

## Avocado stand at the Royal Adelaide Show

- Annual Report to Industry
- AHC and HRDC Annual Reports
- Office Management - Financial Software
- Conference '95 Lift Out

# AUSTRALIAN AVOCADO GROWERS' FEDERATION

# Table of Contents

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This publication is distributed upon the understanding that the publisher is not engaged in legal, cultural or other professional advice. The Editor, Directors and Executive Officers of the Australian Avocado Growers' Federation Inc (ACN Number IA 5122) do not accept any liability for and/or necessary enclose and/or concern and/or support any of the claims and/or statements made and/or views and/or opinions expressed anywhere in any edition of "Talking Avocados".

## Calendar of Events

### November

- 7 **Coffs Harbour Branch of the NSW Avocado Association** - meeting Coffs Harbour Catholic Club commencing 7.30 p.m. The meeting will include an address, followed by discussion, with Mr Bart Gannon of the AHC. All avocado growers are encouraged to attend.
- 8 **Brunswick Branch of the NSW Avocado Association** - meeting at the property of Phil and Chris Reale, Giles road Upper Burringbar commencing 2.30 p.m. (To be held in conjunction with an AVOMAN Regional Productivity Group meeting.) The meeting will include an address, followed by discussion, with Mr Bart Gannon of the AHC. All avocado growers from both the Brunswick and Tweed areas are encouraged to attend.
- 9 **Richmond Branch of the NSW Avocado Association** - meeting Alstonville Tropical Research Station commencing 5.00 p.m. The meeting will include an address, followed by discussion, with Mr Bart Gannon of the AHC. All avocado growers are encouraged to attend.

### December

- 5 **NSW Avocado Association** - Committee meeting Ballina RSL commencing 9.00 a.m.
- 6 **Avocado Growers Association of WA** - meeting Conference Room, Market City commencing 5.30 p.m.

### February

- 7 **Avocado Growers Association of WA** - meeting Conference Room, Market City commencing 5.30 p.m.

*Front cover: The avocado stand at the Royal Adelaide Show, 1994.*

*Back cover: Part of the display, Royal Adelaide Show, 1994.*

## Carton Sizes Under Review

### *Successful Horticulture August 1994*

Blueprints for standard-sized fruit and vegetable boxes should be finished by the end of this year, according to Ian Peggie, a consultant who heads a task force currently reviewing carton sizes.

Mr Peggie chairs the Australian United Fresh Fruit and Vegetable Association (AUF) packaging committee which hopes to have its recommendations in place by the start of the next fruit season.

His committee is studying carton directives made by the AUF in the 1980s.

"Those packages all inter stacked very well but now we have the problem of an enormous variety of package sizes," Mr Peggie said.

"This means transport is terribly inefficient—pallets are quite unstable so cartons can only be stacked so high and the boxes frequently topple over, damaging produce," he said.

"We will investigate what sized packages suit industry best and what are the most efficient packages for the whole industry." Mr Peggie said discussion had already uncovered concern about pallet sizes. There is an Australian standard, but at least two other sizes are being used domestically.

## HRDC Levies To Increase

The AAGF at the Board meeting held on 13 September determined by resolution that the HRDC administered avocado R&D levy be increased from the current level of 3¢/tray to a new rate of 6¢/tray as soon as possible.

The Federal Minister for Primary Industries and Energy has been requested to authorise the necessary instruments to increase the levy from the beginning of the 1995 season.

This increase will allow some of the problems mentioned under Research and Development in the President's Report to be addressed.

## ANVAS Accredited Nurseries

The following are nurseries that hold ANVAS accreditation:

- Rainforest Nursery, Mareeba
- Birdwood Nursery, Woombye
- Bateson's Nursery, Woombye
- Anderson's Nursery, Duranbah

## Registration of ANVAS Trees

*By Roslyn Stark, ANVAS Registrar*

If you have purchased accredited avocado plants that have come with an AAGF Virus Tested Tree Registration Program Delivery Docket (Form V), then you can have these plants registered.

In order to register them, they should not be planted within 15 m of non-registered trees. (Note: Cutting tools used on any tree in this program shall be either restricted for that purpose or thoroughly cleaned with sodium hypochlorite.)

The Form V and a map of the planting showing the location of each numbered tree should be posted to the ANVAS Registrar, P.O. Box 19, Brisbane Markets 4106.

An inspection of the planting by the Department of Primary Industries/Agriculture will be arranged by the registrar.

**This inspection must be carried out within 3 months of planting.**

When advice is received by the Registrar that inspection is satisfactory, an invoice will be sent. Registration is \$1 per tree payable to the AAGF Varieties Committee.

On payment of this fee, a certificate will be issued to the grower showing the number of registered trees.

If you wish to have your trees registered you are required to:

- Plant trees not less than 15 m from non-registered trees.
- Undertake to comply with regulations in regard to cutting tools.
- Send the Form V and a map of the planting to the Registrar in time to have an inspection carried out within three months of planting.
- Pay a registration fee of \$1 per tree.

# AAGF Executive Officer

Sandy Teagle who was the Executive Officer of the AAGF, filled that position under an arrangement with Queensland Fruit & Vegetable Growers whereby they supplied administrative support to the Federation. Due to an increase in her core responsibilities, Sandy can no longer act in this position and has been replaced by Astrid Kennedy who works on a part-time basis. The AAGF Directors would like to take this opportunity to thank Sandy for the work she has done for the Federation.

Ms Kennedy comes to the AAGF after a ten-year stint at trade association level of the finance industry.

Her experience in trade association activities ranges from providing secretariat services to the board of directors of four companies, chairing committee meetings, government liaison and public relations. "Accepting the position of Executive Officer with the AAGF is a change of industry" she said, "not a change of job".

Astrid's career spans from clerical and computer related positions in manufacturing industries in the United Kingdom to steel industries in Australia. She joined the finance industry in 1984 and held managerial positions at both State and National trade association level. Ms Kennedy is

currently studying Politics and Public Policy at Griffith University.

Originally from Northern Ireland, Astrid and her husband Victor immigrated to Australia in 1973.

Astrid will be in the office on Monday morning and Thursday afternoon and can be contacted on: Phone (07) 213 2444, Direct phone (07) 213 2477 and Fax (07) 213 2480.



## From Your Federation

Hi. I am Astrid Kennedy the new Executive Officer. In this my first article in Talking Avocados I will attempt to tell you what has been going on in the headquarters of the AAGF.

Your Federation held the Annual General Meeting, Strategic Planning Meeting and General Meeting over the 12, 13 and 14 September, 1994.

### AGM

A copy of the President's report and notification of office bearers, committee membership and Directors' portfolios is reported on the next page. These are your contacts for obtaining information on their particular area of expertise and more importantly, for imparting information that may be of use to other growers.

### Strategic Plan

The avocado industry is soon to have a new strategic plan. Directors and representatives from AHC and HRDC reviewed the 1991 "Australian Avocado Industry Vision and Strategic Plan". Essentially, they revised the aims and objectives, prioritised issues and allocated responsibilities to address the needs of the industry into the foreseeable future. The plan is currently being formulated and should be ready for publication by the next issue of this magazine.

### General Meeting

The question of membership of the AHC was discussed in detail during the meeting and remains unresolved. The issues of

concern have been reported at length in previous editions of talking Avocados and while agreement has been reached on a number of those, the question on accountability has yet to be resolved to the Federations satisfaction. A meeting with the AHC Board of Directors organised for 28 November will address these matters.

### Industry Statistics

The Australian Bureau of Statistics has been commissioned to gather industrial statistics. The questionnaire will cover questions relating to age and production of trees, number of trees planted or intended to be planted in 1994/95 and packing methods. To ensure the results are meaningful, your Federation requests your co-operation when the ABS calls. The results are expected in February 1995.

The lack of reliable comprehensive statistics on the avocado industry is an ongoing concern. It makes it difficult to forward plan and direct research and development funds when there is no "benchmark". The feasibility of initiating a "Benchmark project" and funding alternatives are now being considered.

A happy and prosperous New Year to all.

## ATTENTION AVOCADO GROWERS

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### Conference '95 Liftout

You will find a coloured Conference '95 liftout elsewhere in this magazine. Read it carefully and decide whether or not to attend this conference.

If you do decide to attend, and you should as it looks like being an important conference, fill out the form section, cut it off along the dotted line and return it to the conference organisers.

# President's Annual Report To Industry

It is my duty to report to the Australian avocado growers on the activities of the AAGF for the year ending 30 June 1994.

## Overview

For the most part the past year was characterised by uncertainty induced by Federal Government enquiries into horticulture; the gradual reduction in support to industry by State Departments; and the development of mutual co-operative working relationship with the AHC, the HRDC, the R&D community and sectors of the avocado industry beyond the farm gate.

## Membership

Membership of the AAGF was the same as for previous years consisting of the:

- Western Australian Avocado Growers' Association
- South Australian Avocado Growers' Association
- Sunraysia Avocado Growers' Association Inc
- New South Wales Avocado Association Inc
- Queensland Fruit and Vegetable Growers

## Director's Portfolios

Portfolio	Director
Export	Mr George Green
Research	Mr Phil Connor
Statistics	Mr David Rankine
Talking Avocados	Mr Warren Meredith Ms Marie Karanicolos
California Avocado Society	Mr Ross Richards
Medfly	Mr Phil Franzone
Salt Tolerant Rootstock	Mr Ross Richards
Fruit Spotting Bug	Mr John Bolton
Anthraxnose	Mr Rod Dalton

## Varieties Subcommittee

Members of the subcommittee:

Mr Dalton	Chairman
Mrs Ravello	Member
Mr Richards	Member
Mr Connor	Member

Advisers to the subcommittee:

Messrs Anderson, Whiley, Pegg, Young, Kidd and Ireland.

