8 to 9.7 g L⁻¹ and fumaric acid was less than 0.1 mg L⁻¹. After storage, the content of acids and sugars decreased with the exception of fructose.

Germany

The change in starch pattern of fruit stored at different temperatures was compared to the change in starch pattern of fruit that remained on the trees. It was found that fruit held at 1°C did not change their starch pattern for 23 days while fruit held at 10°C maintained their starch pattern at a level similar to those left on the tree.

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Industry information & horticulture quiz APFIP Weather Station Roundup

Weather Station – Region	Average Temp Min	Average Temp Max	Rainfall for Month	Rainfall to Date 1st Jan	Chill units for month	Total units from 15th May
Report period: 16/7/2010 to 15/8/2010						
Batlow NSW	1.3	7.9	160	866	574	1715
Huon TAS	0.3	11.6	41.5	234	473	1321
Lenswood SA	1.7	7.3	141.8	417.8	442	1369
Manjimup WA	6.3	14.7	62.9	260.6	428	1132
Goulburn VIC	2.4	12.3	48.7	297.2	523	1327
Yarra Valley VIC	3.6	12.2	88.6	439.8	527	1424
Orange NSW	1.7	8	172.5	615.5	626	1804
Stanthorpe QLD	4.2	12.4	83.4	306.1	448	1463

HAL

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This project was facilitated by HAL in partnership with Apple & Pear Australia Limited and is funded by the apple and pear levy. The Australian Government provides matching funding for HAL's R&D activities.

This data is from the APFIP evaluation sites and may not be representative of the total district. Further weather reports and comprehensive variety evaluation reports can be found at the APFIP Australia website: www.apfip.com

Greg's Quiz

Question 1:

True or False: A considerable pest of orchards, Paspalum grass is a native of Europe.

Question 2:

Which country leads the world in production of the Australian native, Macadamia nut? **A:** Australia. **B:** USA. **C:** Hawaii. **D:** Kenya.

Question 3:

The synonym for *Pyrus pyrifolia* (Asian pear) is? **A:** *Pyrus pashia*. **B:** *Pyrus pyromania*. **C:** *Pyrus communis*. **D:** *Pyrus serotina*.

Question 4:

What is another name for apple brandy?
A: Schnapps. **B:** Most. **C:** Cider. **D:** Calvados.

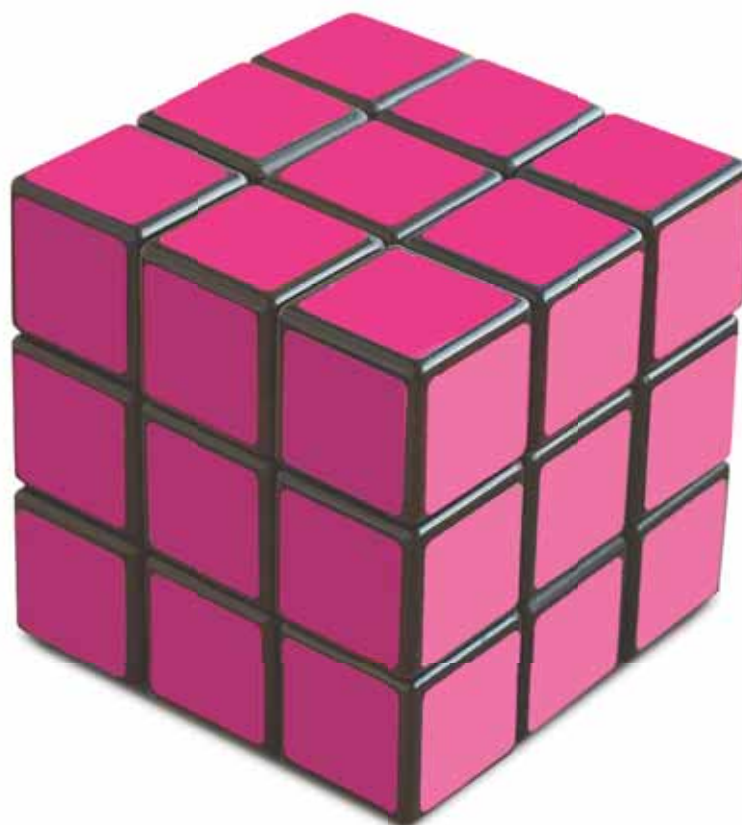
Question 5:

The Old Home x Farmingdale pear rootstocks were developed for resistance to which diseases?
A: Pear decline. **B:** Pear scab. **C:** Fire Blight. **D:** Crown rot.

Answers:
Question 1 - Answer: False, Paspalum comes for South America.
Question 2 - Answer: Australia, but only since 1997.
(and Hawaii isn't a country).
Question 3 - Answer: *Pyrus serotina*.
Question 4 - Answer: Calvados.
Question 5 - Answer: A, C and D, but not B.
Quiz supplied by Greg Cramond, SA

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