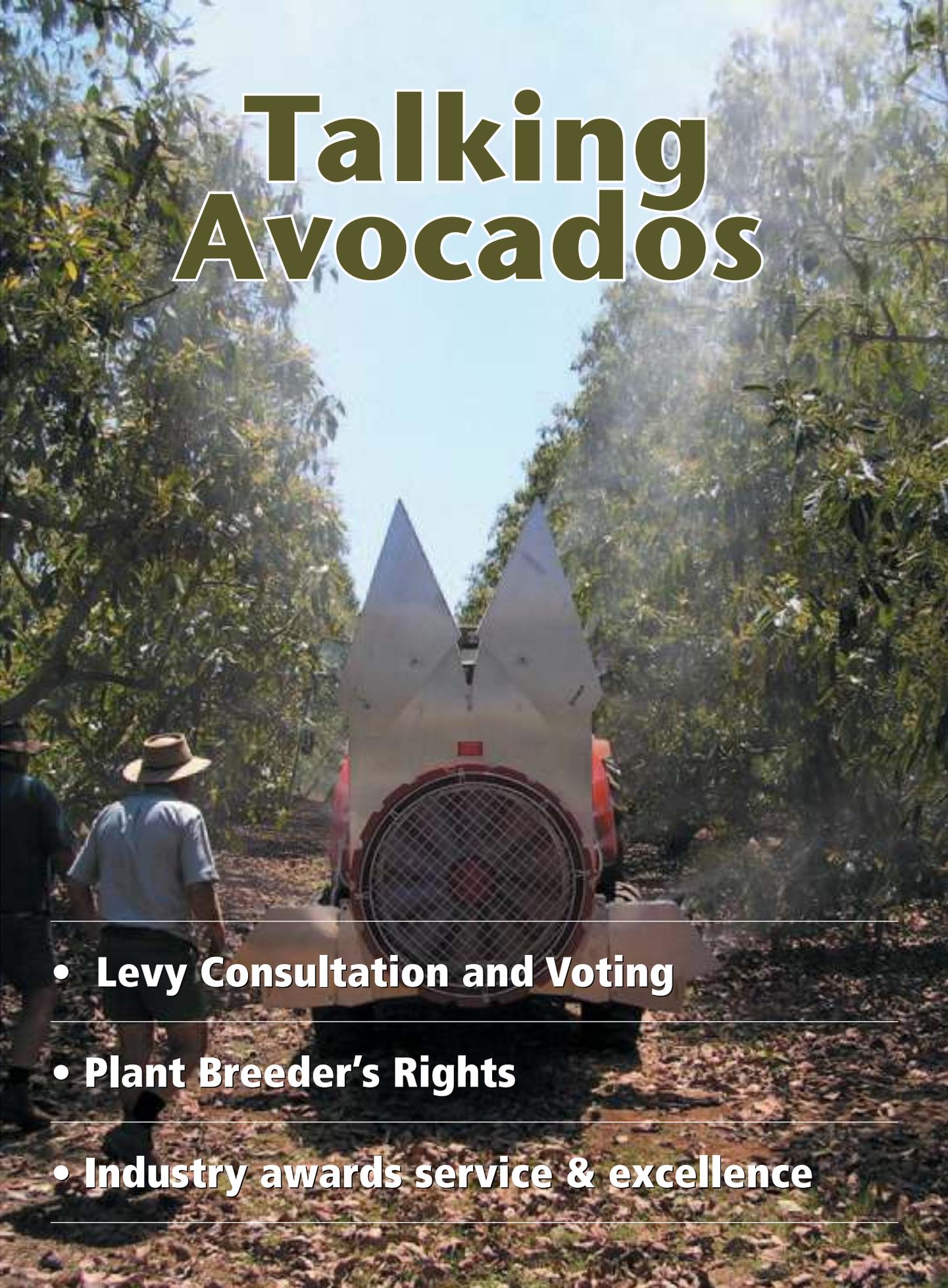


Talking Avocados



- **Levy Consultation and Voting**
- **Plant Breeder's Rights**
- **Industry awards service & excellence**

Spring 2005

Print Post Approved - 44307/0006

Volume 16 No 3

Avocados Australia Limited

Talking Avocados is published using avocado grower levies which are matched by the Australian Government through Horticulture Australia.

AVOCADOS AUSTRALIA LIMITED
ABN 87 105 853 807

Level 1, 123 Logan Road
Woolloongabba, Qld 4102 Australia

PO Box 663 Stones Corner Qld 4120 Australia

Phone: 07 3391 2344
Fax: 07 3391 2388
Email: admin@avocado.org.au
Web: www.avocado.org.au

Antony Allen a.allen@avocado.org.au

Avocados Australia Directors

Rod Dalton Chairman 07 5466 1316
South Queensland r.dalton@avocado.org.au

Chris Nelson 02 6569 0881
Central NSW c.nelson@avocado.org.au

Jim Kochi 07 4054 2188
North Queensland j.kochi@avocado.org.au

Vacant
Western Australia

Lachlan Donovan 07 4159 7670
Central Queensland l.donovan@avocado.org.au

Henry Kwaczynski 07 5442 1767
Sunshine Coast h.kwaczynski@avocado.org.au

Peter Molenaar 02 6684 2676
North NSW p.molenaar@avocado.org.au

Ron Simpson 07 4126 8200
Central Queensland r.simpson@avocado.org.au

Colin Fechner 08 8541 2819
Tri State c.fechner@avocado.org.au

Talking Avocados

Talking Avocados is published by Avocados Australia Limited.

Published: Quarterly - Autumn, Winter, Spring and Summer

Editor: Antony Allen, PO Box 663 Stones Corner Qld 4120

Phone: 07 3391 2344, Fax: 07 3391 2388

Email: TalkingAvocados@avocado.org.au

Circulation: 1,400 Copies

Printed by: Snap Printing, 101 Edwards Street Brisbane 4000

Phone: 07 3221 5850, Fax: 07 3221 3208

Email: brisedward@snapprinting.com.au

Subscriptions: Four issues per year: Australia: AUS \$50.00
New Zealand: AUS \$65.00
Rest of the World: AUS \$80.00

Advertising: Avocados Australia Limited,

PO Box 663 Stones Corner Qld 4120 - Phone: 07 3391 2344,

Fax: 07 3391 2388 Email: TalkingAvocados@avocado.org.au

Disclaimer: This publication is produced upon the understanding that no responsibility is accepted by Avocados Australia Limited (ABN 87 105 853 807) it's Directors and Officers, the Editor for any opinions, claims, statements made and views expressed in any edition of Talking Avocados. Readers should rely on their own inquiries when making decisions concerning their interests. All material in the magazine is copyright. Reproduction in whole or part is not permitted without written permission of the editor.

We all make mistakes: If we make a mistake please let us know so a correction may be made in the next issue.

Contents

Chairman's Perspective	3
Industry Matters	4
Australian Roundup	10
Avocado Levy Consultation and Voting Process	12
News from Around the World	13
Change of Meeting Date and Levy Vote Meeting	15
National Avocado Marketing and Promotion Update	16
Plant Breeder's Rights	17
2005 Conference in pictures	21
Infocado helps smooth out supply peaks and troughs	22
'Hass' and its Family Part 2 - from breeding	24
The role of rootstocks and nutrition Hass quality	26
Avocado Nursery Voluntary Accreditation Scheme	29
Grower Member Application Form	29
National avocado industry awards service & excellence	31

Chairman's Perspective

Conference

Our third joint conference with the New Zealand industry was, I believe, an outstanding success. The feedback during the event was very positive and all appeared to be enjoying the programme and the networking opportunities. The attendance of international industry participants added to the value of the event with Israel, South Africa, Chile, Peru, Mexico and USA being present in the audience.



Thankyou to all who contributed to the success including the speakers, the sponsors including the Australian Government through HAL, the participants and the organising committee especially the "nuts and bolts" people, Michelle de Jong and Edwina Aitchison in New Zealand and Antony Allen on this side of the Tasman.

Awards

I took great pleasure in announcing a number of industry awards at the conference dinner. The first AAL Life Memberships were awarded to Don Lavers and David Duncan. The avocado industry "Award of Merit" was announced for Graham Anderson and George Green. Unfortunately, none of the recipients was able to attend the conference so the actual awards will be presented in Australia in the near future. Details of the awardees' service to our industry are provided elsewhere in this edition.

Joint Board Meeting

The AAL and NZAGA Boards met after the conference. I am very pleased to advise that the NZ Board voted unanimously to recommend to their industry that they support the implementation of a mandatory levy on all avocados imported into Australia. This levy will support marketing and promotion activities in the Australian domestic market. A business case for the levy and an implementation plan is to be prepared. The earliest it is envisaged that the levy might be in place is the 2006 season, with 2007 being more realistic by the time governments on both sides of the Tasman are consulted.

Market

The Australian market has continued to operate on a knife edge with returns being very vulnerable to slight changes in supply, caused either by weather events or the arrival of the first of the New Zealand fruit in the marketplace. Many Australian growers have expressed disappointment that the major buyers have started to source the majority of their supply from New Zealand. The commercial reality is that while we in Australia continue to offer relatively small lots of fruit in a wide variety of brands, the large buyers will continue to take the easy option of long lines of uniformly branded fruit, even if it is derived from a large number of small orchards, which New Zealand offers.

Timbercorp

Timbercorp has become a significant player in our industry, following its acquisition of an interest in the Dorrian and Simpson orchards will provide some interesting challenges and hopefully opportunities for our industry. Announcements to date indicate that the industry is not facing a significant increase in production area, as is often the case with managed investment schemes in horticulture. The industry has invested significant funds over the years attempting to maintain the balance between consumption and supply. Any significant increases in production area will need to be carefully managed and marketed if we are to maintain a profitable balance for all industry participants.

I trust the spring is kind for all. Orchards in my area are carrying a large flowering so provided the weather remains favourable the prospect is for a large crop next year. Much of South East Queensland remains in severe drought so ultimate crop size will depend on when the rains arrive.

Rod Dalton

Rod Dalton
AAL Chairman
and Director for the South Queensland Growing Area.



WARNING

Avocados Australia has for a number of years paid a large amount of money for the industry's right to use the **Heart Foundation "Heart Tick"** on avocados.

If you are using a "Heart Tick" logo from anyone other than the label companies "Label Press" or "Compass Labels" you are acting illegally. No other label printers are able to legally print the "Heart Tick" for use on avocados.

Avocados Australia is undertaking a clean up of the "Heart Tick" printing. We will lose access to the "Heart Tick" logo if it is used illegally.

Avocados Australia, AUF and the Heart Foundation will enforce their Registered Trademark rights to the fullest extent.

If you have non-genuine labels do not use them. If you know of label companies offering to print non-genuine "Heart Tick" labels for you please let us know on **1300 303 971**, so we can all help keep this valuable tool.

All growers could lose access to the "Heart Tick" logo if you don't act now.



CERT TM

Industry Matters

Written & compiled by Antony Allen
CEO of Avocados Australia

Notice of Change to Levy Adjustment Vote

The voting date for changes to levies has been extended by one month. The date has been moved from 24 October to **24 November 2005**. This change will allow avocado growers an extra period of discussion and allow Avocados Australia to ensure the voting list of growers is complete and correct. The most important part of the vote is that the decision by current levy payers is complete, rigorous and transparent.

Please see NOTICE on page 15.

We encourage all growers to have a say by voting, whether that be YES or NO. **Have your say.**

Infocado Launched Nationwide

“As you may be aware Avocados Australia is in the process of rolling out a new tool called ‘Infocado’, which is intended to meet an identified need to collect more meaningful and timely data so that industry to make better informed management and marketing decisions. The collection of avocado volume throughput on a national basis will assist with this process and will be particularly beneficial to participating packhouses.

Infocado is an internet based information system. Data on volume throughput, based on dispatch records, is entered weekly by individual packhouses across Australia. This data is then aggregated with data from other participating packhouses and grower packers dispatching produce in any given week. Reports are only made available to those that participate by providing dispatch data. The data supplied by individual packhouses and grower packers is not identifiable in the aggregated results.

The Industry Summary Reports generated provide information on:

- Variety
- Packing type / use (4kg trays, 5.5 kg trays, Bulk, Prepack, Oil, Processing and other)
- Quantity (number of units, number of kilograms)
- State supplied to (QLD, NSW etc)
- Supply chain partner (trader, direct, export)

We already have a number of packhouses and grower packers contributing and receiving reports.

If you are interested in being involved; and are also

- a packhouse or grower packer;
- are currently packing or will be commence packing within the next 4 weeks; and
- have not yet been contacted about Infocado

We would like to hear from you either via email infocado@avocado.org.au or phone 1300 303 971.

Highly Successful Avocado Conference

The Conference in New Zealand proved highly successful. Over 460 delegates from, Australia and New Zealand, Argentina, Chile, Israel, Japan, Mexico, Peru, South Africa and USA.

Delegates were privileged to have a session on world production and development from each of the attending countries in the session “Competing in a Global World”.

The Conference was also an important venue for meetings of the avocado industry. The Avocados Australia Board and IAC had extensive meetings over the week. A joint meeting of the Australian and New Zealand Boards was held. Also the “World Marketing and Promotion Group” which Australia and New Zealand are members met during the conference

All twelve grower levy consultation meetings completed

The 12 grower consultation meetings are now completed. The last three weeks have been a busy program for Avocados Australia Chairman Rod Dalton and CEO Antony Allen who have been meeting with growers across Australia. The consultation meetings have been essential in allowing avocado growers the opportunity to question and express opinions on the proposed changes to federal levies. It has resulted in a greater understanding of the proposed changes and why the investment in research and development and marketing and promotion is essential for the ongoing success and profitability of avocado growers.

All growers have been sent a copy of the “New Strategic Plan” and the “Business Case”. If you would like an electronic copy please go to our website avocado.org.au

Please discuss and contact your local Director (their contact details are on page 2 of each *Talking Avocados* edition or on our website)

It is hoped that your business will be one of the contributors to this initiative. Obviously the results are only as good as the data submitted by the participants hence Avocados Australia is keen to ensure that as many packhouses and grower packers as possible support the initiative on a consistent basis.

To assist with the rollout we have engaged Jenny Margetts. She has a background in both horticulture and IT. Her role is to assist packhouses/grower packers with information and support during the initial rollout and look at ways we can enhance the data to make it more valuable to you.