Staff:

Ms R. Stark	Registrar
Ms A. Kennedy	Executive Officer

## Quality Assurance Project

Members of the subcommittee:

Mr John Bolton	Chairman
Mr Rod Dalton	Member
Mr Bart Gannon	AHC
Mr Scott Ledger	QDPI
Ms Astrid Kennedy	Executive Officer

## Board of Directors

### Meetings

The Board of 12 Directors representing the membership from across the disparate growing regions of mainland Australia met formally during July, December and March.

### Resignations

It was with reluctance that the Board accepted the resignations of:

- Mr Charles Dimes
- Mr Dave Duncan
- Mr John Galatis
- Mr George Gordon
- Mr Don Lavers
- Mr Robert Mosse

### New Directors

The Board welcomed seven new Directors during the past year:

- Mr Allan Campbell
- Mr Phil Connor
- Mr Dave Duncan (temporary)
- Mr Phil Franzone
- Mr George Green
- Mr Tony Lawrence
- Mrs Mary Ravello

(See page 2 for a full list of Directors. Ed)

## Chairman

The Chairman of the Board is the President of the AAGF. Mr Robert Mosse held that position until his retirement on 1 June 1994 when he was replaced by Mr John Bolton.

## Secretary

The Secretary to the Board, the Executive Officer of the AAGF, was Mr Bryson Dyke who was replaced by Ms Sandy Teagle as of October 1993.

## Finance

### Financial Year

The Board, by amendment to the Constitution in July 1993, has brought the AAGF financial year into line with the fiscal year ending 30 June of each year. Previously, the financial year ended 30 September and this made management cumbersome on joining the AHC and HRDC.

### Accounts

The AAGF currently operates four separate accounts: AAGF Inc, Varieties Committee, Conference '95 and Money Market. All four have been audited. The balance for the year ending is shown.

6



Board of Directors

Standing left to right: George Green, Allan Campbell, Ross Richards, Rod Dalton (Vice-President) and Phil Franzone.

Seated: David Rankine, Mary Ravello, John Bolton (President), Phil Connor and Warren Meredith.

Absent: Tony Lawrence and Marie Karanicolos.

### AAGF Inc Account

The operating account for the daily activities of the Federation. The AAGF operated within the cashflow constraints imposed by the budget for FY 93/94.

Income fell short of budget provisions by some \$800 due to a shortfall in AHC contributions and payment of a membership fee prior to the opening of the financial year.

The expenditure overran the budget provisions for Board meetings due to legal requirement to conduct an Annual General Meeting (the December 1993 meeting) within three months of the end of the financial year, pursuant to the Queensland Associations Incorporation Act 1981 under which the AAGF is incorporated. Now that the AAGF has rationalised the financial and fiscal years and caused the Annual General Meeting to be combined with statutory presentations by the AHC and HRDC, this situation should no longer arise.

### Varieties Committee Account

This is the account under which the Avocado Nursery Voluntary Accreditation Scheme (ANVAS) operates. This account is healthy.

### Conference '95 Account

This account was opened in June 1994 with seed funds provided by the Money Market Account.

### Money Market Account

This account has accrued over time mainly from surpluses in the main and conference accounts. Conference '95 is to reimburse this account.

### Budget 1994/1995

The budget approved by the Board of Directors for 1994/1995 is:

#### Income

Subscriptions	\$4,000
Talking Avocados	\$500
Interest Money Market	\$300

Fruit labels	\$200
Other	\$50
<b>Total AAGF Sources</b>	<b>\$5,050</b>
AHC Contribution	\$40,700
<b>Total AAGF Income 1994/95</b>	<b>\$45,750</b>

#### Expenditure

Bank charges and fees	\$100
Board meetings	\$15,000
Department of Consumer Affairs	\$100
Executive travel and subsistence	\$3,000
Printing and stationery	\$1,000
Reimbursement excess drawings from AHC	\$1,500
Secretarial support	\$16,000
Teleconferences	\$1,000
Telephone and Fax	\$1,000
Contingency	\$7,050
<b>Total AAGF Expenditure provisions for 1994/1995</b>	<b>\$45,750</b>

### The Constitution

The AAGF undertook to update the Constitution to reflect the reality. The amendments, since ratified by the Queensland Department of Consumer Affairs, concerned titles, financial year and representation.

### Strategic Plan

Since 1991, the development of the avocado industry has been advanced in accordance with a formal Strategic plan covering twelve key objectives.

The passage of time has demonstrated that the objectives can now be classified as being achieved, utopian, redundant or in need of redirection. The Board has resolved to review the Strategic Plan early in the new financial year.

### Research and Development

The industry's R&D Plan was developed in 1991 and implemented in FY 1992/93. That plan covered eighteen program areas has been slow to progress due to lack of industry contributions. Areas lacking levy funding support include rootstock and varietal improvement; quality assurance; market research; yield productivity and cultural practices; new and value added products; crop forecasting, to name a few.

While selected regional avocado organisations have taken unilateral action to fund specific projects, these activities together with the levy funded projects only amount to six avocado R&D projects funded by industry since the AAGF became a member of the HRDC. Of those projects only one, the cold disinfestation of Queensland fruit fly, has been completed.

The total avocado R&D levy collected in the three years to 30 June 1994 was \$81,000. This is equivalent to 2,700,000 single layer trays having a gross value of production (GVP) of between \$30m and \$50m.

## Income And Expenditure As Per Bank Statement 1 July 1993 - 30 June 1994

Item	Budget Provision	Actual	
		Income	Expenditure
<b>INCOME</b>			
AHC Contribution	34,000.00	30,000.00	
Membership Fees	4,000.00	3720.00	
Money Market Interest	-	478.92	
Talking Avocados	-	1210.58	
Other Income	-	1753.64	
<b>Total Income</b>	<b>38,000.00</b>	<b>37,163.14</b>	
<b>EXPENDITURE</b>			
Bank Charges and Fees			44.95
Board Meetings			18,476.50
Executive Meetings			1,479.85
Fees			39.50
Printing and Stationery			
Telephone and fax			
Secretariat			16,039.27
Contingency			976.19
<b>Total expenditure</b>			<b>37,056.26</b>
<b>Excess Cash Income</b>		<b>106.88</b>	

## Reconciliation From 1 July 1993 to 30 June 1994

	AAGF Inc	Varieties Committee	Conference '95	Money Market
Balance as at 30/6/93	9,232.33	4,662.20	0.00	12,056.16
Deposit 2/6/94			5,000.00	
Total Income	37,142.14	7,158.85	-	478.92
Total Expenditure	41,560.40	4,164.85	1,822.45	5,000.00
Balance as at 30/6/94	4,814.07	7,656.20	3,177.55	7,535.08
Plus unrepresented cheques	4,525.14	995.00	-	-
Less Interest from Money A/C	478.92	-	-	-
Less outstanding deposits	-	202.00	-	-
<b>Balance as at 30/6/94</b>	<b>8,860.29</b>	<b>8,449.20</b>	<b>3,177.55</b>	<b>7,535.08</b>

The target industry contribution set by government to attract the maximum government grant through the HRDC is 0.5% GVP. Based on 1993/94 figures, the industry is contributing less than 0.25% of GVP.

Your Board is concerned that because our industry is not conducting essential R&D the industry is in danger of losing out on four counts by:

1. failing to attract maximum R&D grants;
2. losing existing and future domestic market share;
3. an inability to penetrate and hold potential export markets; and
4. promoting a price fall in the domestic market due to few value added enterprises to absorb oversupply.

In the 1994/95 year, the Board will address the requirement to increase the R&D levy contribution to attract the maximum Federal Government grant to be effective from the beginning of the 1995 season.

### Quality

The President has reported to industry and the AHC through both "Talking Avocados" and the "Harvest" tapes the direction industry is taking on quality. The overall goal is total quality management embracing all aspects from the nursery to the plate and incorporating substantiation or assurance of actions taken.

Through the past year the industry through the Board has been actively supported in achieving the quality goals by the AHC, HRDC and lately the DPIE Agribusiness Program.

### ANVAS

The nursery accreditation scheme established by the AAGF in 1987 with the assistance of the Queensland Department of Primary Industries continues to flourish. New nurseries are applying for accreditation but are having difficulties in sustaining a pathogen free environment.

### AVOMAN

Further to the project leader's report in "Talking Avocados" and on the "Harvest" tape, formal expressions of interest have been received from the South African Avocado Growers' Association. In addition, the Californian and New Zealand avocado authorities have made informal approaches.

The decision has been made to withhold the computer prototype software until further development and validation has been completed. The release is now planned for Monday, 1 May 1995 at the Conference '95 in Fremantle. The proposed release is to be supported by a continuously running training program throughout the duration of the conference. The support given by the

HRDC and State agricultural departments to this technology transfer and quality project is appreciated.

### Quality During Marketing Project

The project commenced on time and the Agribusiness Program has advanced the full authorised funding allocation.

This project, which fulfils a Strategic Plan objective, owes its impetus to the findings of the AVOMAN post-harvest project team. The active support of the AHC Avocado Commodity Manager is recognised. Funding is 25% from grower levies managed by the AHC and the remainder from the Agribusiness Program.

### Export

The AAGF has appointed a Director responsible for export who is currently working closely with the Commodity Manager and Export Manager at the AHC. An export plan developed in concert with the AHC and with the support from the HRDC is planned for the coming year.

I advise that the cold disinfestation of the Queensland fruit fly project has been completed and that the disinfestation of the Mediterranean fruit fly project jointly funded by the industry and HRDC has been approved for implementation in FY 94/95.

### Industry Data

This strategic plan objective has been difficult to resolve. The confidentiality implementation preclude utilising the levy collection system to collect statistics. Without meaningful statistics the industry is unable to effectively address selected R&D issues, domestic marketing objectives, promotion activities or export potential.

Your Board has appointed a Director responsible for statistical collection who has actively pursued the Australian Bureau of Statistics and is working closely with both the Commodity Manager and Statistics Manager at the AHC. A plan of action is planned for implementation late in 1994.

### Talking Avocados

The avocado industry's news magazine continues to expand its readership beyond the growing community. The small amount of advertising space being sold is of concern to the Board and efforts through the AHC continue to expand this area.

The standard of articles remains high and relevant, however, the level of feedback from growers remains low.

### Co-operative Relationships

Through the past year the AAGF has worked steadfastly to develop better working relationships with the AHC, HRDC

and R&D communities, the marketing fraternity and selected specialist areas. For the most part the efforts have been successful and a better understanding of each other's perspectives and problems has resulted.

### HRDC

I can report that both the operational and administrative working relationship between the AAGF and the HRDC is working well. The nomination of a Program Support Manager for avocados within the HRDC has assisted this co-operative relationship. For our part, the Program Support Manager is to be invited to participate in all future Board meetings.

### AHC

I am pleased to advise that the appointment by the AHC of an Avocado Commodity Manager (who also has responsibility for citrus and macadamia nuts) the operational co-operative partnership between the AAGF and the AHC has improved markedly. Not only does the Commodity Manager attend Board meetings, he takes opportunities when they present themselves to participate or attend other avocado activities.

However, as advised to the AHC on 27 June 1994, I cannot say the same for the administrative side of the AHC. Of specific concern is the area of financial communications and the Memorandum of Understanding. I can only give an undertaking that I and the Board will actively pursue an improvement in the administrative working relationship.

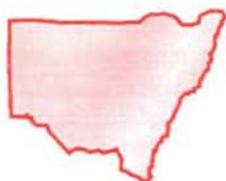
### Conclusion

The year 1993/94 was a time of placing the building blocks in place for the advancement of the avocado industry. It was also a year in which the lack of knowledge and data about the industry became most noticeable. The signs are now apparent to all in horticulture that major changes are about to envelope the fruit, nut and vegetable industries.

These changes induced by the Federal Government will become most apparent during the coming year. The single driving factor will be QUALITY and those industries which master total quality management and quality assurance will survive in both the domestic and export markets.

For the avocado industry that means committing more resources to appropriate and essential research and development, not just on the farm but across the total spectrum of the industry from nursery to the plate.

# Australian Round-up



## Special General Meeting

The NSW Avocado Association held a Special General Meeting to determine

the future of the industry in this State. Without voluntary levies to sustain the Association, a financial crisis was looming which could have seen the demise of organised representation of avocado growers. However, growers determined that this was not to be by voting to increase the annual subscription to \$120.

Some growers may think that this is an unduly high figure but compared with Western Australia (12¢/tray levy on top of the AHC and HRDC levies) and Queensland (0.5% of gross sales) it is quite reasonable. Hopefully this will see the Association on a much sounder footing and be able to become more responsive to growers needs.

## Tweed Industries Day

The avocado growers from the Brunswick district took part in the Tweed and Surrounding Districts Industries Day held during the recent Murwillumbah Banana Festival. A stand was set up in a large shaded area provided by local tractor, machinery and car dealer, Partridge and Walker. Most horticultural industries were represented.

Local growers provided 30 litres of mashed avocados which were made into Guacamole plus three other dips including Banana Avocado Nut dip, all of which proved to be very easy to give away, especially the last mentioned dip.

The various dips were served on Jatz biscuits and demand by school aged children was quite noticeable.

Copies of recipes for all the dips were given away as well as regular Avocado pamphlets. The stall was decorated with avocado posters including the new one with the Heart Foundation Tick.

Nearby, the Pork Corporation had a stall cooking pork pieces and steaks. Many consumers used our plain dip as a topping on the pork steaks. A sensational taste delight!

A simple promotion and tasting occasion but nevertheless, one considered to be well worthwhile by those manning the stall, and more so by those consuming our product.



## Royal Adelaide Show

The South Australian Avocado Growers association avocado stand at the September Royal Adelaide Show was awarded first prize as the

Best Exhibit in the Floriculture/Horticulture Pavilions. This is a great achievement for all those involved and they should be congratulated for their effort.

Formerly, exhibits were judged by their static beauty on the day before the Show officially opened. Now it is judged on "if you have a message, is it coming across!" in addition to the "good looks". Thus the dynamics of watching a tonne of avocados and dips being given away to tens of thousands of people and the smiles on faces of avocadophiles consuming \$10,000 worth of avocado "Boats" etc. gave us Gold, Gold, Gold. The first prize consisted of a blue sash and an illuminated framed certificate.

It really was a great event put on by 20 devoted growers and their families, 3

## Pork Steaks with Avocado Topping

- 4 pork leg steaks
- 1 medium ripe avocado
- 1 teaspoon lemon juice
- 1 small finely chopped onion
- salt and pepper or lemon pepper seasoning

### Topping:

Mash avocado (or process) with lemon juice, onion and a light sprinkle of salt and pepper or lemon pepper seasoning to taste. NB: Any remaining avocado topping can be used on jacket potatoes or grill halved tomatoes.

### Method:

Brush pan with 1/2 teaspoon oil. Sear steaks on both sides to seal in the juices, sprinkle with salt and pepper or lemon pepper seasoning and fry steaks on a high heat without turning for 2 to 3 minutes. Turn steaks, cook for 1 minute then spread 2 teaspoons of avocado topping on each steak to warm gently before removing from pan.

wonderful friends and 5 decorative members of H.L. Banana's promotion team. They worked 63 x 6-8 hour shifts. Design and organisation was by Shirley Richards and supervision by Carmen Laver-Smith.

## Notes on Customers

Guacamole is the most popular dip (those Mexicans got it right the first time).

Cholesterol has almost disappeared from the language (throw those old stickers away and get with the Heart Tick).

Those mothers who have been feeding avocados to very young babies are our best word-of-mouth promoters (more baby leaflets - 240,000 next year).

Little boys say "Yuk" (1 in 5), it was 3 in 5 five years ago.

Why can't I buy lovely avocados like these at my shop? "Ask Scott Ledger" was not a satisfactory answer! The Hass avocados in question were from Geoff Hannaford of Coff's Harbour.

## AVOMAN

Interested SAAGA members were recently invited to a workshop by Ian Atkinson at Mildura. As a result "Regional Productivity Groups" have been formed at Renmark and Waikerie.

The SA DPI manager of Extension Services was in attendance at our inaugural meeting. He was most impressed by the technology shown by AVOMAN. No doubt DPI co-operation will benefit not only avocado growers but also other horticultural industries.

## Rootstock Trial

Our joint funding source for the Salt Tolerant Rootstock Trials (Sunraysia AGA) has ceased supporting this project. We are seeking alternative partners as the project is supported on a dollar for dollar basis by the HRDC. Individual donations of \$30 or more would be acceptable. According to our auditor, these donations would be tax deductible.

Each SAAGA member has already contributed \$109. All donations should be sent to Margaret Rebbeck, Box 61, Waikerie 5330; thank you. All donors will get a receipt signed by Paul Keating or Chris Rigney, (the preference is yours) and a personal mention in this magazine.

## AUSTRALIAN ROUND-UP



### WEST MORTON REGION

The drought continues! As I am sure you are all aware, the drought continues in this area as it does in much of the country. In the Lockyer Valley we've had less than 50 mm since mid March and records continue to be set.

The dry weather and severe frosts in July have had a serious affect on a number of orchards with a large fruit drop after the frosts plus the loss of the majority of flowers for the 1995 crop. Orchards up on the range appear to have fared better with the weather, although recent low minimum temperatures and moisture stress is causing concern with flowering in progress.

Based on the experiences of a number of growers, the following thoughts on frost and its affects in a mature orchard are offered:

1. If fruit is mature when the fruit stem is damaged by frost, seen initially as a darkening of the stem, then that fruit should ripen normally if harvested immediately.
2. Where selective pruning is being used for canopy management, then pruning should be left till spring if there is a chance of a moderate frost, as an open canopy cools much faster than a mature complete canopy.
3. Where you plan to staghorn trees, carefully consider that frost damage may be more severe in areas of a mature orchard than in a newly planted orchard due to restricted air movement. In other words, just because you were able to establish your orchard with little or no frost damage, the situation may be different in sections of your mature orchard.