If you have any questions or issues that you would like to discuss please call Avocados Australia at any time.

Industry Matters continued

Horticulture defying the trends

The horticulture industry not only has the highest proportion of farms in Australia with an annual turnover exceeding \$2 million, but the number of horticultural businesses has defied trends by growing 10pc during the past decade.

This is one of the surprises in a demographic study on Australian agriculture commissioned by the Australian Farm Institute (AFI) and released late last week. The study analysed the changing make-up of the farm sector and its impact on the supply of rural labour and farm policies, and reveals Australia in 2003 had 18,468 horticultural operations comprising 17pc of total farm businesses, up from 15pc in 1993.

Employment in horticulture rose by 40pc over the period according to findings by Synapse Research and Consulting Ltd and Bob Hudson Consulting Pty Ltd. One of the drivers was Australia's wine boom, which resulted in a 20pc increase in the number of grape growing farms.

During the same period the number of farm businesses (defined as those producing products worth more than \$22,500 a year) dropped 10pc from 146,261 to 131,588 with the biggest decline in intensive livestock farms and broadacre sheep farms. Geographically, the greatest reduction in farm numbers has been in the high rainfall zone.

The survey also found that 40pc of Australian farms had an annual turnover below \$100,000 between 1999 and 2003 and operators of these farms generated 91pc of their income off-farm. Significant trends the survey report highlights include an increased dependency on off-farm income, a lack of real growth in the value of agricultural production, the diversity of enterprises and an inability to attract labour.

It recommends government policies to take more account of the diversity of Australian agriculture and for farmers to seek to "professionalise" their work force and be willing to pay higher wages. More resources should be devoted to supporting farmers with the motivation to improve natural resource management, and laws and regulations in this area should be simplified, it says. It recommends a look at research and development, and whether commodity-specific structures might be stifling innovation and imposing unnecessary costs.

AFI executive director, Mick Keogh, said there was a need for government farm policy to get away from the assumption Australian farming consisted of "a uniform population of broadacre and livestock enterprises". A person operating a small scale beef enterprise who works full-time off-farm has vastly different motivations to the operator of a large-scale, intensively managed horticultural enterprise."

He said farmers also needed a skilled and motivated workforce if they were to produce the quality of outputs consumers wanted. The report suggests this would entail a "paradigm shift" in the farming industrial relations stance to one that is more collaborative. "Given the current focus on the role of unions, the time may be opportune for the development of a new farmer-union compact to bring the farm labour workforce into the 21st century," it says.

Source: The Land, NSW

New Zealand Avocado exporters set for record

New Zealand Avocado growers are expecting to export their biggest crop ever this season -- an estimated two million trays. New Zealand Avocado Industry Council chairman Hugh Moore said the industry was relieved to be breaking through the long-anticipated two million tray mark.

"But there is some anxiety Now we've got it, how well are we going to deal with it?" he said.

"Everybody has been talking about preparing -- and maybe they have, mentally -- but I think there is going to have to be some good physical management so there are no hold ups and smooth marketing operations." Mr Moore said he expected exports of avocados up from 1.1 million trays last year to between 2.1 million and 2.2 million this season.

This year's avocado season will be a good three weeks later than usual and Mr Moore said he did not expect to have exports in Australia until late September or October. Japan would take an increase from 60,000 trays last year to 250,000 trays this year. America was likely to be another market.

Source: Bay Of Plenty Times



Avocado Coast Nursery

(formerly Batson Avocado Nursery) has supplied quality avocado trees to growers for over twenty years. Varieties available include:

Hass, Pinkerton, Sharwill, Wurtz, Reed and Fuerte

For more information or to place your order, contact Greg Hopper on Phone/Fax: **07 5442 2424**, PO Box 213 Woombye Qld 4559

ANVAS accredited

Industry Matters
continued

Growers report increase in intimidation from wholesalers

Australia's horticulture industry has reported an increase in alleged intimidatory behaviour by wholesalers towards growers ahead of public meetings to discuss the mandatory code of conduct.

The Horticulture Australia Council said growers were receiving threats of lower prices, and warned their produce may be returned unsold, if they supported the code at public meetings to be held during the next month. A draft mandatory code of conduct for the horticulture industry is due to be released later this month. The code is intended to deliver a fairer trading environment and improved contractual clarity for growers.

HAC spokesman Mark Panitz said it appeared some wholesalers were determined to minimise grower support for the code at the public meetings. "Growers are eagerly awaiting the introduction of the code which they see as a real opportunity to improve their business dealings and get a fairer outcome," he said.

"We have discussed these reports with the Australian Competition and Consumer Commission (ACCC) and have reported that the activities may be in breach of the Trade Practices Act. "Any grower who is being threatened is urged to call the ACCC on 1300 302 502."

Mr Panitz said the Federal Government was committed to the introduction of a mandatory code of conduct, to cover transactions between fruit and vegetable growers and their trading partners. It is expected the code will be implemented early next year.

More information: www.horticulturebusinesscode.com Source: *Queensland Country Life*

Review of Export Efficiency Powers available

The 3-year review of Horticulture Australia Limited's Export Efficiency Powers has now been completed. The Federal Minister for Agriculture, Fisheries and Forestry has considered and agreed with the recommendations set out in the 3-year review.

The AHEA and the individual industries identified in the review have been sent a copy of the completed report. Exporters who currently hold a license issued by HAL have also been advised of the changes. The review can be viewed in full from HAL's website at www.horticulture.com.au/export/licensing.asp

Looking for an easier method for controlling Phytophthora?

Presenting: the new Avro-Ject syringe - the proven low pressure method for effective Phytophthora control in Avocado Trees. The Avo-Ject syringe is tree friendly and easy to operate.

5 reasons why you should try the new Avo-ject syringe:

1. It is 138% more effective than spraying.
2. Easier to use than other methods
3. Easier to use.
4. Cost effective.
5. Won't damage your trees like other injections.

To try this new and improved way of tackling Phytophthora – contact John or Chris



Phone/Fax: 07 4697 8142
Email: jctann@bigpond.com



* Quoted by Tony Whaley, Industry Consultant at the Australian and NZ Avocado Growers Conference 2001

Industry Matters
continued

Australia: Woolworths ads highlight local produce

In the latest war of words over imported fruit and vegetables, Woolworths has placed full colour, full page advertisements in newspapers today, saying 97 per cent of produce sold is Australian. Experts say the ads show a campaign by growers, urging shoppers to buy local, is being taken seriously by the supermarket chain. Public relations consultant Mike Smith says the fact that the ads are issues-based shows the company is worried about its image.

"Because this is an issues ad and not a product ad they must be taking it seriously, this is a very serious advertising campaign," he said.

"I think they'd be concerned one about the general issue of people believing that they're using imported products in place of Australian products, there may also be a competitive issue if the company thinks customers may go elsewhere on that issue."

Meanwhile, shoppers have rejected claims by Coles that they do not want country of origin labelling on fresh food. Nick Pedley hit the streets of Hobart this morning to find out more.

"Well supermarkets would say that because it probably is going to be a hassle to make sure that's what they stock," one shopper said.

"I think that's appalling, I think we need to know where the food is coming from, I'd particularly like to support Tasmanian produce," said another.

"I can't comment on that. Why? Because I work for Coles Myer," another shopper said. "Does Coles know what it's on about? I still can't comment on that. Here's your chance to say 'of course I do'. Personally I don't agree with what they're doing, but that's my opinion."

Source: ABC

Healthy eating campaign goes to NSW school children

Sydney school children will be encouraged to put aside their sweet snacks on Friday and eat fresh, sweet apples straight from the farm. It's part of a campaign to teach kids about the benefits of healthy eating. AppleQuest 2005 is currently being run in more than 60 schools across NSW and will finish up in Sydney on Friday at Drummoyne Public School. Organised by the NSW Farmers' Association, in conjunction with the NSW Department of Education and Training, NSW Schools Canteen Association and IGA Supermarkets, AppleQuest has successfully run in NSW for the past few years.

The campaign educates school children on the benefits of healthy eating, the role it plays in alleviating childhood obesity, as well as raising the profile of apple growers in NSW.

Source: The Land

Ensuring a profitable and sustainable agriculture and food sector in Australia

The Agriculture and Food Policy Reference Group of DAFF has issued a white paper seeking submissions on 'Ensuring a profitable and sustainable agriculture and food sector in Australia'. For more details go to www.agfoodgroup.gov.au

The Industry Management Committee (IMC) of which Avocados is a member, is to coordinate a horticulture response funded by the across industry program.

Due to the tight timeframe an approach has already been agreed by the IMC and a steering committee appointed. Members of this committee held a teleconference and then met with the appointed consultants – Hassall & Associates – last week to outline the key areas to be addressed in the issues paper.

Source: HAL

The final submission document is available on the Avocados Australia website via the login section, avocado.org.au

Why it's good for you

Avocados are packed with nutrients. With vitamins E, C and B6, they contain chemicals that help reduce cholesterol absorption and boost the absorption of important nutrients from other fruits and vegetables eaten at the same time. One study at Ohio State University in the United States found that people who ate fresh avocado with salad and salsa absorbed significantly more beneficial compounds, such as alpha-carotene and lycopene, from their meal. *Source: Sydney Morning Herald*

Successful farmers take time out

New research has found successful people in agriculture share similar ideas on running their businesses. Dr Danny Donaghy from the Tasmanian Institute of Agriculture Research has been observing a large range of farmers in three states as part of a research project. And he says it is not only hard work, but an ability to take time out that is important.

"They identify the major limitations in their system and then work to overcome them, and they're always undertaking monitoring in relation to those goals," he said.

"All the farmers who I worked with and spoke to in terms of putting these points together, they worked really hard on their property, at the end of the day they said 'well we make the money to allow us to have fun not to just accumulate more interest in the bank'."

Source: ABC

Elevated work platforms

The avocado industry, in conjunction with a number of other Australian tree crops industries and Horticulture Australia are funding a project with the aim of having the current regulations in relation to elevated work platforms (eg cherry pickers) come into line with good horticultural practice, particularly in relation to Australian Standards AS2550.10. Keith Batten has been contracted to undertake the review.

Horticultural users are concerned that certain requirements of the standards do not meet the needs of the industry. The issues include:

- Complying with the AS2550.10 mandated use of a fall-arrest systems on EWP's operating over 3 metres would introduce additional risks. There is considerable precedence for requiring that decisions associated with a fall-arrest system be considered based on risk assessment.
- Requirements of AS2550.10 surrounding the major inspection are impractical because the mandated skills are generally not available in rural Australia. It is argued that existing skills with some additional training can meet the inspection objectives of AS2550.10 for simple orchard EWP's.

Final Report is available by contacting Avocados Australia.

Western Australia Director Steps Down

Mr Wayne Franceschi, Director for the Western Australia Growing Area resigned from the AAL Board effective 28 September 2005. Wayne has been a long standing Director of the Avocado Peak industry body serving on the national Board for over ten years. His service to the industry in the voluntary role on the national Board and his various roles at a State level has been outstanding. He will be missed around the Board table. Thank you Wayne.

The AAL Board will discuss and consult the constitution in the coming weeks to ensure the smooth transition of representation from the "Western Australia Growing Area".

Fifth annual avocado researcher's workshop

The fifth annual avocado researcher's workshop was successfully held in Brisbane on 24 August. The workshop brings together all the researchers working in avocado projects and allows them to update each other on the progress and direction for the previous year and into the coming year.

The aim of the workshop is promote discussion and encourage interaction between researchers and the AAL R&D Committee and amongst researchers. It is important that we do not look at each issue in strict isolation and that ultimately we develop the best management systems for avocado "production" under Australian conditions.

Avocados Australia would like to express thanks to those who attended and presented the today was highly successful and of benefit to all.

Timbercorp adds avocados to agribusiness offerings

Melbourne, 8 September 2005: Leading agribusiness investment manager, Timbercorp Limited (ASX code: TIM), will expand its range of agribusiness investment products in 2006 under a strategic alliance with Australia's largest avocado producer and marketer, Simpson Farms and existing strategic partner, Chiquita Brands South Pacific Limited.

As part of the alliance, Timbercorp will acquire an interest in around 500 hectares of existing avocado farms in Queensland and will develop in excess of 100 hectares to bring the total farm estate to more than 600 hectares.

Timbercorp plans to offer the first avocado project to investors in the 2006 financial year and expects to generate more than \$80 million in project revenues during the next five years.

Simpson Farms will be responsible for managing the Queensland orchards and packing the avocados. It will also co-market the avocados with Timbercorp's existing alliance partner, Chiquita, to a range of customers, including the major retail chains in Australia.

In announcing the strategic alliance, Timbercorp CEO Robert Hance said: "By taking a significant stake in the existing industry and then expanding the production base to provide year-round supply, we will have a very strong strategic position in what is a growing and vibrant industry. Apart from the expected increased demand within Australia, there are good opportunities for exporting avocados to New Zealand, Asia and Europe and these opportunities can only be met by large-scale operators in the industry."

"We expect our avocado investment project to attract strong demand. By offering a blend of established orchards with new orchards, we will be able to offer investors attractive returns and a substantial income within 12 months from investment."

The avocado is rich in vitamins C and E, beta-carotene, potassium and dietary fibre. A leading cardiologist found that the monounsaturated fats occurring in avocados reduce blood cholesterol while preserving the level of high-density lipoproteins, which protect the blood vessel walls from atherosclerosis. This research has led to the avocado being recommended as a dietary source of fat. Approximately 1.5 million tonnes of avocados are produced annually worldwide and Australia produces approximately 30,000 tonnes.

Source: Timbercorp

Industry Matters
continued

The electronic version of avocado "Final Reports": now available

Using your login details you can now access the following avocado "Final Reports" on the avocado.org.au website:

1. Reducing Summer Fruit Drop in Avocados AV00016
2. Development of a Crop Prediction System for Avocados AV01013
3. Review of the Effectiveness of the Avocado R&D Program AV02014
4. Fruitspotting bug management using hotspots for targeted monitoring and control AV02002
5. Analysis of Canopy Management Options for Use in Avocados AV02006
6. Australian Avocado Market Development Opportunities in Hong Kong AV02016
7. Residues of methomyl following applications to avocados for ectropis looper control AV02019

Woolies extends lead over Coles Myer in groceries

Acquisitions, cost cuts and higher sales helped push Woolworths' second-half profit up 21 per cent. Woolworths' net income rose to A\$349 million (\$379 million) in the six months ended June 30, from A\$290 million a year earlier.