### ATHERTON TABLELANDS

Official crop forecasts have not yet commenced but on present indications, production for the 1995 season looks like being average or slightly down. Shepard fruit set was retarded by the cooler than average winter but Hass and Fuerte have set well. Growers will look carefully at the skies over the next few months as the season for hail and cyclones approaches.

### AHC Officer's Visit

Graeme Munro, Quality Systems Manager from the AHC met some of our growers during his recent visit to the Tablelands. He was keen to hear details of the way Shepard growers had become united into a group to market a quality assured product under a single brand.

"Producer and grower groups like Shepard growers will ultimately be rewarded for their initiatives in developing Quality Management Systems from the producer to the market", he said.

"Survival in the marketplace is difficult enough but the key lies in finding out what the customer wants and in having the united production base to deliver that product."

### Shepard Australia

Irene Kernot, QDPI will be holding a New Orchard Field Day to introduce growers entering the industry to best management practices to enable them to produce a top quality product.

There has been a wave of new plantings, particularly in the Mareeba to Dimbulah sector of the Tableland and fifteen new growers are expected to attend. There will also be established growers to share their wisdom with the newcomers.

The program will include:

- Selection of planting material from ANVAS accredited nurseries.
- Land preparation, tree spacing and irrigation.
- Pruning and shaping for quality.
- Tree protection.

### The Root-Rot Battle

Rob Weaver, who manages a large Shepard, Hass and Fuerte orchard at Wulkamin is not happy with the tree injection method for controlling root-rot.

He said "The problems associated with injecting 6,500 trees twice a year are simply mind bending."

Rob believes that spraying phosphorous acid (PA) is the way to go and that there is plenty of evidence that foliar application is

effective. He urges the industry to take the necessary steps to have PA registered for foliar use in avocados.

Optimum levels of phosphite in plants should be determined so that growers could check the efficacy of the spray program through laboratory testing.

Apparently a grower who trialed a PA spray program as the only fungicide and compared the fruit with that from trees receiving the same number of copper treatments, found that for fruit ripened at high temperatures, there was no difference in skin rots between the PA and copper treated fruit.

### To Present Your Produce Attractively CONTACT Label Press

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## A NEW VARIETY FOR AUSTRALIA EXCLUSIVE TO ANFIC MEMBERS

### GWEN

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Sunraysia Nurseries, Gol Gol NSW Ph (050) 248502

# World News



## Drought Cuts Spanish Crop

*From Eurofruit Magazine, September 1994*

Producers in Spain are predicting a significant fall in this year's avocado crop as soaring temperatures continue to take a heavy toll on the tropical fruit growing areas of Andalusia.

Southern Spain is baking under the hottest summer since 1876. "In much of Andalusia, temperatures of more than 50°C have wiped out both commercial crops and indigenous vegetation. Avocado production has been particularly affected because it is less resistant to extreme heat than other tropical fruits", Madrid-based wholesaler and tropical fruit producer Julián Díaz Robledo told Eurofruit Magazine.

When initial forecasts for the coming season were cast, Spanish avocado growers were looking to increase output to 50,000 tonnes but record temperatures in July have forced them to lower their expectations. Growers are now resigned to massive losses throughout the 100,000 hectares of avocado plantation in mainland Spain and Canary Islands.

With some producers now saying that yields this year will be up to 50% lower than last season, it is not surprising that there are major fears about exports. There are about 20,000 tonnes of avocados left on the trees which is just enough to meet Spanish demand", explained Mr Díaz Robledo. "The general view is that there won't be sufficient quantity available for export this year".

Spain's main competitors on the European avocado market are Israel and Mexico but producers in Israel have also been hit by unusually high temperatures which means that Israeli output, especially of Hass, will be considerably lower than last year. And so it would appear that Spain's loss is Mexico's gain. "Mexican producers have been targeting Europe for the last few seasons but prices have been fairly low. This year things look set to change for the better with Mexican suppliers eager to fill the gap in the European avocado market", said Mr Díaz Robledo.

The first consignments of Mexican Hass arrived in late August and were marketed along with the remaining supplies of Spanish Bacon and Fuerte. Spanish Hass comes onto the market in December and Mr Díaz Robledo said that producers are confident consumers will opt for the local rather than imported produce. "Spanish consumers prefer the shiny, dark-green skin and elongated shape of home-grown avocados to the round form of Mexican varieties", he concluded.

## Tropic Steps Up Avocado Imports

*From Eurofruit Magazine, September 1994*

The French fruit importer in which Fyffes acquired a half share last month is planning substantial increases in total imports of Mexican avocados this season.

Tropic International says it will market some 2 million cartons of fruit in Europe sourced from leading Uruapan-based avocado producers. The 30% increase in volume will make the Paris-based fruit marketer one of Europe's largest single distributors of Mexican Hass.

"Market conditions look very favourable this season", said managing director René-François Teissedre. Programs have been expanded because of the expected shortage of Mediterranean fruit and the absence of competitive volumes from Chile. Mexico also shipped its first volumes three weeks earlier than last season.

Tropic International markets 80% of its imported avocados on the domestic market, where year-round demand for Hass is strong. Volumes of fruit are also exported to other parts of Europe, including Spain and Scandinavia.

"We hope that the new connection with Fyffes will increase our access to the British market too", said Mr Teissedre. Fyffes's acquisition of a 50% stake in Tropic International was the third in a series of recent acquisitions. The French fruit importer is expecting an annual turnover of FF300 m, with around 50% of the sales to France's major supermarket chains.

## Mission Crusades For Mexican Avocados

*From Eurofruit Magazine, September 1994*

One of California's largest suppliers of avocados has invested around US\$1 m in a state-of-the-art packing facility in Mexico's main avocado growing area as part of a program of expansion for its world-wide avocado operations.

Mission Produce Inc has recently completed the installation of new computerised weight sizer and colour grading machine into its 23,000 square feet central packing facility in Uruapan, the town in the centre of Mexico's avocado producing region of Michoacan. The 35,000 tonne capacity packing facility is expecting this year to handle about 20,000 tonnes of fresh fruit sourced from a wide number of local avocado producers. Mission is also heavily involved in avocado processing and Mexican national sales.

"Mexico is a key part of our year-round business in avocados", explained Jim Donovan, Vice-President International operations. Fresh and processed avocado business in Mexico, through subsidiary Mission de Mexico, should account for 20% of annual corporate consolidated turnover of US\$50 m this year.

Some 4,000 tonnes of Mission-branded avocados are earmarked for export to Europe this season. Europe is Mission's third largest export market after North America and the Far East.

Set up in 1983 to market avocados grown in California, Mission Produce has since expanded significantly its world-wide operations in a bid to become the world's single largest avocado marketer year-round. For example, in addition to its US and Mexican operations, it sources on contract some 2,500 tonnes of off-season avocados from leading Chilean producer Agricom. Its involvement in the Mexican avocado sector dates from the founding of the company. Opportunities in avocado marketing are also being explored in other parts of central America and even Europe.

# Conference '95

## *The Way Ahead*

30 April - 3 May 1995

Esplanade Hotel  
Fremantle  
Western Australia

### Conference Program

	Sunday 30th April	Monday 1st May	Tuesday 2nd May	Wednesday 3rd May
6.00 a.m.		Market City Tour and Breakfast		Hass Fruit Size
8.30 a.m.				Shepard
9.00 a.m.				Crop Prediction
9.30 a.m.				Morning Tea
10.00 a.m.		Official Opening		Anthracnose Bio Control
10.30 a.m.		AHC Report		Urbanisation Horticulture and the Environment
11.00 a.m.		HRDC Report		
11.30 a.m.		AAGF Report		
12.00 p.m.		LUNCH		LUNCH
1.30 p.m.				Quality Assurance Forum
2.00 p.m.		AVOMAN		
2.30 p.m.				Afternoon Tea
3.00 p.m.	Registration Desk Opens	Afternoon Tea		Turning Water into Oil
3.30 p.m.		Best Practice Post Harvest		Growing Fruit to Travel
4.00 p.m.		Irrigation - WA		
4.30 p.m.		Packaging Trends		Free Time
5.00 p.m.	Cocktail Party	Free Time		DINNER
5.30 p.m.				
6.30 p.m.				

### Field Tour Details

- TRAVEL:** Fremantle to King's Park (15 minute stop) thence via Mitchell Freeway, through Joondalup City to Carabooda (60 km) and return via Mindarie Keys, Hillary's Boat Harbour and Northern Beaches.
- SEE:** Soil (sand) textures and profiles.  
Boron deficiency at its best.  
Canopy management and mismanagement.  
Windbreaks - artificial and organic.  
Automatic irrigation systems.  
Soil moisture sensors.  
Harvesting systems and equipment. (Rolls Royce and  
Packing systems and equipment. (Rolls C'nhardly.  
Aquila Estate Winery.
- HEAR:** Tim Smith - MSc student, University of Queensland on "The Management of Boron Deficiency In Avocados".  
Stewart Washer - PhD student Murdoch University on "Genetic Engineering".
- SAMPLE:** Delightful food from The Big Belly Bus.  
Wines from Aquila Estate and Paul Conti Wines.

# Topics

TOPIC	PRESENTERS	ORGANISATION	OUTLINE
AVOMAN	S. Newett and S. Mulo	Q.D.P.I. Maroochy H.R.S.	Based on a vast pool of accumulated technology and the understanding of tree phenology, this system will guide the grower in making decisions to optimise production and quality. For full benefit it requires grower input of selected data so that the model is adapted to their particular growing conditions.
Best Practice Post Harvest	S. Ledger A. Storey T. Rudge	Q.D.P.I. Consultant Consultant	The project "Improving the Management of Avocado Quality During Marketing" was announced in "Talking Avocados", August 1994, p.20. The program is currently being developed in Brisbane. The first launch of the national program outside of Brisbane will be in Perth to coincide with Conference '95.
Irrigation - WA	G. Luke	Dept. Ag. WA	The key to growing subtropical trees on the Perth sand plain is irrigation. Driven by necessity, Perth growers have installed reasonably sophisticated systems. A recent purchase of Enviroskan soil moisture sensing equipment may lead to fine tuning, the aim being to reduce water consumption while maintaining productivity.
Packaging Trends	C. Webb	Visy Board Pty Ltd	The latest advances in corrugated board packaging will be brought to our attention by our major sponsor.
Shepard	I. Kernot	Q.D.P.I. Mareeba Qld	The successful launch of a new product is always interesting. To succeed against a strongly entrenched favourite such as Hass is even more so—good marketing, good extension work leading to good quality. They are not just pretty faces in Far North Queensland.
Crop Prediction	T. Whiley	Q.D.P.I. Maroochy H.R.S.	Timely measurement of trunk starch levels are showing up as a good indicator of the next fruit set/cropping potential. Acts of God, cyclones, droughts, floods, fires, are of course excluded, as too are market vagaries. For those of us who look ahead and wonder how the upcoming bills are to be paid a few extra months notice of crop income potential would be very useful.
Anthraxnose Bio Control	Dr. L. Coates	Q.D.P.I.	The Australian avocado industry, with New Zealand support, has made a significant investment in this research project. First the good news—positive results. Next the bad news—more funding needed to commercialise the laboratory results. We should hear about this.
Urbanisation Horticulture and the Environment	Professor B. Schaffer	University of Florida	Expanding urban population pressure and concerns regarding environmentally sensitive areas are competing with agriculture for limited land and water resources in many places world-wide. Professor Schaffer will elaborate on the U.S. experience.
Quality Assurance Forum	S. Ledger I. Kernot B. Gannon P. Agostino	Q.D.P.I. Shepard Aust. AHC Coles Super- markets	Throughout Federal and State bureaucracies the push is away from grade standards and inspection in favour of quality assurance schemes. In more mature industries, fewer but larger packhouses prevail than the many family establishments we see in Australia—Quality Assurance schemes are more readily administered in that environment. How to get from here to there is worth contemplating and discussing.
Hass Fruit Size	Professor N. Wolstenholme	University of Natal	The South African industry regards the Hass small fruit problem as the number one horticultural problem facing the industry. They estimate that solving the problem would be worth R30 million per annum to their industry. This paper examines its occurrence and the methods being tried to overcome it.
Turning Water into Oil	Dr. D. Turner	University of W.A.	There are relationships between plant water requirements, photosynthesis, leaf chlorophyll levels and productivity which have never been researched anywhere in the world. They have a relevance not only in WA but also in SA, Sunraysia, Bundaberg—anywhere supplementary watering is necessary and water is available. This paper will examine the research inputs required to define those relationships, to cost those inputs and outline a possible future research project, a useful complement to AVOMAN.
Growing Fruit to Travel	T. Whiley N. Wolstenholme	Q.D.P.I. University of Natal	Recent research findings show produce from different properties in the same area may have different post harvest storage behaviour. Disease preventative measures are only part of the answer. Fruit pulp chemistry reflecting different nutrient uptake also contributes. Two of the world's leading gurus will present their thoughts on what you, the grower, can do to improve your product.

## AVOMAN - HANDS ON

There will be a bank of computers available and it is the intention to give all grower delegates a half-hour hands on session operating the AVOMAN program. This will entail maybe half an hour at lunch time, early morning or evening. Additionally, bus departures will be staggered for the field day with 8.00 a.m. and 10.00 a.m. departures. At the registration desk you will be asked to nominate your preferred time slot.



## Financial Information

### Field Tour Cost

I will be attending the Market City Tour    yes/no    No charge  
I will be attending the Field Tour            yes/no    No charge

### Post Conference tour to the South West

Price includes coach, guides, 2 night's accomm., all meals

Number attending ..... @ \$400 per pers. \$.....

### Social Program

Sunday April 30: Welcome Cocktail Party    Delegates - No charge

Number of guests ..... @ \$35 \$.....

Monday May 1: Market City Tour Breakfast    Delegates - No charge

Number of guests ..... @ \$20 \$.....

Tuesday May 2: Field Tour                            Delegates - No charge

Number of guests ..... @ \$40 \$.....

Wednesday May 3: Conference Dinner            Delegates - No charge

Number of guests ..... @ \$60 \$.....

### Special Requirements

(Smoking, diet, disabilities) .....

### Registration Fees

Delegate - payment received before 28/2/95    \$300 \$.....

After 28/2/95    \$350 \$.....

Day Registration - Indicate day ..... \$120 \$.....

### Payment Summary

Accommodation Deposit                            \$.....

Post Conference Tour                              \$.....

Social Program                                      \$.....

Registration Fees                                  \$.....

Total Enclosed                                    \$.....

Payment by Cheque ( ) Mastercard ( ) Visa ( ) Bankcard ( )

Card No .....

Cardholder's Name ..... Expiry date .....

Signature .....

#### Please make cheques payable to:

UWA Extension - AAGF Conference '95 A/c 820558

#### Please send completed Registration Form and Payment to:

AAGF Conference '95 Secretariat

UWA Extension,

Conference and Seminar Management

The University of Western Australia

NEDLAND WA 6009

AUSTRALIA

Telephone +61 9 380 2433 Fax +61 9 380 1066

Confirmation of Registration will be mailed.

#### Office use only

Date received ..... Amount .....

Cheque/Mastercard/Visa/Bankcard/Draft

Bank ..... Branch .....

Cheque No. .... Drawer .....

Outstanding /Credit .....

Further payment received .....

## GENERAL INFORMATION

### CONFERENCE VENUE

Esplanade Hotel, Fremantle Tel (09) 430 4000 Fax (09) 430 4539

Free phone 1800 998 201

Four star hotel overlooking parklands and Fishing Boat Harbour, in the heart of Fremantle, 10 minutes walk from the station. The hotel has three restaurants, bar, gymnasium, sauna, spa and heated swimming pool.

### PERTH

Nestled on the banks of the Swan River estuary lies the charming and sophisticated city of Perth. With superb restaurants, excellent recreational facilities, unspoilt beaches and clear skies, Perth has become one of Australia's leading conference destinations.

### CLIMATE

Autumn is a delightful season to visit Perth, the end of a long hot summer. Cool mornings and clear sunny days at 20 - 25°C are the norm, but it is the break of season and showers can occur. Further south, temperatures fall a few degrees and the chance of rain increases.

### ARRIVALS

All participants will be responsible for their own transport to the hotel on arrival in Perth. The taxi fare from the Domestic Airport to the hotel is about \$28.00.

### INSURANCE

Delegates are urged to arrange their own health and travel insurance prior to departure. Cover should include financial loss through disruption to accommodation or travel arrangements due to strikes or industrial action.

### PAYMENT DETAILS

Fees are to be made payable to UWA Extension - A.A.G.F. Conference '95 account number 820558. Payment should be made in Australian Dollars. Overseas delegates should forward an International Bank Draft, payable on an Australian bank, in Australian Dollars. *Registrations and accommodation reservations will not be processed without payment.*

### ACCOMMODATION DEPOSIT

To secure the accommodation you require, A\$50.00 deposit must be included with your registration fees. Accommodation cannot be guaranteed if registration is received after 28th February 1995.

### CANCELLATION POLICY

Should it be necessary for delegates to cancel their registration, notification should be made in writing or facsimile to the Meeting Secretariat. A full refund of all fees paid, less a cancellation fee of \$100.00 will be made for cancellations received before 28th March 1995. Tour bookings shall be refunded less \$10.00. If notifications received after 28th March 1995 NO REFUND of registration fee, accommodation deposit or tour costs will be possible.

### RESPONSIBILITY

The Australian Avocado Growers Federation, the Convenor of A.A.G.F. Conference '95, UWA Extension Conference Management and the University of Western Australia accept no liability or responsibility for death or illness of, or injury to, or for loss or damage of any property belonging to, or financial loss by, any person attending the A.A.G.F. Conference '95, any persons accompanying such person or any third parties, whatever the cause, nor do they accept liability or responsibility, whether it be financial or otherwise, for the tours conducted by the tour operator or other operators in association with the A.A.G.F. Conference '95. Signature on the Registration Form, and receipt of confirmations issued by the Secretariat, shall be deemed as consent to the above conditions.