Chief executive Roger Corbett, 63, has announced A\$3.8 billion of acquisitions in the past 12 months

and revamped the fresh food sections of Woolworths supermarkets to spur sales and extend his lead in groceries over Coles Myer. Corbett has also increased profit by cutting costs by 3.8 per cent of sales, worth A\$3.6 billion in savings since 1999. Earnings in 2006 are forecast to rise more than 10 per cent, helped by higher sales and more cost cuts.

Corbett bought Australian Leisure & Hospitality for A\$1.3 billion last year to cement his position as Australia's biggest liquor retailer. In May, he agreed to pay A\$2.5 billion for Foodland Associated's New Zealand unit, giving Woolworths control of New Zealand's biggest supermarket owner. Foodland shareholders vote on the bid in October.

Woolworths' annual sales rose 12 per cent to A\$31.4 billion, double the pace of the previous year. Second-half supermarket earnings before interest and tax from supermarkets, which includes its fuel retailing business, rose 24 per cent to A\$540 million, boosted by the opening of 22 stores and cost cuts.

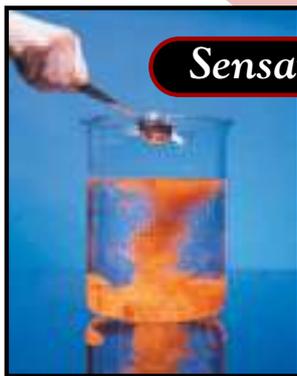
Corbett has automated some ordering and changed the way the company handles stock to get best-selling items on shelves faster. Woolworths cut the number of days worth of supermarket inventory it holds by 1.5 days to 24.3 days during the year, with each day worth about A\$64 million in annual cash flow.

Liquor sales for the full year rose to A\$2.6 billion, from A\$2.1 billion, after including a six-month contribution from the Australian Leisure purchase. The company now has 938 liquor stores after gaining 263 through Australian Leisure.

Source: New Zealand Herald

NORSHIELD WG

COPPER FUNGICIDE



Sensational Mixing!

- No Dust
- Excellent Results
- Superior Retention
- Better Rainfastness
- Low Application Rate
- Low Applied Cost

ADDED BONUS:
No visible deposits on fruit

Contact:

Keith Fallow

Mobile: 0418 399 620



1 Park Road, Milton, Qld. 4064 Telephone: (07) 3369 3522

TMB 6437

Fruit Fly workshop

Researchers, industry representatives and a range of other industry and agency specialists met in Sydney last week for a 2 day workshop to discuss the latest advances in fruit fly research. Topics discussed included fruit fly management, area management, interstate and international quarantine and disinfestation technology. The importance of the impact of fruit fly and the need for continual funding for advancing fruit fly management and disinfestation technology is significant.

Source: Mango Blush

Avocados Australia shirts

Avocados Australia has encouraged our staff, Committees and Board members to wear AAL shirts and caps. The shirts are now available for purchase to AAL members only. If you would like to buy a shirt please visit the avocado.org.au/about/membership website to find an order form.

Australian Roundup

Sunshine Coast Report

By Henry Kwaczynski, AAL Director for the Sunshine Coast Growing Area.



Picking season is in full swing with mixed results in terms of quantity. Flowering has begun in earnest and from all indications there should be a reasonable crop next year. Only time will tell.

It was encouraging to see so many people from the Sunshine Coast attending the joint Australia-New Zealand conference. Feedback has been most positive, with people finding the conference stimulating and interesting. The conference served to decrease the 'known unknowns' in the avocado industry! It is great to see that cooperation between these two countries is continuing, with increasing positive relationships, transfer of knowledge and sharing of technology taking place. The conference logo was 'Profit together' – a fine concept.

There has been some movement in the buying and selling of avocado orchards in this region in recent months. It is interesting to see that there continues to be interest in the purchase of relatively small avocado orchards. While the industry sees the development of many very large commercial entities, in this region there is still strong demand for properties that are relatively small.

I wish all those involved in the avocado industry a joyous Christmas season and a happy and healthy new year.

Central Queensland Report

By Lachlan Donovan and Ron Simpson, AAL Directors for the Central Queensland Growing Area.



The 2005 season has well and truly finished and has proven to be for this region a fantastic year, very good prices throughout and plenty of quantity sold. The trees (at time of writing) are looking very good throughout the whole area with good fruit set, good flush and generally the health of the trees are excellent. At this stage everything is looking good for another good crop next season, the first hurdle has been overcome, we have the fruit set, but there are many hurdles to cross before we can bank this crop.

Challenges will arise with the marketing of this coming season's crop especially with the potential for the New Zealand crop to push later into the Shepard season and thus create an overlap of each regions window right throughout the year. We really need to market and promote avocados throughout the whole year and really look at constantly increasing per capita consumption indefinitely, bring on the new levy, that's the best chance we all have to truly succeed.

It was great to see so many from this area to make the big trip over to the Joint Conference in New Zealand. Certainly eye-opening to see how it is done in a completely different environment with a lot of different challenges to what we have here. I hope everyone got plenty out of it and congratulations must go to the organizers, the sponsors, the farms and pack sheds and everyone involved in the success of the conference.

North New South Wales Report

By Peter Molenaar, AAL Director for the North New South Wales Growing Area.



The harvest of the 2005 crop is complete in most Northern New South Wales areas. Many orchards have set the 2006 crop. What a contrast to 2005. We have just witnessed one of the heaviest flowerings in many years. This has resulted in a very heavy set, but it is very early days of course. We desperately need some rain. Since my last report we received "out of season" drought breaking rain on the last two days of June. Most coastal farms received in the range of 500mm to 900mm and further inland received approx. 100mm. This was most welcome as the subsoil moisture levels were near record lows. Hopefully this downpour will set us up for a better crop next year.

A very successful Field Day was held at Alan Hartley's Pretty Gully property in July. Another Field Day will be held before Christmas..... date and venue to be notified via email or fax. New participants welcome of course. See you all there.

AUSTSAFE SUPER

The Fund of Choice

AustSafe Super continues to grow with assets now exceeding \$½ Billion. Our current interim rates for this financial year, as at 4 March 2005 are:

• Super Growth	19.5%	• Balanced	16.5%
• Capital Stable	9.0%	• Cash	4.6%

Other benefits and services include:

- Free Employer Seminars to update Employers on member choice legislation
- Member seminars – Free financial guidance for AustSafe Super members
- Employer contributions can be paid monthly or quarterly to suit employers
- Streamlined administration – Employer on-line processing
- Discounted home loans, personal loans, MasterCard at 10.2% for members and employers

Compare AustSafe Super with your current fund – you'll see the difference



Wayne Hulin -
Queensland & Interstate Business Development Manager
0407 749 470 or 07 3210 1808

www.austsafe.com.au

North Queensland Report

By Jim Kochi, AAL Director for the North Queensland Growing Area.



At this time I am very pleased to report on a few good news items. At the Annual General Meeting of Avocados Australia members held in Tauranga New Zealand on the 21 September, Don Lavers was awarded Life Membership of Avocados Australia for his long term of service to the avocado industry. This is the highest award we can offer and it is well deserved. Don may think that he may have escaped any further accolades but from all of the growers and support industries I congratulate Don and his family and thank them sincerely for the dedication and thought that Don has put in and still puts in to make avocados in NQ a stable and prosperous industry.

The 2005 New Zealand - Australia conference is all over for another four years. A number of North Queensland growers attended the conference and they all enjoyed the proceedings and the networking with growers from Australia, New Zealand and around the world. I expect a much greater attendance from North Queensland growers at the next Australia - New Zealand conference in 2009 because it will be in CAIRNS. Yes, boys and girls you have 4 short years to tidy up and prepare for at least 500 plus visitors.

The AMCOR display at Tauranga was expected to reveal the new "all black" carton for the Woolworths trade since the Kiwis are just starting

to harvest for the Australian market. The carton specimen was not available but Team Avocado were expecting supplies immediately and the 'trial' shipments will begin soon. New Zealand is using the black tray with 4 kg net and stacked 11/ layer to fit container pallets. Suppliers to Woolworths in Australia will use a similar carton stacked 12/ layer on a CHEP pallet.

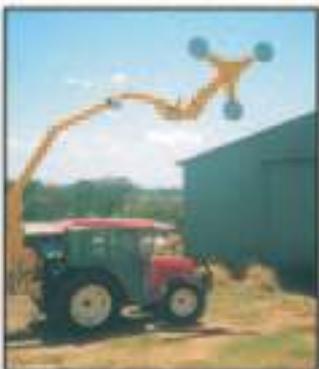
Since we are talking "good news" items I will not dwell on the flowering and set of fruit during our wonderful cold, drizzly August but if any growers have some good news please pass it on to me. I will make a more complete report on fruit forecasts for the Summer Talking Avocados issue so I will need some accurate feedback on expected production from lots of growers. These production forecasts are vital to our continued prosperity through orderly marketing and I urge all growers to look closely to your trees and estimate the size of your crop and when you may think of starting to harvest.

Again, congratulations to Don Lavers and Dave Duncan of Western Australia who also received the Life Membership award of Avocados Australia.



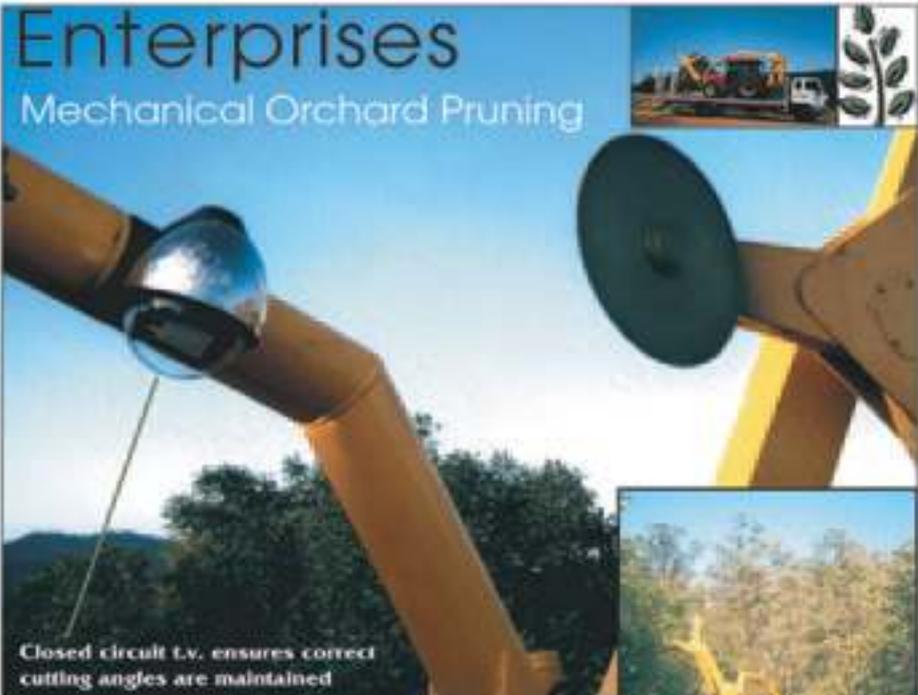
Smerdon Enterprises

Mechanical Orchard Pruning



- Vertical hedging to 8.3m
- Flat topping to 5m
- Capable of skirting trees
- Cuts 3m per pass
- Prunes most orchard crops
- Mulching service available

Kerry Smerdon
0438 930 268



Closed circuit tv. ensures correct cutting angles are maintained






2295 Old Gympie Road
Glasshouse Mountains Qld 4518
A/H: 07 5493 0268
Fax: 07 5493 0924
Email: korross@ozemail.com.au

Avocado Levy Consultation and Voting Process

During the last six months Avocados Australia has undertaken a full levy consultation with avocado levy payers. Meetings with levy payers were held at the following venues across Australia during August 2005: Mareeba, Bundaberg, Nambour, Toowoomba, Nambucca Heads, Gosford, Mildura, Renmark, Perth, Bunbury, Alstonville and Tweed Heads.

The business case for an increase for the existing Avocado levies to fund a range of activities in the areas of research & development (R&D), promotion and the establishment of an “Emergency Plant Pest Eradication” levy for emergency plant pest or disease eradication in the Australian avocado industry, was sent to all growers.

The three main issues covered by the full levy consultation were:

1. Implementation of a reduced avocado “processing levy”
2. Implementation of a zero “Emergency Plant Pest Eradication (EPPE) levy”
3. An increased “R&D and Marketing levy” rate for fresh avocados

The levy proposal has been developed by Avocados Australia following the development of a new avocado industry strategic plan and the reviewing of the Australian avocado industry’s current R&D and marketing funding levels.

The “processing levy” implementation relates to the changing environment in the value added sector of the avocado industry. The need to address an imbalance in the levy’s relationship to the relative value of the processing avocados and the benefit that is attributable to the avocado processing sector.

The EPPE levy implementation is an industry commitment to the national plant health system. The agreement with the state and federal governments requires a mechanism that allows industry to commit one third of an agreed cost to an incursion event in the future.

Final Levy Adjustment Proposal for Voting

The proposal that will be put to all avocado levy paying growers is:

1. that the avocado levy be increased from 3.833c/kg to 7.5c/kg
2. that the avocado levy on processed avocados be decreased from 3.833c/kg to 1.0c/kg
3. that avocado Emergency Plant Pest Eradication (EPPE) levy for avocados be set at 0.0c/kg

It is important to note, that while Avocados Australia endorses the national avocado levy changes, Avocados Australia will not seek to impose any element of the change without the support of the majority of commercial avocado growers. That support in turn must be demonstrated through a formal poll of all known commercial avocado growers, to be held at the:

Nambour Civic Centre, Centenary Square Building, Currie Street, Nambour, Queensland, at 2:30 pm on 24 November 2005.

The process and timeframe below has been developed by the Avocados Australia to address the Australian Government’s requirements as outlined in the levy principles and to demonstrate compliance with them is outlined in the table below.

If the poll result indicates majority support for the levy changes then a submission will be developed for consideration by the HAL Board. It is the HAL Board that makes the formal recommendation to the Federal Minister for Agriculture, Fisheries and Forestry that the levy changes be implemented.

For more information contact you local Avocados Australia Director, their contact details are on page two of *Talking Avocados* or on our website avocado.org.au.

Table 1 - Proposed Levy Regime Consultation time frame

Stage 1	Development of a business case (discussion paper) which sets out the need for the levy regime, the proposed rate, how the levy regime will be managed and the expected benefit to growers from the subsequent investment.	April 2005	COMPLETED
Stage 2	Development of a grower consultation process in consultation with the Department of Agriculture, Fisheries & Forestry (DAFF).	June 2005	COMPLETED
Stage 3	Distribution of the levy regime business case discussion paper to all commercial avocado growers.	July 2005	COMPLETED
Stage 4	Publicise the proposed levy regime business case discussion paper and advise opportunities for comment and/or attendance at regional consultation meetings.	July 2005	COMPLETED
Stage 5	Conduct a series of 12 grower meetings in the major growing areas where growers can debate the draft proposal.	August 2005	COMPLETED
Stage 6	Subject to the consultation feedback, develop an agreed formal levy proposal to put to the industry by way of a ballot at the Annual Levy Payers Meeting. Advise DAFF of the proposal and seek clarification of acceptability.	October 2005	UNDERWAY
Stage 7	Advertise the final proposal to all commercial avocado growers.	October 2005	UNDERWAY
Stage 8	Conduct a formal poll of all commercial avocado growers.	November 2005	
Stage 9	Prepare a submission in line with the Federal Government’s levy principles and submit to Horticulture Australia Ltd (HAL).	December 2005	
Stage 10	HAL Board approves the proposal and forwards to the Federal Parliamentary Secretary to the Minister for Agriculture.	January 2005	

News from Around the World

Mexican avocados on pace to meet U.S. demand

Despite rains in Mexico this year, grower-shippers expect the Mexican avocado crop to be of good quality and enough volume to meet growing demand in the U.S.

“There is a lot of rain in Mexico — that’s something we have to watch closely because each growing area passes through different levels of maturity, and we have some uncharted territory this year,” said Rob Wedin, vice president of sales and fresh marketing for Calavo Growers Inc., Santa Ana, Calif. “For the most part, quality has been quite good. Growers are being careful not to harvest immature fruit.”

Ross Wileman, vice president of marketing and sales for Mission Produce Inc., Oxnard, Calif., agreed.

“The Mexican grower has had some restraint on what they want to bring to the U.S.,” he said. “Mexico is fully capable of bringing whatever volume is needed. They’re going to go where they get the best return. Sometimes they can get more in the national markets than they can in the U.S.”

Thanks to the USDA’s January amendment allowing Mexican avocado imports to 47 states on a year-round basis, avocado marketers now have more fruit to sell. In early July, they were handling the flora loca, an off-bloom avocado with a smoother skin and rounder shape than a

traditional Hass in July and August.

With a larger array of states to market Mexican avocados to, marketers have to consider regional demands for different sizes.

Source: The Packer

Mexican avocado industry reaping fruits of trade deal

Like big goose eggs the color of money, avocados slide down the conveyor belt at Gerardo Perez’s packing plant to be sorted, boxed, then loaded onto trucks for the caravan north to the U.S. market.

“Business has never been so good,” said Perez, co-owner of Avocado Export Co., a modern low-rise packing house dwarfed by surrounding fruit trees.

Perez’s crop is but a trickle in a river of avocados flooding the United States from Mexico, where exports have more than doubled in volume this year over last. The reason? Growers finally have attained unimpeded entree to the U.S. market after eight decades of barriers. Many packing houses are working multiple shifts to feed U.S. avocado demand, which is growing 15% a year.

“It is going to remain this way,” Perez said. The opening of the U.S. market “has changed the industry for good.”



HYDRALADA[®]

For a complete range of self propelled elevating work platforms

“Hydralada[®] is the choice of leading avocado growers throughout Australia, with models designed specifically for all orchard requirements. Quality is a tradition, with ongoing research and development ensuring the very highest standards in all areas.”

Want to know more?
PHONE OUR FREEPHONE HELPDESK –
1800 124 352

HYDRALADA[®] COMPANY
 700 Omahu Road, PO Box 352, Hastings, New Zealand

MODEL SHOWN:
 Hydralada Maxi 540



News from Around the World continued

So sure are Perez and partner Miguel Torres of a continuing bonanza that they hired 20 additional workers this year — a 50% bumping up of the payroll — and invested \$4 million in a computerized sorting system to more efficiently box their *Senor Avo* brand of fruit.

What's driving growth in avocado exports is the elimination of trade barriers and sanitary bans that for most of the last century kept the U.S. market off limits to Mexican fruit. The boost also is thanks to the surprisingly strong growth in U.S. consumption. According to the Irvine-based California Avocado Commission, the state industry's marketing arm, total U.S. avocado sales will reach 440,000 tons this year, an 80% increase from the total consumed in 2000.

"Guacamole's gone mainstream," said John Loughridge, vice president of Coral Gables, Fla.-based Del Monte Fresh Produce Co., the fruit wholesaling giant that buys 90% of Perez's avocados and distributes them across the United States.

"The growth is due to avocados' favorable health aspects, the immigration trend and the popularity of Mexican cuisine," said Loughridge, who added that his company had come "from nowhere" to become the nation's second-largest avocado wholesaler partly because of its strong links to Michoacan producers.

Mexico has grabbed an increasing share of the expanding U.S. market. Benjamin Grayeb Ruiz, a Michoacan grower and current president of that state's growers and packers association, says Mexican exports will reach 100,000 tons this year, up from 42,632 in 2004. That would put Mexico on par with top-ranked Chile, which last year shipped 100,000 tons of avocados into the U.S. market.

Blanketed with avocado orchards, the rolling hills of western Michoacan state are alive with commerce. Uruapan, a city of 250,000, is the nerve center. Equipment firms, truck fleets, sanitary inspectors and orchard workers are all thriving in an industry that will pump about \$400 million into the local economy this year, a 50% increase from five years ago. The number of packing plants has grown to 23 from 12 three years ago.

Signs of prosperity are everywhere, said Mayor Marco Antonio Lagunas.

"You see it in the shopping centers, increased number of cars in the streets, the construction of more houses," he said in an interview.

Out-of-work Mexicans are flocking to Michoacan from other states, lured by field wages that have grown 25% to 33% in two years.

"The market has been much better than we thought," Grayeb said. "But we invested a lot of time and money to make it happen."

Much of that effort was directed at persuading U.S. authorities to lower what Mexican growers considered unfair barriers.

For Mexico, the turning point was the 1994 North American Free Trade Agreement, whose provisions have gradually worn down those barriers. Market access has been phased in since 1997, when Michoacan growers were allowed to sell in 18 states during four months of the year. On Jan. 31, the farmers got the right to sell year-round in 47 states. In 2007,

access will be complete when California, Florida and Hawaii open up year-round as well.

Meanwhile, growers had to prove that their avocados were safe. The U.S. avocado industry, which is concentrated in Southern California, long contended that Mexican fruit should be kept out to contain the spread of fruit flies and tree diseases.

Mexican farmers overcame those concerns, which they claimed were simply trade barriers used to keep out low-cost competition, with years of scrupulous monitoring and pest control in Michoacan orchards. Packers such as Perez have to pay the salary of a full-time U.S. Department of Agriculture inspector who remains at the plant just to certify that Perez's fruit meets U.S. sanitary regulations.

From 60 certified growers in 1997, Michoacan now has 2,500 avocado producers permitted to ship to the States, Grayeb said, adding that each has had to jump through U.S. Department of Agriculture hoops to prove that the fruit poses no risks.

Despite the avalanche of foreign fruit from Mexico, Chile and elsewhere, California growers do not seem to have suffered. Prices and total acreage of the state's orchards have remained stable over the last decade. Valetta Weaver, chief financial officer of the California Avocado Commission, says the U.S. market has room to grow, as non-Latinos, who eat only one-eighth as much in avocados per capita per year as Mexican Americans, catch up.

Grayeb agrees that the U.S. market should continue to expand. But his members now have their sights on a relatively virgin market: China, a country of 1.3 billion where avocados are virtually unknown, much as they were in Japan a few decades ago. But this year Japan will import as much as 60,000 tons of Michoacan avocados, and growers see no reason Chinese consumers won't follow suit after getting acquainted with the creamy fruit.

To make it happen, Michoacan's avocado industry recently launched a \$250,000 marketing campaign in China that included the shipment last month of the first container load of sample boxes to Chinese supermarkets and the enrollment of four industry association staffers in Mandarin classes.

Meanwhile, western Michoacan state copes with a boom that includes a spurt in business licenses and a tripling of land prices in the last three years. Not bad, considering owners of avocado orchards 10 years ago were cutting down their trees and abandoning their land because the market for avocados had collapsed.

"Business wasn't so good, so many sold very cheap," Uruapan Mayor Lagunas said. "They should have held on." to helping the region manage economic change.

Source LA Times

US: USDA awards \$10m under emerging markets programme

The US Department of Agriculture has announced today that 71 agricultural trade promotion projects will receive nearly \$10m to support generic promotion and distribution of US agricultural products,

News from Around the World continued

trade missions, and research on new markets.

The 2005 emerging markets programme also supports activities that encourage free trade policies and enhance the effectiveness of the food and agribusiness systems of emerging markets.

“These activities will help foster US agricultural exports to low- and middle-income growth markets,” said deputy agriculture secretary Chuck Conner. “Expanding sales in these markets is critical for America’s agricultural economy.”

This year’s recipients include trade groups, nonprofit organizations, universities and federal agencies. Projects will be conducted in Asia, South America, the Caribbean, Russia, Eastern and Central Europe, and Africa.

The programme was authorised by the 1990 Farm Bill, amended by the 1996 Farm Bill and reauthorized by the 2002 Farm Bill.

Source: *just-food.com*

California avocados can be sold in Mexico

Dark-skinned Hass avocados from California may now be sold in Mexico, under an agreement the U.S. Department of Agriculture announced yesterday.

Under terms of the agreement, which is effective immediately, the avocados must be free of stems and leaves when shipped. For the first 12 months, California avocados may be distributed in all Mexican states except Michoacan, Jalisco, Morelos, Puebla and Nayarit, the mayor avocado-producing states.

The USDA has worked since 1999 to gain access to Mexico for California fruit. The Agriculture Department estimates the agreement may boost California avocado sales by as much as \$24 million. Local growers say that since Mexico is now allowed to ship its avocados to the United States, reciprocity is only fair.

“There’s a large market right across the border,” said Noel Stehly, a Valley Center avocado grower.

San Diego County growers may benefit most from the agreement, Fallbrook grower Charley Wolk said, since the groves here are so close to Baja California. Shipping costs to northern Mexico resort towns would be cheaper for local growers than for growers in southern Mexican states, such as Michoacan, Wolk said.

“The more consumers, the better it is for growers,” Wolk said. “Actually, the better it is for everybody because you get better fruit.”

In 2004, county growers harvested 23,547 acres of Hass avocados worth more than \$170 million.

Source: *Union-Tribune, San Diego*



Change of Meeting Date and Levy Vote Meeting

Meeting Notice

Annual Avocado Levy Payers Meeting

Avocado Industry Advisory Committee and the AAL Board advise that the **2005 Annual Avocado Levy Payers Meeting** will be held at:

**Nambour Civic Centre,
Centenary Square Building,
Currie Street, Nambour, Queensland.**

On Monday **24 November 2005** commencing at **2:30pm**.

Followed by

Sunshine Coast Avocado Growers Association Meeting commencing at **1:15pm**.

Purpose of the meeting:

And for Levy payers to receive presentations from the Avocado Industry Advisory Committee and the AAL Board on the Industry Strategic Plan, the Annual Investment Plan and the IAC Annual Report (including reports from Horticulture Australia on the R&D and Marketing Programs).

To consider and vote on:

- **proposed changes to the R&D Levy**
- **proposed changes to the Marketing Levy**
- **a new levy for processing avocados**
- **a new levy for Emergency Plant Pest Eradication (EPPE)**

If you are unable to attend the 2005 Annual Avocado Levy Payers Meeting, a levy payer entitled to attend and vote, is entitled to appoint a proxy to attend and vote in their stead. Proxy forms will be provided directly to all avocado levy payers.

Attention Avocado Growers

For the best results and
a personalized service
consign your fruit to:

W. ARKELL & SONS
568 Brisbane

Established since 1892

Proudly serving Australian growers for more than 100 years.

Contact our Sales Team

Phone 07 3379 8122 Fax 07 3379 4158



National Avocado Marketing and Promotion Update

The Australian Avocado industry is growing steadily. In the two months to August, volume increased by 5 per cent based on figures from the same period last year. In a 12 month period ending August 2005, the avocado industry increased production by 7 per cent and produced approximately 33,500 tonnes according to levy income data.

With this growth comes opportunity and HAL has been busy at work promoting Avocados in an integrated attempt to change consumer perceptions.

Since last issue of *Talking Avocados*, the industry funded marketing campaign has been in full swing, chartering new territory into pay TV for national television coverage.

The clear message throughout the *Ave an Avo* program has been the versatile and everyday nature of the fruit. An eagerly awaited overview and analysis of the success of this campaign, was published in August and produced some encouraging results.

Ave an Avo 2005 National Marketing Campaign Results

The multi faceted TV and retail promotions campaign, which reached regional and rural Australia as well as the major markets of Melbourne, Sydney and Brisbane, was targeted primarily at female grocery buyers, with children. Younger shoppers were also targeted (between the ages of 19 and 24), in a step towards promoting consumer growth in the future.

The television campaign provided national coverage and comprised a combination of components including advertising, sponsorship and a competition.

Adverts on free-to-air stations took place between popular TV programs watched by female grocery buyers. Shows like; *Desperate Housewives*, *CSI*, *Sunrise* and *Fresh with the Australian Women's Weekly*, were included and produced significantly higher target viewing figures than expected.

Australian Avocados also sponsored Seven Network's *Saturday Kitchen*, which ran for 21 weeks from April and was aired in the five capital cities.

As part of this deal, three commercials were screened every week within the program, along with opening and closing billboards; 'This program is brought to you by Australian Avocados - Ave an Avo Today'!