### QANTAS

In recognition of the valuable support given to A.A.G.F. Conference '95, Qantas have been appointed sole official airline for the Conference. It is important to acknowledge this appointment by flying Qantas where possible. As a special conference fare has been negotiated for delegates attending, we suggest you contact your local Group and Convention Travel office to avail yourself of this or any other promotional fare which may be applicable. A discount of 50-55% off full economy airfare at the time of booking has been negotiated for this particular conference, subject to seat availability. Please quote the reference QCVFA0A5 when making your flight booking. Qantas Group and Convention Office telephone numbers are:

Sydney	951 4444	Hobart	354 900
Canberra	250 8299	Launceston	329 911
Adelaide	208 8877	Townsville	538 533
Brisbane	360 2239	Darwin	823 381
Perth	225 8334	Rockhampton	221 033
Melbourne	274 2160	Alice Springs	505 228
Cairns	504 017	Gold Coast	700 520
Mackay	574 999		



# Pre-Harvest Disease Control In Avocados



By Ross Fitzell, Plant Pathologist - NSW Agriculture, Wollongbar NSW and Ian Atkinson, Extension Horticulturist - NSW Agriculture, Mullumbimby NSW

## Factors Involved

Control of diseases such as anthracnose and stem-end rot is not an easy task. Success or failure depends on many factors such as variety, age and canopy density of trees, prevailing weather conditions, site location as well as frequency and the method of spray application. Given the seasonal conditions experienced by many growers earlier this year it was virtually impossible to achieve a high level of control.

## Growers Checklist

Growers should follow the check list below to at least minimise the effects of fruit diseases in all cultivars prior to harvest.

1. Do not allow the tree canopy to become dense, tangled and matted.
2. Begin skirting trees from year 4 to enable good air circulation under and through the canopy. This should be done especially on the eastern and southern sides. Prunings can be left cut up on the ground to form mulch.
3. Try to remove dead limbs and branches before the summer flush. Knock infected fruit to the ground during picking as these are the major source of anthracnose spores for maturing fruit.
4. Assist orchard ventilation by removing short term wind breaks such as barner grass and removing or transplanting trees which begin to crowd and block sunlight. Disease spores are killed when the water film which carries the spores dries up.
5. Control insect pests, especially fruit spotting bug, as stings from this insect are known to provide infection sites for disease. This is critical for orchards backing onto rainforest and bush regrowth. (Remember

to add insecticide emulsifiable concentrates to spray tank first before copper fungicide slurry.)

6. Spray trees with copper fungicide. Others have been trialled in Australia but have been rejected because of phytotoxicity or failure to control sooty blotch, a minor pathogen that can downgrade fruit.

7. Apply copper fungicides (oxychloride, hydroxide or oxide) on a monthly basis beginning as soon as fruit have set. If more than 4 days of continual wet weather prevail, then reapply. During extended periods of rain increase schedule to every 14 days or alternatively, apply a 1:1:100 Bordeaux mixture every 3 weeks.

**(WARNING: Many insecticides including endosulfan are NOT compatible with Bordeaux).**

8. Use high volume rates of application (greater than 1000 L/ha) with a wetting agent. This reduces the surface tension of the spray droplet on the leaf or fruit surface so that droplets spread out and cover a greater area. **(Note: Additional wetting agents should not have to be used with Kocide®).** However, during periods of frequent heavy rain, add a sticker such as New Film 17®, Sprayfast® or Triton B®, as opposed to a wetting agent such as Agral®, to prevent wash off.

9. Copper fungicides are protectant chemicals. This action is to stop new infections occurring by being toxic to germinating spores. Unlike systemic pesticides, they are only effective at the point of contact and so must be applied to get maximum coverage of the fruit. This can only be achieved with air blast equipment producing small droplets (50-100 microns) and driving very slowly. For large dense

trees, this means travelling in the lowest possible gear and applying at least 5-10L/tree. Your technique can be checked by stapling water-sensitive paper (available from Spraying Systems Australia agents) to leaves and fruit.

10. Aim to get most spray into the middle and lower part of tree as this is where fruit are more likely to be infected.

11. Do not pick or pack wet fruit especially following a prolonged dry period. This can lead to complete loss of packed fruit from stem-end rot and bacterial soft rot.

## Fuerte a Particular Problem

For Fuerte, the host-pathogen relationship distinctly favours the pathogen. Reasons for this are:

- a. The thinner skin of Fuerte is more susceptible to disease invasion than all other major varieties.
- b. Both anthracnose and stem-end rot disease survive and multiply readily on dead leaves and twigs tangled in the foliage. Fuerte's growth habit is disastrous for this compared to upright cultivars such as Hass.
- c. Both diseases only require humid (above 80% rh) weather conditions to produce their spores or infectious seeds; this environment is likely to occur in the denser canopy of Fuerte trees for much of the summer and autumn in our sub-tropical environment.
- d. Both diseases need warm (15-25°C) wet weather (rain) to spread and infect fruit. Dew will not spread the disease, only allow a build up of inoculum. It is not total rain which is important but the duration of surface wetness or number of rainy days. Again, because of Fuerte's growth habit, fruit are likely to remain wetter longer in this cultivar than in more upright cultivars.
- e. Prolonged wet weather interrupts spray programs and makes fungicide spray ineffective by simple washing it off.
- f. Fuerte fruit hang inside the canopy and are a much more difficult target to spray than outside hanging fruit such as Hass.

For producers in sub-tropical areas, the only real escape from these fruit diseases is simply to concentrate on cultivars other than Fuerte. They should not consider long term storage and export of this cultivar.

## New Zealand Growers' Visit

Twenty New Zealand avocado growers visited South East Queensland and Northern New South Wales during October. Their itinerary took them to Mt. Tamborine, Duranbah, Alstonville, Toowoomba and Nambour, with night stops at Brisbane and Tenterfield.

Besides visiting various orchards, the team met with departmental Extension Officers,

researchers and local avocado growers in order to maximise information exchange.

Rather than travel by bus, hire cars were used which gave added flexibility to their visit.

Thanks go to those growers who hosted the visiting Kiwis. Information exchange is an important aspect of being successful in any enterprise, especially one of avocados.

# Computer Software

By Orf Bartrop

Computer software, or programs as they are normally called, consists of sets of instructions that tell the computer what actions to perform. Software can be likened to the controls on a tractor. Activation of a tractor's levers, steering wheel and pedals will cause it to perform the tasks for which it was designed. Similarly, the software tells the computer what actions to perform so the desired results can be output in a readily understandable form.

## Operating Systems

There are basically two types of software, the operating system and the applications programs. The operating system is an underlying system that controls the internal working of the computer, sometimes called "house keeping". It does not produce an output in its own right, it is only there to enable the application programs to do their work.

The most popular one used today is called MS-DOS (MicroSoft Disk Operating System), commonly called DOS. There are other brands and types of operating systems but because much of the software suggested in this series of articles is produced by the Microsoft company, buyers would be advised to stick with MS-DOS. That way you can be assured of compatible between the various modules of the system. Besides, MS-DOS is the most successful of all the systems, selling some 17 million copies alone in the U.S. in 1993, more than the combined total of all other systems.

There is another system that works in conjunction with MS-DOS and that program is called Windows™. Windows, although not strictly an operating system, can be considered as one for our purposes. Using our tractor analogy, MS-DOS is like the mechanical lift device fitted to tractors of old, while Windows is like the modern 3 point linkage. They achieve the same result but their mode of operation is entirely different.

Windows is aptly named. It allows application programs to operate in a frame much like a window frame and by selecting different "windows" you can easily change from one application to another or from one part of a program to another.

Sometime next year, Microsoft will be offering a new single operating system

called "Windows 95" to replace both the current MS-DOS and Windows. It will operate in a similar way to Windows but will be much simpler to use.

## Why Choose DOS and Windows?

The major benefit of Windows is that all the Windows application programs operate in exactly the same way. This is because each application uses the same part of Windows to perform the same task. Therefore, once you learn the basics of the system by learning to operate one application program, you have learnt the basics of all Windows programs.

By using only Windows applications, the process of learning to operate a computer is simplified.

Getting back to DOS. The current version of Windows will not operate without DOS. Therefore DOS is necessary for Windows to run and hence, Windows applications to run. In addition, the first operating version of AVOMAN will be a DOS application. So DOS is necessary for Avoman and Windows, and Windows is necessary for other office management application programs. Both DOS and Windows application will operate under Windows 95.

## Applications Programs

The application programs are the ones that actually solve the problems. The type of work to be done in the farm office dictates what application programs are necessary. As all farms hope to make a profit, the first application to be discussed will be an accounting package—an article on this subject appears on the next page. In the next issue of this magazine will be an article on a package of programs that allow letters to be written, simple calculations to be made and records to be kept, such as names and addresses. Finally, AVOMAN will hold centre stage as the attributes of that program are presented in simple terms.

## Ease of Learning

Most application programs have built in tutorials that allow the user to learn how to use the program. The operator selects a tutorial on the subject to be learnt and the computer then tells the user what buttons to press to achieve the desired result.

There are other ways in which a program can automatically help the operator. Firstly, there are "Cue Cards". A Cue Card consist of a list of questions on a subject. The operator points to the answers and depending upon those answers, the computer performs the task required.

Secondly, there are computer "Wizards". An operator can perform a set action just by selecting a Wizard. A Wizard performs a set task and displays the result. For example, in the accounting program you may require a certain type of report. You select a report Wizard that shows in general what you want in the report. The Wizard does all the hard work of creating the report. If the report is not satisfactory, all you have to do is to make minor changes so that it reflects the actual information you require or the way in which you want it displayed.

Depending upon the origin of the software, Cue Cards and Wizards may have other names.

## Data Entry

Some growers may be thinking that they will be unable to use a computer because they cannot type. Well don't despair, you do not have to be a typist to use a computer. In fact, our accounting program once set up, relies mainly on pointing to various items with the mouse (refer to the article on hardware in the May issue) and pressing a button. This is called "clicking" on an object.