Again, post analysis reports showed that in almost all territories, the campaign reached more of the target audience than anticipated. This was due to a mixture of increased viewers and greater frequency of advertisement airtime.

Sponsorship on Pay TV centered around the primetime show *The Café Program*, on Lifestyle Café. This 13 part, one-hour series hooked up with Australian Avocados' to include: shared opening and closing billboards, logo association on promotional spots, sponsorship spots

in each program, inclusion into the channel's monthly e-newsletter including an avocado recipe and a Mothers' Day competition.

Just one small part of the sponsorship package, the Australian Avocados Mothers' Day competition, was a tremendous success. Negotiated at no additional cost, the promotion received a huge 16,531 entries to win a trip to Melbourne for two. To put into context, a competition to win a holiday for four to the Gold Coast run by Foxtel last year, received 12,000 entries and was considered a big success by all involved. The Australian Avocado competition, exceeded all expectations.

Additionally, to complement the extensive TV advertising campaign, 280,000 Australian Avocado recipe leaflets were printed and distributed to markets, independent retailers and wholesalers across Australia. These contained vital information on different varieties, how to choose a ripened avocado and some tasty and modern recipe suggestions to take home and experiment with.

Future Marketing Campaigns

Post analysis research demonstrates that the targeted Ave an Avo campaign delivered beyond expectation, paving the way for growth in the future. Avocados have moved away from being an occasional summer luxury and instead are moving towards being a year round staple with a regular purchase pattern, building on the fact that that once consumers are in the habit of buying regularly, price is not a major factor.

The avocado industry is looking to 2006 with renewed vigour. The results of market research conducted in mid 2005 will be the foundation for a new campaign in 2006 that will build on the successes of the *Ave an Avo* campaign of the last five years and keep consumer demand peaking all season long!



To present your produce attractively contact

Label Press

Manufacturers of:
Self adhesive fruit and polystyrene labels,
gummed back, non-tearable and plain tickets
or tags on rolls or sheets.

Printed to your requirements. Genuine honest quotes.
No trick pricing - No hidden costs.

Ph 1800 773 207
98 Cobalt Street, Carole Park Qld 4300

Plant Breeder's Rights: A Guide for the Horticulture Industries

Kathryn Adams

Senior Research Fellow, Australian Centre for
Intellectual Property in Agriculture (ACIPA)

Part 1 – Plant Breeder's Rights (PBR) Scheme

Introduction

Part 1 of this article is about the rules that apply under the *Plant Breeder's Rights PBR Act 1994* (PBR Act). The PBR Act sets the framework for the plant breeder to gain a return on the large investment in developing new varieties, by giving them exclusive rights, but does not say **HOW** the breeder can then allow others to use the variety.

Part 2 is about the contracts that the owner of PBR needs to enter into with the user to set the terms and conditions of use, including royalty payments.

This distinction is important as contractual conditions are negotiable with the grantee of PBR but the provisions of the PBR Act are not.

PBR was introduced into Australia in 1987 and it is increasingly common for horticulture varieties in Australia to be protected. For example, in April 2005 there were 27 apple varieties, 81 *prunus* varieties (peaches, plums, nectarines, cherries), 12 citrus varieties, 39 potato varieties and 34 *Alstroemaria* varieties protected by PBR in Australia.

The Australian PBR scheme is based on the Convention of the International Union for the Protection of New Plant Varieties (UPOV). This gives Australian growers access to overseas varieties from other member countries. There are about 70 member countries and some breeders will not allow their varieties to be used in countries unless PBR protection under the UPOV Convention is available.

It is critical that breeders, growers, licensees and others involved in the horticultural industries are aware of their rights and obligations when they use PBR protected varieties and when they are entering into contracts to buy propagating material.

Grant of Plant Breeder's Rights (PBR)

For a plant variety to be protected by PBR it must go through an examination process to determine whether it complies with the requirements for protection. The variety must be:

- New (not sold in Australia for more than 12 months or overseas for more than six years for trees and vines and four years for all others)
- Distinct from all other known plant varieties'
- Uniform, and
- Stable

Horticulture Australia Ltd (HAL) is sponsoring **FREE** seminars on PBR in horticulture, presented by ACIPA throughout Australia over the next three years. The schedule to May 2006 is available from c.ballard@griffith.edu.au

Figure 1 sets out the steps of the examination process.

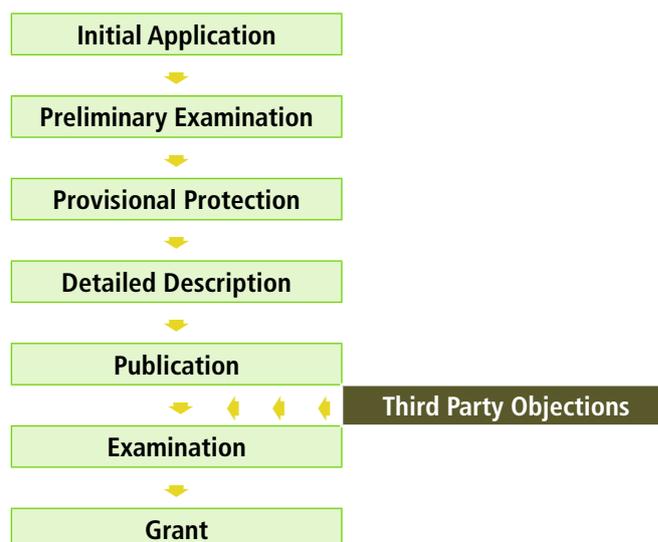


Figure 1: Steps in applying for PBR protection

The initial application for PBR protection is made by the breeder to the PBR Office, which is located in IP Australia – www.ipaustralia.gov.au/pbr

The description and a photograph of each variety are published in the Plant Varieties Journal. This provides third parties, whose commercial interests may be affected, an opportunity to raise objections within 6 months if they believe the application does not meet the criteria for protection.

After the description has been published, the PBR Office then examines the application. If an application meets the necessary criteria, PBR protection is granted.

When granted, PBR protection lasts for:

- 25 years for trees and vines; and
- 20 years for all other plants.

Plant varieties are usually labelled to indicate that they are protected. To avoid confusion, standardised versions of the PBR logo and wording are used (see Figure 2) on the labels. Inadequate labelling of plants could reduce the effectiveness of the PBR owner's rights.

Figure 2: PBR Logo

Unauthorized commercial propagation or any sale of propagating material of this variety is an infringement under the Plant Breeder's Rights Act 1994



Plant Breeder's Rights:

A Guide for the Horticulture Industries continued

Naming a New Plant Variety

Under the PBR Act 1994, both the name and synonym of a plant variety are protected. The Plant Breeder's Rights Office has developed guidelines to assist in the naming of new varieties to ensure compliance with the Act.

The name used when the Application is lodged in the first UPOV member country must be used in applications in all other UPOV member countries.

Scope of Plant Breeder's Rights (PBR)

PBR grants the owner of a protected variety the exclusive right to do (and therefore the right to exclude others) the following things in relation to propagating material of the variety:

- produce or reproduce the material;
- condition the material for the purpose of propagation (conditioning includes cleaning, coating, sorting, packaging and grading);
- offer the material for sale;
- sell the material;
- import the material;
- export the material; and
- stock the material for any of the purposes described in any of the above.

Where the grantee does not have reasonable opportunity to exercise rights over the propagating material, they can then seek to exercise their rights over the harvested material or products from harvested material. This is not the same as an end-point royalty which is usually obtained under contract even when the PBR owner can exercise their rights over the propagating material.

Dependent and Essentially Derived Varieties

PBR protection can also extend to 'dependent varieties' (varieties that are not clearly distinguishable from a protected variety, or whose production requires the repeated use of the protected variety (for example, hybrids)) and 'essentially derived' (varieties where it is predominantly derived from the initial variety).

Exceptions and limitations to protection

The PBR Act provides that the following uses of a protected variety do not infringe PBR:

- Private and for non-commercial;
- Experimental
- Plant breeding; and
- Reproducing farm saved propagating material, such as cuttings, tissue culture and seed).

Compulsory Licence

There is an obligation on the owner of PBR to make reasonable quantities of the protected variety available at a reasonable price to meet public demand. Where this does not occur, a person whose commercial interests are affected may seek a compulsory licence over the variety from IP Australia.

If a compulsory licence is granted, IP Australia can license a person to grow and sell the variety for whatever time and under whatever conditions are deemed necessary.

Modes of exploitation (eg use and sale of the variety)

Grantees of PBR are authorised under the PBR Act to exploit the variety themselves, licence others to exploit it, or assign their rights (ie ownership of the variety).

Infringement and enforcement under the PBR Act

A person will infringe PBR if they do anything that falls within the exclusive rights of the owner. For example, a person cannot reproduce or sell PBR-protected propagating material without the permission of the owner.

There are both civil and criminal proceedings for infringement.

Civil proceedings

Only the owner of PBR can initiate civil proceedings. If a court is satisfied an infringement has occurred it can:

- Grant an injunction (with or without conditions) ordering the person to stop the infringement; and/or
- Award either damages or an account of profits made by the infringing party (at the option of the plaintiff/owner).

Innocent infringement

Ignorance of the law is not a defence against legal action. However, a court can refuse to make an order for damages or an account of profits if the alleged infringer can demonstrate that at the time of the infringement they were not aware, and had no reasonable grounds to be aware, that PBR protection existed over the variety.

Criminal action

It is also a criminal offence to infringe PBR in certain circumstances. A criminal action is only likely to occur in exceptional circumstances and where evidence is conclusive. This is because the offence must be proved 'beyond reasonable doubt'. In contrast, civil actions are decided on the 'balance of probabilities'.

The PBR Act provides for penalties for infringement of up to:

- \$55,000 for individuals; and
- \$275,000 for companies.

*Plant Breeder's Rights:
A Guide for the Horticulture Industries continued*

PART 2: CONTRACTS

The framework provided by the PBR Act gives the grantee an exclusive right to do certain things with the propagating material of the variety. The Act also gives the grantee the right to licence others to do those things but it does not specify how this will happen or the conditions under which it can happen.

Therefore the grantee must set the conditions by entering into a contract with the person who wants to use the propagating material (eg grower, distributor, or others who wish to have the right to sell the variety for propagation commercially).

Many growers are not aware that when they purchase a PBR protected variety there may be conditions of use in the form of a contract that they should be aware of. If unsure the purchaser should ask the seller what the rules are, read any agreement they are asked to sign and recognise that this is normal business practice in return for having access to the new variety.

The terms and conditions can be in relation to propagating material royalties but increasingly there are additional provisions that relate to product royalties (end-point royalties), non-propagation, entry onto property to audit varieties and other general terms and conditions of use. If a person does not agree, they can either try to negotiate a change, or not use the variety. If they feel that the conditions are too onerous and outside normal business practice, they may be able to explore the possibility of a Compulsory Licence as discussed above.

As a general rule, once a contract is signed, the parties are bound by the terms and conditions of the contract. However, in many transactions, there is no written agreement signed by the parties. Contracts can be oral and most need not be in writing to be enforceable.

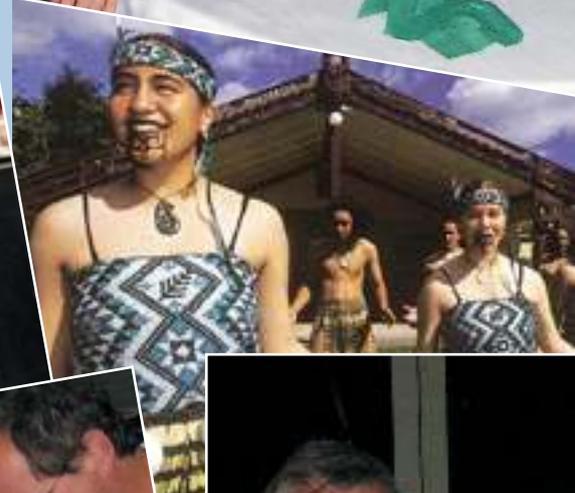
One case that highlights the importance of understanding the terms of growers contracts is the 2002 decision of *Zee Sweet v Magnum Orchards*. In this case, Magnum was sued for breaching its Grower Agreement but claimed that the Agreement had been rescinded due to misrepresentations made by Zee Sweet prior to entry into the contract. The court dismissed the claim of misrepresentation and ordered that Magnum destroy all Zee Sweet plants as part of the remedy for their breach of the Grower's Agreement. The destruction of the plants was ordered because Magnum was to be restrained from dealing with or using the varieties and therefore the trees had no further role to play. This action was consistent with the relevant termination clause in the Grower Agreement.

This case highlights the importance of growers being aware of the conditions under which they grow protected varieties. The consequences of the breach were set out in the contract in clause 16 and were taken to be accepted by the grower at the time of entering into that contract.

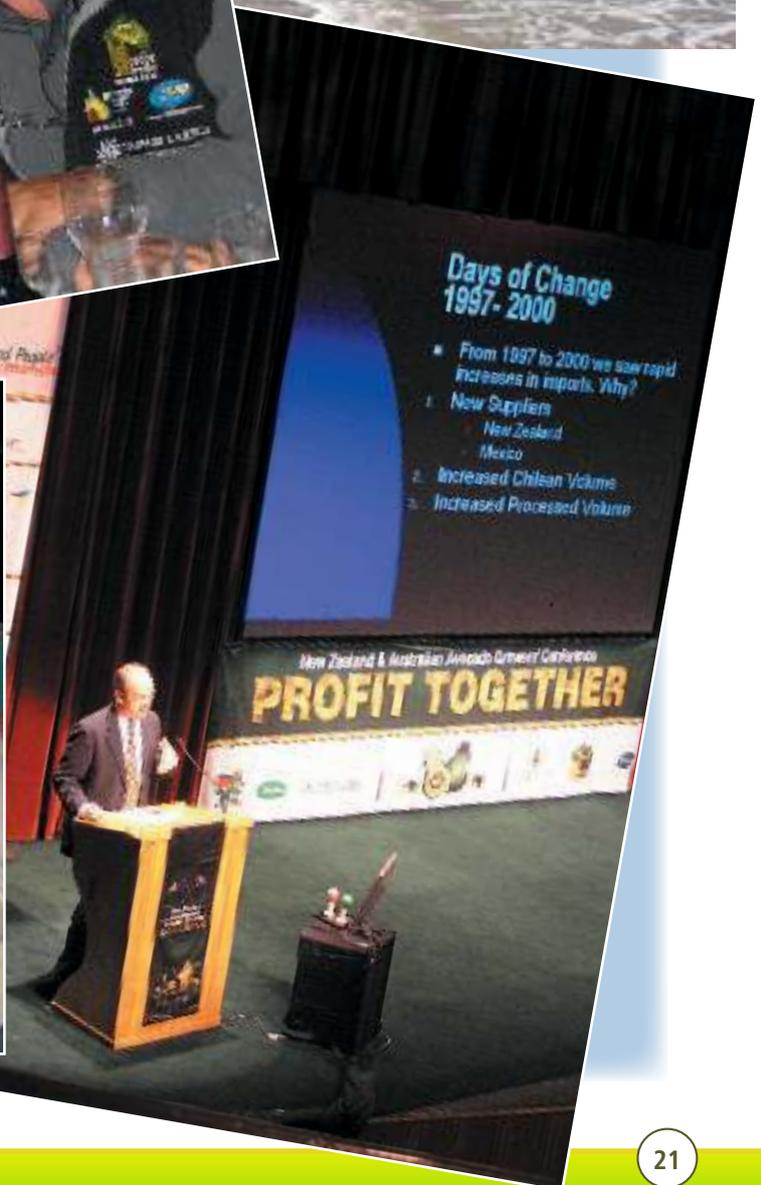
For more information contact Kathryn Adams on 0419 662 759.

For information on applying for PBR go to the PBR Office web site at www.ipaustralia.gov.au/pbr

2005 Conference



in pictures



Infocado helps smooth out supply peaks and troughs

Packhouses and grower packers who invest 15 minutes on data entry each week during the packing season will help create a database that can deliver a mine of information about avocado supplies across the nation.

Avocados Australia has developed the Infocado system as a management tool to enable industry to smooth out the peaks and troughs in volumes of fruit coming on to the market during the year.

Infocado is being rolled out in Australian growing regions as they come into production and has been met with great enthusiasm in all quarters because of its potential to provide information to help manage the flow of fruit.

The internet-based system generates accurate weekly information about the volumes and varieties of fruit dispatched by packhouse operators and growers, and will become increasingly useful as more suppliers come on board.

Avocados Australia Limited Chief Executive Officer Antony Allen said Infocado is now operating in south-east Queensland, New South Wales,



*Perth region grower & packer
Alan Blight, of Avowest*

South Australia and Western Australia with far north Queensland and Bundaberg to follow in the New Year.

Avocados is the first Australian horticultural industry to set up an industry wide electronic system to collect supply information, but most major overseas avocado-producing countries already have similar systems operating and use them to help drive industry growth and develop marketing strategies.

Mr Allen said the results generated by Infocado will reflect the data submitted by participants and it is therefore hoped that at least 90 percent of production will be recorded in Infocado on a weekly, and ultimately an annual, basis.

“The industry’s response to Infocado has been overwhelmingly positive because growers and packhouse operators know that the volumes of fruit in the market at any particular time has a key influence on price,” Mr Allen said.

“Having meaningful data on volume and varieties throughput available each week will greatly assist with short and long-term management and marketing decisions.”

Infocado requires participating packhouse operators and grower packers to enter their volume data into an electronic dispatch report by 11am each Monday during their packing season, a process estimated to take about 15 minutes. This data is aggregated and a report is available at 4pm to all participating businesses.

“We believe Infocado will provide accurate data on volumes and varieties moving through the Australian market in any given week, and packhouse operators and grower packers can use that data to adjust their dispatch based on the previous week’s volume.”

“There is no cost for participating in Infocado, but access to aggregated results will be limited to those businesses that participate in good faith in the initiative.”

Mr Allen said because avocados are available all year round, coordinated marketing intelligence can assist in overcoming gluts and shortages that impact on the price.

“Avocados don’t have to be picked at a set time, so growers have a range of harvest options that span several months. When good information about volumes becomes available, growers have a big opportunity to use that flexibility to vary harvesting and marketing plans to maximise returns.”

Supply data helps inform marketing decisions

Mid-north coast New South Wales grower and packhouse operator Sue Nelson, of Coastal Avocados, said industry definitely needs Infocado so that the flow of fruit into the market can become more orderly.

“It needs everybody to get involved because the information we get out of Infocado will only be as good as the information we all put in,” Ms Nelson said.

ANVAS ACCREDITED NURSERIES

ANVAS accredited trees can be purchased from the following nurseries:

Anderson’s Nursery
Graham & Vivienne Anderson
Duranbah Road
Duranbah NSW
Ph: 02 6677 7229

Avocado Coast Nursery
Greg Hopper
Schulz Road,
Woombye Qld
Ph: 07 5442 2424

Birdwood Nursery
Peter and Sandra Young
71-83 Blackall Range Rd
Nambour Qld
Ph: 07 5442 1611

Rainforest Nursery
Ron and Joan Knowlton
25 Reynolds St
Mareeba Qld
Ph: 07 4092 1018



Infocado helps smooth out supply peaks and troughs continued

“Having this information will make it a lot easier for everybody to make decisions when we know what quantities of fruit are flowing into the market.”

“This is step one, recording what fruit has been sent. It is a good first step and everyone needs to get involved. Step two would be information about what everyone intends to send because that would enable us to plan and change decisions.”

“Our current source of information about fruit supplies relies on market and grower gossip. Infocado will provide useful information about what quantities are being sent and that’s what we really need.”

“We’ve found that the time taken to summarise and enter the amount of fruit sent in the previous week is not a burden.”

Ms Nelson said the key benefits of Infocado will begin to flow in future when the majority of the industry is participating.

“We have faith in the future benefits it will bring to the way we market our fruit. There is a big opportunity to be flexible about the time of harvesting our crop based on the information we will get each week from Infocado.”

Accurate volume information will benefit all

Chair of south-east Queensland based packer and marketer Natures Fruit Company, Ros Smerdon, said if the whole of industry works together on this system it will generate information that will be to everyone’s benefit.

“We will have an indication of what fruit is around at any given time, which will be great because the amount of fruit in the market directly relates to the returns for producers, marketers and exporters,” Ms Smerdon said.

“Having information about fruit supply means that is one variable we can manage more closely. In the past, we have relied on guesswork and rumours about supply of fruit that might be on the market at any given time.”

“If everyone contributes to Infocado, we will have reliable information about what fruit is around and we can plan for it. We can decide to hold-off on harvesting for a week or two if we can see an advantage in delaying putting that fruit on the market.”

“Investing 15 minutes of time each week in submitting information to the Infocado program will return a huge benefit to all those who participate. As long as everyone puts in, we will all benefit from this supply information.”

Australian industry needs this tool

Perth region grower and packer Alan Blight, of Avowest, believes Infocado has big potential and will become more powerful as more people enter data into it.

“This is a tool that will enable us to match supply and demand. It will give us a better idea of how much fruit is going into the markets. If

we see a big spike in a certain market, then we might talk to agents about stock levels there and may chose not to send to that market,” Mr Blight said.

“Australian growers are notoriously secretive about their market arrangements. But most other avocado-producing countries around the world monitor their production, so it is about time Australia had a decent system to monitor fruit flows.”

Get involved

Avocados Australia has engaged Jenny Margetts to assist with the rollout of Infocado. Jenny has a background in horticulture and IT and is focusing on system support for growers and packhouse operators, and system updates based on feedback from users on how Infocado can be improved and developed in future.

Jenny is currently working on a forecasting module, which will add value to the system when it is introduced in the future.

If you would like more information about how to become involved in Infocado, contact Jenny on mobile 0418 215 276 or 1300 303 971 or email infocado@avocado.org.au

Be an Infocado winner

You’ve got to be in it to win it. If you are in the Infocado system, and contribute volume data for at least 80 percent of your season, we’ll send you an Avocados Australia polo shirt and you’ll also go into the draw for a tidy bonus. **Seven nights accommodation at a Plaza Hotel of your choice** if your lucky number comes up (conditions apply). Plaza Hotels have a range of accommodation around Australia from beachside resorts to capital city apartments. All participating packhouses and grower packers contributing to Infocado are eligible, with the draw being conducted in September 2006.

Crop Tech



Advanced Nutrition testing
Sold WORLDWIDE
18 years experience

ATTENTION AVOCADO GROWERS

Maximise yield and quality
Optimize fertilizer inputs

- Sap testing
- Quicksoil testing
- Water testing
- Soil tests

Independent fertilizer recommendations in products

410 Langbeckers East Road, Bundaberg Qld 4670
Ph 07 4155 6344 • croptech@croptech.com.au
www.croptech.com.au

'Hass' and its Family – Now and the Future Part 2 – from Breeding

By Tony Whiley

Tony is a researcher and consultant for Sunshine Horticultural Services, Nambour, Queensland and is a member of the AAL Varieties Committee.

The previous article in this series discussed the merits of 'Lamb Hass' which was developed from the University of California Riverside (UCR) breeding programme (Whiley, 2004). In this article we will investigate the attributes of two more recent arrivals from the same breeding programme at UCR – 'Gem' and 'Harvest'.

The avocado breeding program of Dr Bob Bergh, UCR began about 40 years ago which gives us some insight into the long-term nature of breeding new varieties from a crop that has only recently been domesticated from its semi-wild state (Wolstenholme, 1987). Lacking a history of scientific breeding and selection which is apparent in major fruit crops such as apples, citrus and stonefruit, the first 20 years of the UCR avocado program emphasised inbreeding to identify better parents. In the process the program discarded inferior types and excessive tree vigour. This first phase of the breeding program culminated with the release of three named varieties: 'Gwen', 'Whitsell' and 'Esther' – none of which has made a lasting commercial impression. The success of this seemingly unrewarding 20-year effort has more recently become apparent with a significant increase in the number of selection-worthy progeny coming from second generation crosses (Bergh, 1987). By 1995 more than 100 seedling progeny had been selected for observation with over a dozen of these grafted in replicated plots for evaluation (Witney and Martin, 1995).

Several of the more prominent selections from the UCR program have been evaluated for a number of years in South Africa where climatic conditions are similar to the subtropics of eastern Australia. Among these were 'Jewel', 'Nobel', 'Sir Prize' and '8-22-5'. Due to low yields, excessively large fruit, and/or the high incidence of physiological fruit disorders these selections have been discarded from the evaluation program deemed unsuitable for commercial production (Kremer-Köhne, 2002). However, there is optimism that the varieties 'Gem' and 'Harvest' may find a place in our contemporary industry.

'Gem'

'Gem' is a UCR Hass-like selection and is a sibling of 'Gwen' (Fig. 1). The tree has an upright growth habit, is precocious with mid-season maturing fruit (similar time slot to 'Hass') in California. The flower type is 'A' and the fruit changes from green to purple/black on ripening, but retains characteristic yellowish-green lenticels. Cut fruit does not oxidise as quickly as 'Hass'. The fruit has good eating quality.

After six years cropping at the University of California South Coast Research and Extension Centre in Irvine, 'Gem' has outperformed both 'Hass' and 'Harvest'. At other sites in California 'Gem' had either the highest or second highest cumulative yields after four cropping seasons. Additionally, of the eight varieties being evaluated ('BL667', 'BL516', 'Hass', 'Harvest', 'Gem', 'Sir Prize', 'Lamb Hass') 'Gem' was the most regular bearing variety (Arpaia, 2004). According to Dr Arpaia 'Gem' is perhaps the most promising variety to come from the UCR breeding program so far (Personal communication, Riverside, 2002).

Evaluation of 'Gem' in South Africa over five production cycles indicates that the variety consistently produces high quality fruit when grown in a subtropical climate (Kremer-Köhne and Mokgalabone, 2004). Most fruit packed out in the 285g or 333g sizes which is about 20% larger than 'Hass'. Maturity of 'Gem' in this environment is about three months later than 'Hass'. The cumulative yield for the five crop cycles was 113.2 t/ha, which is about 10% higher than 'Hass'. Additionally, from the second year the cropping pattern was very stable with little variation between years – a result similar to California.

Harvest

'Harvest' is the other 'Hass-like' variety of current interest from the UCR breeding program (Fig. 2). The variety has an 'A' flower type and appears to be as environmentally robust as 'Hass' in terms of cropping performance. The fruit has commercially acceptable quality and turns purple/black when ripe.

Results from the University of California South Coast Research and Extension Centre at Irvine over six cropping cycles show that 'Harvest' performed marginally better than 'Hass' but not as well as 'Gem'.



Fig. 1 From left to right a typical crop of Gem under Californian conditions with a cut fruit showing seed size and flesh recovery. Note yellowish lenticel spotting on the ripe fruit (right).

'Hass' and its Family – Now and the Future Part 2 – from Breeding
continued



Fig. 2
'Harvest',
a 'Hass-like'
variety from
the California
University
breeding
program

'Harvest' also had a more strongly alternate bearing pattern than 'Gem' but was more reliable than 'Hass' at this location. At other evaluation sites over a four-year cropping cycle 'Harvest' was either the top performing variety or was third to 'Gem' and 'Hass' (Arpaia, 2004).

In South Africa 'Harvest' is the highest yielding variety in the evaluation block producing a cumulative yield of 180.8 t/ha over five years. This is 75% greater than 'Hass' and 60% greater than 'Gem'. In analysing the cropping pattern there is an indication that the variety is sliding into an alternate bearing pattern as trees age. Most of the fruit are packed at 250g, 285g and 333g sizes which are probably dictated in any one year by crop load (the greater the crop the smaller the fruit). In the subtropics of South Africa, 'Harvest' matures about one month later than 'Hass'. Over the term of the evaluation period fruit quality has been good except for one season when there was an unacceptable level of vascular browning (Kremer-Köhne and Mokgalabone, 2003). This was likely due to chill damage in the field, as sub-zero temperatures were recorded in the orchard.

Conclusions

The evaluation of 'Gem' and 'Harvest' has been ongoing for a number of years in California and South Africa. California and South Africa have similar climates to some growing regions of Australia. Results from California and South Africa indicate that these varieties have commercial potential which may offer production advantages and complement our major variety, 'Hass'. While there is consistency suggesting that 'Gem' and 'Harvest' will out-yield 'Hass', there is some conflict in the relative maturity times. This may be due to different growing environments.