However, for those that want to learn to type, there are many good typing tutorial programs available. Just ask your friendly computer dealer. These tutorials are simple to use, just use the mouse to "click" on an icon (a pictorial representation of the application program) for that application. It will tell you which fingers to put on what keys and then all you do is to follow the instructions on the screen.

In its infancy is a system that allows you to talk to your computer. (Don't tell me that you have never talked to your tractor!) In this way messages can be spoken instead of typed. However, computer scientists have some way to go before this method of data entry is perfected but give it 2 or so years and good commercial software should be available—shades of science fiction!

# Accounting Software - The Primary Application Program

By Orf Bartrop

Besides AVOMAN, an accounting package is one of the most important pieces of software you are likely to own. There are many on the market, from simple cheque keeping to those sophisticated enough to run BHP. A farmer running a small business requires something not too expensive to buy and is quick and simple to use.

There are several that meet these criteria with one of the best being called "Quicken for Windows". It is American software that has been Anglicised by the British and further modified to meet Australian accounting standards. Please note that this only applies to Quicken for Windows. There is a version called Quicken for DOS that is not modified to the Australian accounting system.

The software features that will be described refer to Quicken for Windows version 3.0. It is one of the most widely used accounting packages in the English speaking world and was especially created for small business. It is inexpensive to buy for the number of facilities it provides, costing \$69 from Intuit (Australia) Pty Ltd. Most computer outlets can supply a copy at this price.

If you are buying a complete computer system, you are advised to ask the supplier to install Quicken and any other software packages you intend to purchase.

## Getting Started.

Quicken is probably the ideal program to learn first up. It will introduce you to using a tutorial, a demonstration program that encourages you to manipulate objects on the screen. The first is a tutorial on Windows that demonstrates the various concepts of Windows such as using the mouse, manipulating windows, pressing buttons, selecting programs and elements and using dialogue boxes, to name a few.

The second tutorial is a Quick Tour that explains basic Quicken and personal finance concepts. You can view these tutorials at any time.

Getting started in Quicken is easy. Quicken's getting started guide and Qcards will get you up and running in no time at all. Qcards are windows (or frames) that automatically pop up and tell you what type of information to enter into a field or

box, or what other type of action is appropriate.

If you still have problems knowing what to do, by pressing just one key an onscreen Help system will come to your aid. Quicken's Help system is so comprehensive you will seldom use the manuals provided with the program.

## Organising Your Finances

Quicken can manage your private and business finances but only the latter will be discussed.

Quicken will keep your finances completely, accurately and up-to-date. It eliminates mathematical error and shows exactly how much money you have in each account. Quicken organises all your financial records in one place so you can find any transaction instantly.

Of course, the question is: What will it do?

To start with, you open a bank account in Quicken. This account will reflect the transactions in your real bank account. Two other accounts will be needed, an accounts payable and accounts receivable. As the names suggest, the accounts payable will contain all your bills while the accounts receivable will contain all the transactions where someone, like your market agent, owes you money.

Lets say you buy four tins of spray chemicals. You enter the provider's name,

address and invoice details into the accounts payable register. If you often receive invoices from that firm, you tell the computer to remember the transaction. In this way, the next time you want to enter one of their invoices all the details previously input can be recalled and you don't have to re-enter them. Items on an invoice can be categorised (chemicals, repairs, insurance, new equipment, etc.) so that a report can be extracted for each category item. In this way you can ask the computer to print a report giving details of all chemicals bought over the last twelve months. Besides categorising the invoiced items, you can add notes to further clarify an item—herbicide, insecticide, etc.

Quicken has the capability of double ledgering. Entries in the accounts payable account, or register as it is called, are automatically linked with the bank account. The money owing is deducted from your bank account that now shows how much money you have after the account is paid. Therefore, you can see at any time the assets of your farm account.

Likewise, the accounts receivable allow you to enter transactions where someone else owes you money. As you enter each market agent's docket, the value entered will be transferred to the bank account—again enabling you to determine your net worth.

Date	Chq No	Payee	Payment	Clr	Deposit	Balance
1/ 8/94		Opening Balance		x	1,082.56	1,082.56
8/ 8/94	110	The Blue Sky Cafe Dinner	100.00			982.56
1/ 9/94	TXFR	Transfer to savings [Savings Account]	200.00			782.56

Quicken's Bank Account showing entries in the register. By clicking on the icons (small pictures) at the top with the mouse, those features are displayed or actioned. The arrow is the mouse pointer.

## 13 Paying Your Bills

The easiest way to pay a bill is to write a cheque. Why not let Quicken write that cheque for you? Intuit can supply cheques personalised with your company's name, address, logo if required and details of your bank. These details can be printed in a variety of colours. Cheques also come with or without vouchers attached. A voucher allow additional information to be added automatically so an explanatory covering letter is not required when posting out cheques. Intuit will get these cheques approved by your bank before delivery.

Intuit also sells special envelopes that have a window in the right place so the name and address of the recipient of your cheque is clearly displayed. In this way, you don't even have to address the envelope.

To print a cheque (all cheques could be printed in one batch say once a week), all you have to do is to "click" the cheque icon. A cheque for each company will be displayed on the screen with the recipients name and address, the total of all outstanding invoices and invoice details such as invoice numbers. Some of these items will appear on the voucher if present. On the screen, each cheque will look just like a real cheque. The date shown will be the current date unless you choose to post date the cheque.

The displayed details can be accepted as is or altered to suit the situation, such as withholding payment on one item. Put the blank cheques in your printer and tell the machine to start printing. Sign each cheque, put it into an envelope and your payments are ready for mailing.

You can use hand written cheques but that will increase your workload and could introduce transcription errors.

When you write a cheque, the accounts payable and bank account registers are automatically adjusted. If you were to pay all your accounts, the accounts payable would show a nil balance.

## Receiving Money

When some one pays you, whether it be by cheque or cash, the amount is entered in the accounts receivable register. Automatically, the account's total is adjusted and details transferred to the bank account—Quicken's bank account, not the account in your real bank. If all debts owing are paid, the accounts receivable register will show a nil balance.

## More Accounts

There are many more types of accounts that can be set up. You can have a credit

card account, a cash account, an asset account, a liability account, a shares investment account and a payroll account. Most of these accounts work in a similar way to the two already covered. Quicken allows you to track events in these accounts, even to make automatic entries where fixed interest or similar transactions are made on a regular basis. Set payments can be treated that same way, such as paying off a mortgage loan each fortnight.

## Payroll Account

The payroll account should come in for special mention. Most accounting software packages that handle payrolls are very expensive and require change every time the government changes the rules (change to basic pay rates, taxation and superannuation changes etc.). Quicken on the other hand has a pseudo payroll system that does not need changing as the rules change.

The system relies on your workers being paid by cheque. For one, that saves a trip to the bank to get cash and the time and trouble of counting that cash.

A special payroll account is created with each employee having an entry. Payroll calculations are done manually or automatically outside Quicken, in this way changes to the rules do not affect Quicken.

The calculations are entered for each payee, namely; insurance, superannuation, tax, pension etc. Quicken tallies up these deduction and subtracts them from the gross amount, giving the amount to pay. This information is entered automatically on the cheque and the voucher. The voucher can be used as a pay slip or if a separate slip is used, as a receipt of payment.

At the end of each month or any other appropriate time, Quicken will add up how much you owe the taxation department, the superannuation office etc. and write a cheque for that amount giving details required by those organisations.

Again, sign the cheque, slip it into one of the special envelopes and it is ready for delivery.

In a coming article, details of how to calculate each employees wages using a database will be given. These calculations will cover both permanent and temporary employees.

## Balancing Accounts

Each time your bank send you a statement, you can reconcile your account. All you have to do is to mark the transaction in the register for each cheque paid by the bank or payment received by them, add bank and government charges as listed on the statement, and Quicken will do an



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\*Has a financial Calculator for Loan Rates and Repayments.

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automatic reconciliation. If the account does not balance, it will indicate the most probable cause.

### Memorising Transactions

The subject of memorising transactions was briefly mentioned earlier. You memorise any transaction you think you may need to enter again in the future. Then, as you start to type the name of a payee into the transaction register, Quicken instantly recalls the details of the last transaction to the same payee. Alternatively, you can use the mouse to select the entry from a list.

You can accept the details or change them before recording the transaction. Normally the only typing required is to enter a new total, click the record button and the transaction is completed.

### Reports

Quicken abounds with all sorts of reports. There are reports for cash flow, monthly budget, itemised categories, tax

summary, net worth, tax return, missing cheques and comparison between two transaction periods. Also reports can be given on investments such as portfolio value, capital gains, investment income and investment transactions.

The more common business reports available are profit and loss statements, accounts payable by vendor, accounts receivable by customer, job or project reports, payroll, balance sheet and reports on transactions from any account as well as a summary of transactions. A complete picture of your business is available.

These reports can be altered to suit your particular needs or details displayed in the form of a graph. Often a graph is easier to interpret than a list of figures. For instance, analysing income and expenses can be achieved by displaying a pie chart. By clicking on any segment of the pie brings up more details about that segment in the form of a bar graph. All this just by using the mouse to point and click.

These reports and graphs can be output to your printer so you have a permanent record.