Both varieties have been imported into Australia and licensed test plots are due to be planted in the near future. As data becomes available from evaluation blocks, results will be published in *Talking Avocados*. Should commercialisation be recommended, your industry will negotiate release of the material through ANVAS nurseries.

References

Arpaia M.L. (2004) Enhancement of avocado productivity. Plant improvement: Selection and evaluation of improved varieties and rootstocks. *Proceedings of the California Avocado Research Symposium. October 30, 2004, University of California Riverside. California Avocado Commission* pp. 9-23.

Bergh, B.O. (1987) Avocado breeding in California. *South African Avocado Growers' Association Yearbook* 10: 22-24.

Kremer-Köhne, S. (2002) New Hass-like avocado cultivars at Merensky Technological Services – progress in 2001. *South African Avocado Growers' Association Yearbook* 25: 14-16.

Kremer-Köhne and Mokgalabone, M.L. (2003) Evaluation of new 'Hass'-like avocado cultivars in South Africa. *Proceedings of the V World Avocado Congress* 1: 129-133.

Kremer-Köhne S. and Mokgalabone, M.L. (2004) New Hass-like avocado cultivars at Merensky Technological Services: Progress report on the evaluation of 'Harvest' and 'Gem' in 2003.

Whiley, A.W. (2004) 'Hass' and its family – Now and the Future. *Talking Avocados* 15(3): 16-17.

Witney, G. and Martin, G. (1995) Taking the California avocado breeding program into the next century. *Proceedings of the World Avocado Congress III* pp. 114-118.

Wolstenholme, B.N. (1987) Theoretical and applied aspects of avocado yield as affected by energy budgets and carbon partitioning. *South African Avocado Growers' Association Yearbook* 10: 58-61.

TO BE CONTINUED (Part 3 of this series will review 'Hass' sports that have developed from genetic mutations of 'Hass' and seemingly impart beneficial characteristics).

CHEMJET

AUSTRALIAN MADE

TREE INJECTOR



- Easy to see new **RED** handle.
- Simpler assembly system.
- New Nylon Body.
- Volume measurement markings of 5, 10, 15 & 20ml.
- New 20mm tapered tip.



For cost efficient injections
of Phosphonates, Pesticides, Fungicides,
Fertilizers & Trace Elements

PO Box 318 Caboolture Qld 4510

Ph **07 3408 0388**

Fax **07 3408 3963**

Email chemjet@powerup.com.au

www.chemjet.com.au

The role of rootstocks and nutrition on the quality of Hass avocado

Part 1: Uptake of minerals into the roots and leaves of rootstock seedlings

By **Peter Hofman**

Senior Principal Horticulturist

QDPI&F, P: 07 5444 9647

E: peter.hofman@dpi.qld.gov.au

Background

The Australian avocado industry has a strong commitment to continually improve the quality of avocado fruit offered to the consumer. Avocados Australia (AAL), in partnership with Horticulture Australia (HAL) and the Queensland Department of Primary Industries and Fisheries (QDPI&F), have funded a number of projects to improve fruit quality. Several projects have focussed on monitoring commercial practices from harvest to sale from the retail shelf, and training programs to improve these practices. There has also been a strong focus on developing production practices that improve fruit quality at harvest. These projects have largely concentrated on chemicals to control fruit rots, which is one of the major quality issues. There is now strong evidence that other practices may contribute to reducing rots, which can potentially complement existing disease control strategies and reduce the need for chemicals. These practices could also reduce flesh disorders that often occur if fruit are not held and/or ripened under the right conditions.

We now know that fruit with more calcium (Ca) and less potassium (K) often have less rots and disorders. Trees supplied with excess nitrogen can potentially increase fruit rots. Also, natural compounds in the fruit (host defence mechanisms) can increase the resistance of the fruit to disease development (Willingham 2003). Some of the new chemicals bring tested increase these natural “anti-fungal” chemicals in the fruit. They contribute to the “health” of the fruit so that it is more resistant to rots and other disorders after harvest. By finding ways to improve fruit nutrition and host defence mechanisms, we may be able to improve fruit quality offered to the consumer and at the same time reduce the need for chemicals.

Previous research has shown that the rootstock can influence the quality of the fruit from the scion. For example, several studies have confirmed that fruit from Hass trees grown on Velvick rootstock have less rots and internal disorders than fruit grown on Duke 7 (Willingham *et al.* 2001; Marques *et al.* 2003). At least part of this rootstock affect is thought to be through an effect on minerals concentrations in the fruit, and possibly on natural host defence chemicals. These findings have resulted in the AAL supporting the avocado rootstock project (AV01007 managed by Dr T Whiley), which has just established several trial sites with a number of combinations of rootstock and scion. However, there is little understanding as to how the rootstock can influence fruit minerals composition. A better understanding of these interactions could lead to more rapid identification and development of improved rootstocks for quality. Therefore, AAL/HAL supported a three-year research program called “The role of rootstocks

and nutrition in the quality of ‘Hass’ avocado” (Project no AV00013), aimed at understanding how rootstocks might improve fruit minerals composition, and therefore quality.

Experiments

There are four basic steps in the accumulation of minerals into fruit; movement of the element through the soil to the root surface, uptake into the roots, translocation across the graft union to the scion, and finally distribution into the fruit itself. We investigated each of these steps (except movement through the soil to the root), focusing particularly on Ca, magnesium (Mg) and K. The results of these investigations will be described in the coming issues of Talking Avocados.

In most of these studies we used small trees grown in the glasshouse, and measured minerals concentrations in the roots and leaves. In relation to Ca, there is a poor relationship between leaf concentrations and fruit concentrations. However, in the context of this work it is reasonable to assume that a rootstock cultivar with relatively high leaf Ca concentrations also has the potential to increase fruit Ca concentrations of the fruit, compared to rootstocks that have lower Ca concentrations in their leaves.

To investigate whether rootstock varieties differ in their ability to take up Ca into the leaves, we grew Velvick, Hass, Fuerte, and Duke 7 seedlings in an inert vermiculite/perlite medium. The plants were watered with a complete nutrient solution containing either 400 or 2000 μM of Ca. The plants were given 500 mL solution per day, which was equivalent to 0.016 and 0.08 g of Ca per day. A previous experiment indicated that these levels represented deficient and adequate Ca requirements. The plants were grown in the glasshouse for about 80 days. Leaves and root samples were taken at the end of this period. The root samples were divided into non-suberised (the white root tips) and suberised (older, woody) roots. The samples were dried and analysed for minerals concentrations.

Results

There were no significant cultivar effects on root or leaf Ca concentrations (Table 1) if we use the traditional measure of statistical significance ($P=0.05$; that is, a 95% chance of a real treatment difference). However, using the 90% level, Velvick leaves had higher Ca concentrations in the leaves, compared with the other cultivars, and a higher concentration in the Duke 7 non-suberised roots. This suggests that Velvick can potentially accumulate more Ca in its leaves than the other cultivars tested.

In contrast, Velvick had significantly lower K concentrations in the leaves and higher concentrations in all parts of the roots, compared with the other cultivars. In addition, Velvick had lower leaf Mg concentrations than Fuerte and Hass, but Velvick root concentrations were either intermediate with the other cultivars, or there was no cultivar effect.

The role of rootstocks and nutrition on the quality of Hass avocado continued

We often find that fruit with lower ratios of K/Ca and (K+Mg)/Ca also have less disorders and rots. Therefore, these ratios are also worth considering when studying rootstock effects. Velvick had the lowest K/Ca ratio in the leaves compared with the other cultivars (Table 1), mainly as a result of its higher Ca and lower K concentrations. Similar effects were observed with the (K+Mg)/Ca ratio. In addition, there were strong trends of higher ratios in the Velvick roots because of higher K concentrations.

These results indicate that cultivars have differing capacities to take up minerals into the roots and leaves. Similar results have been obtained by other researchers. For example, 'Hass' grafted to Guatemalan rootstocks had greater leaf Ca concentrations than 'Hass' on Mexican rootstocks (Ben-Ya'acov *et al.* 1992), and higher leaf B concentrations were found in Hass trees grafted to Velvick compared with Duke 7 (Whiley *et al.* 1996).

The indications of higher leaf Ca in Velvick compared with the other cultivars suggest a greater capacity to either take up Ca from the soil, and/or translocate Ca to the leaves. The fact that the Ca concentration in Velvick roots was mid-range with the other cultivars, suggests that there was no excessive accumulation of Ca in Velvick roots. Hence, higher Ca in the Velvick leaves suggests good translocation from the roots to the leaves, as well as good uptake into the roots.

Table 1.

Mineral concentrations (g/Kg or mg/Kg dry weight) and the Ca/K ratio in the mature leaves, and total, suberised and non-suberised roots of Duke 7, Fuerte, Hass and Velvick avocado seedlings supplied with nutrient solution containing 400 and 2000 μ M Ca. The results are averaged across the two Ca concentrations. Means within each column and tissue followed by the same letter are not significantly different at LSD of P<0.05.

Tissue	Cultivar	Ca (g/Kg)	K (g/Kg)	Mg (g/Kg)	B (mg/Kg)	Ca/K ratio
Leaf						
	Duke 7	3.84	5.56 ^b	5.27 ^{ab}	39.2 ^b	1.60 ^b
	Fuerte	3.76	5.82 ^{bc}	5.57 ^b	31.4 ^a	1.62 ^b
	Hass	3.81	6.10 ^c	5.74 ^b	31.5 ^a	1.72 ^b
	Velvick	4.37	4.72 ^a	4.84 ^a	40.7 ^b	1.12 ^a
	P value	0.093	0.001	0.005	0.005	< 0.001
Total root						
	Duke 7	2.09	4.61 ^a	4.85 ^a	67.4 ^a	2.62
	Fuerte	2.17	5.57 ^b	5.73 ^b	76.1 ^b	2.73
	Hass	1.82	5.02 ^{ab}	5.77 ^b	68.0 ^a	2.94
	Velvick	2.05	6.89 ^c	5.12 ^{ab}	72.6 ^{ab}	3.87
	P value	ns	0.001	0.022	0.002	0.051
Suberised root						
	Duke 7	2.46	4.51 ^a	4.62		2.28
	Fuerte	2.10	4.29 ^a	4.68		2.36
	Hass	2.01	4.17 ^a	4.61		2.15
	Velvick	2.28	5.61 ^b	4.61		2.67
	P value	ns	0.001	ns		ns
Non-suberised root						
	Duke 7	2.22	9.69 ^a	5.10		5.25 ^a
	Fuerte	1.71	10.18 ^a	4.56		6.70 ^{ab}
	Hass	1.54	9.98 ^a	5.28		6.80 ^{ab}
	Velvick	1.84	13.66 ^b	5.20		7.97 ^b
	P value	0.093	0.001	ns		0.017

P value = probability of significant difference. Values less than 0.05 indicate significant treatment effect. Values between 0.05 and 0.1 indicate "potential" treatment effects that require further confirmation. ns = no significant difference (P value greater than 0.1)

The role of rootstocks and nutrition on the quality of Hass avocado continued

In contrast, the lower K in Velvick leaves and higher K in Velvick roots compared with the other cultivars, suggests that the translocation of K from the roots to the leaves is restricted in Velvick. The lower Mg concentration in Velvick leaves was likely due to reduced root uptake since the root concentrations were similar or intermediate with the other cultivars. Although Velvick leaf Mg concentration was lower than most of the other cultivars, no differences in the roots of the cultivars suggest that the cultivar effect on Mg is not as strong as with K.

We investigated aspects such as root and shoot growth and stomatal conductance (governs water loss from the leaves which can affect Ca accumulation) to see if we could explain these cultivar differences in minerals uptake. However, there was little indication of factors which may have contributed to the results described above.

In conclusion, the results confirm the potential for the avocado cultivar to influence leaf minerals concentrations. The fact that Velvick leaves had lower K/Ca ratio (generally associated with better fruit quality), and can produce Hass fruit with better quality in several field trials compared with other rootstocks (Willingham et al. 2001; Marques et al. 2003), suggests that Velvick may have a positive effect on fruit minerals concentrations and quality by two mechanisms:

- Potentially increasing Ca uptake and movement to the leaves
- Reducing K movement to the leaves by retaining more K in the roots.

It is possible that leaf minerals concentrations of the rootstock is a useful early selection criterion to identify rootstocks that can improve scion fruit quality.

References

- Ben-Ya'acov A, Michelson E, Zilberstaine M, Barkan Z, Sela I (1992) Selection of Clonal Rootstocks in Israel for High Productivity Under Different Soil Conditions. In 'World Avocado Congress II, Proceedings: The Shape of Things to Come'. pp. 521-526. (University of California: Riverside, California)
- Marques JR, Hofman PJ, Wearing AH (2003) Rootstocks influence 'Hass' avocado fruit quality and fruit minerals. *Journal of Horticultural Science and Biotechnology* **78**, 673-679.
- Whiley AW, Smith TE, Wolstenholme BN, Saranah JB (1996) Boron nutrition of avocados. *South African Avocado Growers' Association Yearbook* **19**, 1-7.
- Willingham SL, Pegg KG, Cooke AW, Coates LM, Langdon PWB, Dean JR (2001) Rootstock influences postharvest anthracnose development in 'Hass' avocado. *Australian Journal of Agricultural Research* **52**, 1017-1022.
- Willingham SL (2003) The role of rootstocks, nutrition and antifungal compounds in resistance of avocado to anthracnose. *Talking Avocados* **14**(1), 23-27.

Sculli & Co are an Australian Owned business with many years experience in wholesaling and also retailing.

- Avocados are No.1 in our business.
- Sculli & Co are able to offer the latest in ripening facilities available.
- A great selling and marketing team based in Melbourne.
- Sculli & Co guarantee availability of premium quality Avocados all year round.
- Sculli's work closely with all suppliers to ensure premium quality together with premium returns.

For any enquiries please contact:

Dean Sculli: 0418 355 772

Philip Basile: 0418 391 610

Frank Caravetta: 0411 848 331

Stores 40 – 45A / 128B,

Melbourne Markets

542 Footscray Road, West Melb. 3003

Tel: **(03) 9687 2255**

Fax: **(03) 9689 9153**

Email: **sculli@sculli.com.au**

Web: **www.sculli.com.au**

Sculli & Co.
Fruit Wholesalers

ANVAS - Avocado Nursery Voluntary Accreditation Scheme

PHYTOPHTHORA FREE TREES

and

ASBV FREE TREE REGISTRATION PROGRAM

Avocados Australia in partnership with the ANVAS member nurseries:

- Anderson's Nursery,
- Avocado Coast Nursery,
- Birdwood Nursery and
- Rainforest Nursery

Are pleased to provide accredited "phytophthora" free nursery trees and ASBV (avocado sunblotch viroid) free trees (on request) across Australia.

The outlay for healthy nursery trees is a tiny proportion of the thousands of dollars needed to grow a commercially productive avocado tree. Unhealthy trees can introduce a potentially debilitating dose of phytophthora root rot and ASBV, yet these problems can be easily avoided.

Over 25 years ago AAL (then AAGF), launched its ANVAS scheme to help control the spread of Phytophthora root rot in nursery trees and this scheme has been very successful. The second aspect of the nursery program concerns the control of ASBV. ASBV can result in severe loss in productivity in virulent strains and in the non visible strains loss of productivity in infected trees.

The national tree registration program is wholly funded and administered by AAL. Introducing this programme in 1980, it has been a continuous improvement process of the last 25 years. The improvement continues, currently a HAL project AV03009, funded jointly by ANVAS and national avocado levies is underway to improve sampling techniques and refine testing for ASBV in Australian avocado orchards.

It is hoped that avocado growers will take advantage of this registration programme when planning new orchards. In this way, substantial improvements productivity can be made. Only nurseries in the ANVAS system have the industry's accredited trees available for planting in your new avocado orchard.

Call them now to discuss your avocado nursery tree options.



Grower Member Application Form

Avocados Australia Limited

ACN 105 853 807

For Associate and Affiliate membership application forms please go to www.avocado.org.au or call **07 3391 2344**

Member Details

Business name and/or trading name: _____

ABN: _____

Key contacts: _____

Preferred address (postal): _____

Address of property (if different): _____

Contact Details

Business phone no: _____

Home phone no: _____

Fax no: _____

Mobile no: _____

Email: _____

Corporate Structure

How would you describe the nature of your operations (please circle)?

Individual	Partnership	Company	Trust
Lessee	Cooperative	Other (please specify)	

Please indicate the area of property that you crop for avocado production (please circle)

0.5 - 5 ha	6-19 ha	20-49 ha	50-99 ha
100-149 ha	150-199 ha	200-499 ha	500 ha+

Special Interests

Please tick your main areas of interest from any of the following:

- | | |
|---|--|
| <input type="checkbox"/> Consumer information | <input type="checkbox"/> Production management |
| <input type="checkbox"/> Environmental management/ sustainability | <input type="checkbox"/> Quality Assurance |
| <input type="checkbox"/> Organic farming systems | <input type="checkbox"/> Technology/innovations |
| <input type="checkbox"/> Water management | <input type="checkbox"/> Marketing |
| <input type="checkbox"/> Field days | <input type="checkbox"/> Supply chain management |
| <input type="checkbox"/> Pest management | <input type="checkbox"/> Key political issues |
| <input type="checkbox"/> Food safety | <input type="checkbox"/> Other (please specify) |

Payment Options

Grower Membership of Avocados Australia is \$110 pa (including GST). You can pay your membership by cheque or credit card. To pay your membership fee, please choose one of the following options:

Cheque

Please find enclosed a cheque for \$110.00 made payable to Avocados Australia Ltd.

Please charge \$110.00 to my credit card. Details are listed below.

Credit card (please circle):

Bankcard MasterCard Visa

Credit card number:

Name on credit card:

Expiry date:

Signature:

Privacy Options

Avocados Australia Ltd adheres to privacy rules with respect to the way we collect, use, secure and disclose personal information. Please indicate below (tick) if you do not wish to receive additional information.

I do not give Avocados Australia Ltd permission to allow my postal contact details to be accessed by other organisations other than Avocados Australia Ltd which offer beneficial products and services.

•NB - No personal details other than name and postal address will be given out under any circumstances.

ONCE YOU HAVE COMPLETED THIS FORM
PLEASE PLACE IT IN AN ENVELOPE ADDRESSED TO:

Avocados Australia
Reply Paid 663
Stones Corner Qld 4120

(no stamp required within Australia):

For more information or assistance please go to
www.avocado.org.au or call on 07 3391 2344



National

The Chair of Avocados Australia, Mr Rod Dalton during the recent Australian-New Zealand Avocado Growers Conference had great pleasure in awarding Mr George Green, Mr Graham Anderson and Mrs Mary Ravanello the Australian industry, the "Avocados Australia Order of Merit".

At the same time Mr Dalton awarded on behalf of all members of Avocados Australia "Life Membership of Avocados Australia" to Mr Don Lavers and Mr David (Dave) Duncan.

The five award recipients have worked in various roles for the betterment of their local industry and the national avocado industry for over 20 years and they continue to do so, said Mr Dalton.

Mr Don Lavers

Life Membership of Avocados Australia

The Australian Avocado industry has awarded the "Avocados Australia Life Membership" to Don Lavers for an outstanding contribution to the development of the industry in north Queensland and Australia.

Following a career as a vet in north Queensland Don begun farming at Walkamin on the Atherton Tableland planting avocados and mangoes.

Don joined the Australian Avocado Growers Federation (AAGF) in 1984 as he represented the north Queensland growers on the Queensland Committee of Direction (COD) avocado sub-committee and served

MARKETING IS OUR BUSINESS

WE MARKET

AVOCADOS

**CUSTARD
APPLES**

MANGOES

CITRUS

LYCHEE

STONEFRUIT

AND

PERSIMMON

Sunfresh is a grower organisation with a well established and respected brand. We market fruit into both domestic markets and export markets and are currently investigating exciting R & D opportunities.

If you would like information on becoming a member of our progressive organisation you can contact our office at:

Avocado Marketing Co-op Ltd
PO Box 300 Yandina Qld 4561
Phone 07 5446 7069
Fax 07 5472 7271
sunfresh.fruit@bigpond.com

avocado industry awards service & excellence

in this capacity until 1993. Don was a strong advocate for the implementation of the national levies for marketing and research. This caused considerable debate at COD level as Queensland growers already had a state levy system. The national levies were introduced in 1992. Don served as President of AAGF in 1986-87 and chaired the Varieties committee from 1989-93.

At a local level Don was one of the driving forces behind the formation and development of the “Shepard Australia” marketing group. This group continues as a very successful model for group marketing and its success is a credit to the foresight and drive of Don and Del Lavers.

Better communication between the Australian and New Zealand industries developed from a meeting Don Lavers organised at the 1990 Australian Avocado conference on the Gold Coast involving growers from both sides of the Tasman. The previous season they north Queensland and the New Zealand growers had experienced poor returns due to oversupply and poor crop flow management. Don was encouraging cooperation and better communication to try and prevent a recurrence of the problems.

David (Dave) Duncan

Life Membership of Avocados Australia

The Australian Avocado industry has awarded the “Avocados Australia Life Membership” to David (Dave) Duncan for an outstanding contribution to the development of the industry in Western Australia and Australia.

Following a career in South East Asia as an accountant Dave took up avocado farming at Wanneroo just north of Perth. Western Australia joined the AAGF in 1982 and Dave was the first Board member to represent that state. Dave served a number of terms as Chairman of Avocado Growers Association of Western Australia (AGAWA) and thus as an AAGF Board member as the two roles were linked for many years.

Dave was Chairman of the organising committee of the very successful Australian Avocado conference in Fremantle in 1995.

As one of the pioneers of the development of the avocado industry in the Pemberton area of Western Australia Dave and his family have made a significant contribution to the expansion of the industry in that region. They have been prepared to share their knowledge with other growers and allowed on-farm research to be conducted on their properties.

Mrs Mary Ravello

Avocados Australia Order of Merit

The “Avocados Australia Order of Merit” has been awarded to Mary Ravello for service to the avocado industry.

Mary has been involved in the avocado industry for over twenty years. She has worked actively and successfully in the family business with her husband Natale and son Giovanni and continues to do so. She has been very active regionally in the “Atherton Tablelands Avocado Grower Association” and is an active member of the avocado marketing cooperative “Shepard Australia”.

Over a number of years Mary gave generously to the national avocado industry serving as the Atherton Director of the Australian Avocado Growers’ Federation (AAGF previous name for AAL) and as a member of the AAGF Marketing Committee from September 1993 through to October 2001. She was also Chair of the Marketing Committee from 1997 to 2001. She served as Vice Chair of AAGF from 1996 to 1998.

Mr George Green

Avocados Australia Order of Merit

The “Avocados Australia Order of Merit” has been awarded to George Green for service to the avocado industry.

George joined the AAGF Board in 1994 and served as a Director until 1999 representing the Bundaberg region. George was a member of the Research & Development committee from 1995 – 2004 and chaired that committee for much of that time. Having science training George provided the committee with strong leadership to ensure the research programme had sound scientific and practical objectives.

At a regional level George is a strong supporter of the group marketing approach and has served as a Board member and, until recently, Chairman of Natures Fruit Company, for many years.

Mr Graham Anderson

Avocados Australia Order of Merit

The “Avocados Australia Order of Merit” has been awarded to Graham Anderson for service to the avocado industry.

Graham has been involved in the industry for many years operating from the orchard his father John established in 1952 at Duranbah in Northern New South Wales.

In addition to the commercial orchard Graham has also operated a large commercial avocado nursery for many years, supplying ANVAS accredited trees to the industry. Graham has served on the Varieties committee since 1990 as one of two nursery representatives and also served as a Director of the AAGF for a short time in 1989-90.

Graham has travelled widely within Australia and internationally and has always been prepared to share his knowledge, ideas and experiences. The “selective limb removal” system of canopy management which he developed is known internationally as the Anderson system. The orchard and nursery at Duranbah have been used extensively as a research site particularly by the plant pathology team based in Brisbane.

All of the recipients have been and continue to be significant contributors to the successful development of the Australian Avocado industry. Avocados Australia will continue to recognise those that have worked hard at a national level to improve and make our industry more successful through co operation, knowledge sharing and commitment.



Avocado Growers Organisations

Regional Avocado Grower Organisations

Atherton Tableland

Avocado Growers' Association

Merrilyn Land, President 07 4093 2206
Col Cummins, Secretary 07 4095 8121
Fax: 07 4095 8122

Bundaberg & District Orchardists' Committee

Geoff Chivers 07 4153 3007
Fax: 07 4153 1322

Sunshine Coast Avocado Growers Association

Henry Kwaczynski, President 07 5442 1767
Fax: 07 5442 1767

West Morton Avocado Growers' Group

Rod Dalton, Convener 07 5466 1316
Fax: 07 5466 1497

Tamborine Mountain

Local Producers' Association

Bruce Bartle, President 07 5545 1527
Bev Buckley, Secretary 07 5545 2617

New South Wales

Avocado Growers Association Inc.

Gordon Burch, President 02 6550 4055
Alison Tolson, Secretary 02 6569 0872
Fax: 02 6569 0885

South Australia

Avocado Growers' Association

Colin Fechner, President 08 8541 2819
Greg Liebig, Secretary 08 8541 2174
Fax: 08 8541 2174

Avocado Growers' Association of Western Australia

Alan Blight, President 0417 179 127
Eleanor Press, Secretary 08 9776 1332
Fax: 08 9776 1332

Directory of Government Contacts

Australian Government Departments & Agencies

Department of Agriculture, Fisheries and Forestry

02 6272 3933 www.daff.gov.au

New Industries Development Program

1300 884 588 www.daff.gov.au/agribiz

Agriculture Portal

www.agriculture.gov.au

Austrade

13 28 78 www.austrade.gov.au

Australian Bureau of Agriculture & Resource Economics

02 6272 3933 www.abare.gov.au

Australian Bureau of Rural Sciences

02 6272 3933 www.brs.gov.au

Australian Bureau of Statistics

1300 135 070 www.abs.gov.au

Australian Competition and Consumer Commission

02 6243 1111 www.accc.gov.au

Australian Customs Service

1300 363 263 www.customs.gov.au

Australian Pesticides & Veterinary Medicines Authority

02 6272 5852 www.apvma.gov.au

Australian Tax Office

13 28 66 www.ato.gov.au

Australian Quarantine and Inspection Service

02 6272 3933 www.aqis.gov.au

Business Entry Point

www.business.gov.au

Department of Employment and Work Place Relations

02 6121 6000 www.dewr.gov.au

Department of Environment and Heritage

02 6274 1111 www.deh.gov.au

Department of Foreign Affairs and Trade

02 6261 1111 www.dfat.gov.au

Department of Industry, Tourism and Resources

1800 024 095 www.industry.gov.au

Department of Transport and Regional Services

02 6274 7111 www.dotars.gov.au

Food Standards Australia New Zealand

02 6271 2222 www.foodstandards.gov.au

Grants Link

www.grantslink.gov.au

IP Australia

1300 65 1010 www.ipaustralia.gov.au

The Ministerial Council on Consumer Affairs

www.consumer.gov.au

State Government Departments & Agencies

Australian Capital Territory

Business ACT
1800 244 650 www.business.act.gov.au

New South Wales

NSW Agriculture
02 6391 3100 www.agric.nsw.gov.au

Dept of State and Regional Development

02 9228 3111 www.business.nsw.gov.au

Northern Territory

Dept of Business, Industry and Resource Development
www.nt.gov.au/dbird/dpif

Queensland

Dept of Primary Industries
07 3404 6999 www.dpi.qld.gov.au

Dept of State Development

07 3225 1915 www.sd.qld.gov.au

South Australia

Dept of Primary Industries and Resources www.pir.sa.gov.au

Food for the Future

08 8226 0585 www.food.sa.gov.au

Tasmania

Dept of Primary Industries, Water and Environment
03 6233 6496 www.dpiwe.tas.gov.au

Dept of Economic Development

1800 030 688 www.development.tas.gov.au

Victoria

Business Victoria
13 22 15 www.business.vic.gov.au

Dept of Primary Industries

136 186 www.dpi.vic.gov.au

Food Victoria

www.food.vic.gov.au

Western Australia

Department of Agriculture
08 9368 3333 www.agric.wa.gov.au