### Taxation

Quicken can track items that affect your tax. When setting up the list of categories (chemicals, telephone, power etc.) each category can be marked as tax related. This enables you to print a tax summary report that group and subtotals transactions by tax-related category.

Intuit also sells a Tax program called QuickTax, that enables you to do your own tax return. You have to buy a new one each year (\$59) because the tax office changes the rules each year. What it does is to step through the Taxation Office's own Tax Pack by asking a series of questions. You give the answers and Quicken uses these answers and its own figures to fill in a report acceptable to the Taxation Office.

Readers should not think that this system of calculating your taxation return replaces the need for an accountant. It may or it may not, depending upon the complexity of your business. However, these reports will make it much easier for your accountant to prepare your tax return and that should reduce his fee substantially.

### Invoicing

If you have a need to send your customers invoices, Quicken sells an add-on package called Quicken Invoice for \$79. This program runs in conjunction with Quicken and allows you to prepare invoices. Once prepared, they can be printed out and sent to your customers. At the same time, details

are transferred automatically to the appropriate registers in Quicken. What could be simpler?

These invoices could be used in lieu of your normal consignment documentation when dispatching avocados for sale. However, unless your office is co-located with your packing facility, it may not be convenient to change from your current practice.

### Financial Calendar

Quicken can display a financial calendar into which you can schedule one time events such as a car service next week or set up recurring transactions such as your pay cheque or any standing orders arranged with your bank. When the transactions becomes due, Quicken either reminds you about them or enters them in your register automatically, whichever you prefer. Also you can write notes in the calendar, they will look like those yellow self sticking removable Post-It notes.

In conjunction with the calendar comes a facility to display a financial planning graph. The graph will show the selected accounts for the currently displayed month or you can display previous or future months. The graph will reflect known events, be they payments or receipts and can include average income and expense amounts to cover transactions not scheduled on the financial calendar. The graph is a good method of determining the net worth of your business.

### Summary

You get a lot of accounting with Quicken for very little outlay. Once set up, there is little typing except to enter monetary amounts—it is mainly point and click.

Although Quicken may appear daunting, it is not. Nor do you need to be an accountant to use it. Quicken is an easy program to learn and use. You do not have to use all the features provided, just use the parts that suit your needs.

At the same time that you are learning to use Quicken you are learning Windows and once you have mastered Quicken you will be able to use other Windows programs with confidence.

Quicken can satisfy most small business requirements and it is most unlikely that you will find it wanting. However, if after using it for some time you find it inadequate, Intuit has a big brother called QuickBooks. QuickBooks will automatically transfer all Quicken transactions and allow you to carry on with the new and enhanced accounting system.

## Hardware And Software Requirements

To summarise the series so far, the suggestion is that those wishing to buy a computer to run the office management software should look for a computer with a minimum of:

### Hardware

- 486DX33 CPU,
- ISA bus with Vesa Local bus system,
- 8 Mb of RAM memory,
- 200 Mb disk drive,
- IDE interface card,
- 3.5" floppy disk drive,
- 14" 70 Hz VGA colour monitor,
- "windows accelerator card" with 512 Kb of memory,
- MS compatible mouse, and
- bubblejet or inkjet printer.

### Software

- MS-DOS
- Windows™
- Quicken for Windows version 3.

Before you go out and buy a computer, consider what software you will require and buy the lot as a going concern. This means waiting until after the next issue of Talking Avocados when the main commercial software descriptions of office software will have been completed.



# GROWERS REPORT

The last year has been one of adapting to the challenge of change within horticulture and in the broader agricultural community. The finalisation of the Uruguay round of GATT, findings of the Horticultural Task Force and the release of the Horticultural Policy Council report on International Competitiveness are a few examples.

**This report highlights some of the key activities impacting on the Avocado Industry during the 1993/94 financial year.**

## Communications

A comprehensive program of meetings with industries was maintained over the past year to ensure effective two-way communications between the Corporation, producers, their peak industry organisations and support industry bodies.

As part of the program, industry managers and management undertook presentations in major producing areas with each participating industry.

Significant Milestones:-

- Publication of four issues of Talking Avocados per year.
- Continued success of "Harvest" audio tapes.
- International coverage of Australian Horticulture.
- Effectiveness of Board meetings with industry organisations.
- Industry response to AHC's Global Perspective column in Good Fruit & Vegetables and to the AHC News.

## Performance Measurements

The AHC in consultation with the AAGF agreed to a set of performance objectives and measurements to ensure each is aware of expectations and to assist in measuring the AHC's performance.

The performance measurements cover domestic marketing, the best practices project, development of an effective

working relationship and communications. Evaluation of each objective is based on agreed measurement methods.

The AHC is to develop a national promotion strategy incorporating advertising, promotions and PR which progresses towards priorities established from Consumer Market Research.

By June 1995 the training program in best handling practices for wholesalers and retailers to enable consumers to purchase sound ripe avocados with acceptable shelf at retail sale, will be in place and progressing satisfactorily.

During 1994 and 1995 the AHC will regularly attend AAGF general and executive meetings in order to improve the working relationship and to maintain clear lines of open and frank communication.

The AHC is to ensure publication of four issues of Talking Avocados in 1994 and 1995 in order to aid the transfer of technology to growers, to keep them abreast of industry issues and information and to update them on AAGF and AHC activities.

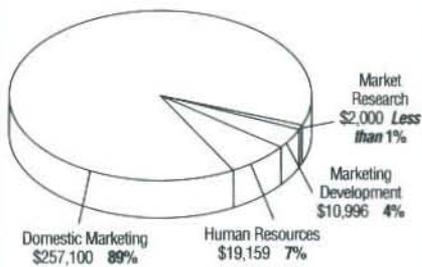
## Advertising and Promotion

Following many successful national promotions, the AHC once again contracted Queensland Fruit & Vegetable Growers (QFVG) to undertake the major

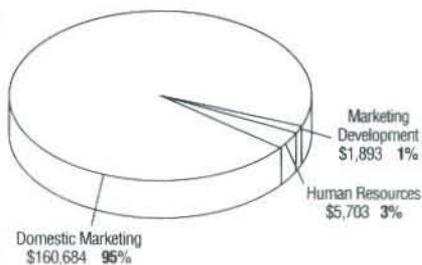


### Australian Horticultural Corporation - Avocado Division Marketing Analysis 1994 Actual vs 1993 Actual

1994 Actual (Unaudited)



1993 Actual (Audited)



## Domestic Marketing

Working together with industry in the avocado marketing forum a national promotion strategy for 1994 incorporating advertising, promotions and PR was developed.

Domestic marketing expenditure in 1993/94 was \$289,255, 77% of total levy revenue. This was an increase of \$120,945 over 1992/93.



promotion for Avocados during 1993/94.

The campaign integrated national magazine advertising in the peak supply periods, point-of-sale promotion material and in-store demonstrations in Brisbane, Sydney and Melbourne.

Overall, the campaign consisted of two constant themes, aimed at educating consumers to the varietal changes during the year and how to choose a ripe avocado. The objective was to help buyers become more informed and feel more confident choosing avocados.

A separate campaign was created to encourage use of avocados by mothers for feeding infants, based on ease of use, taste, texture and excellent nutritional profile. An information leaflet promoting the benefits of avocados for infants was targeted to young mothers through baby health centres and a PR campaign.

## TV Advertorials

The campaign managed by QFVG was supported by a range of TV advertorials organised by the AHC. In previous years, working with the Food Media and TV Celebrity Chefs has proven to be a very cost effective way of providing information to consumers and demonstrating innovative ways of using products.

Avocado specific segments were produced and shown on *Consuming Passions*, a Saturday evening program on the ABC.



Peter Russell-Clarke worked with AHC industry managers Bart Gannon and Phillip Woodward to develop the series relevant to AHC participating industries.

## International Conference on Clean Food



The AHC organised a delegation of wholesalers, retailers and importers from Taiwan to visit Australian and attend the Clean Food Conference. Sponsored by the AHC and EVA Air, the visit was organised to assist in the bilateral discussions with Taiwan for more market access for horticultural products.

The group travelled around Southern Queensland and Northern New South

Wales with the purpose of seeing the diversity of product and the professionalism of export oriented operations.

**From left to right: Donald Lee (Importer), Ellen Howe (Retail buyer), Vivien Wen (Importer), Nancy Chen (Interpreter, ACIO, Taipei) speaking with Brian Gillespie (Avocado grower).**

The program has now moved to Sunday evenings to make way for the return of Peter Russell-Clarke.

## Fresh Ideas is the new name for a series of five minute TV programs developed by Peter Russell-Clarke for the ABC.

*Fresh Ideas* is the new name for a series of five minute TV programs developed by Peter Russell-Clarke for the ABC. The time slot is peak time viewing - Saturday evenings, prior to ABC News and is full of culinary, educational and interesting information. Programs will also be beamed to an audience of millions in Asia via the ABC's Australia Television Network.

Peter Russell-Clarke wrote to Bart Gannon. "...Your knowledge and understanding of the marketing and promotional needs of the various grower groups under your control, combined with the production and media facilities of my organisation, offer a unique opportunity which has not been available in Australia before."

*Fresh Ideas* the TV programme is combined with *Fresh Ideas* the magazine. All recipes shown on the programme are in the magazine which is a monthly glossy publication with a print run of 250,000 distributed through green-grocers' and ABC shops at a price of \$2.50.

The TV programme also covers such information as the different varieties, their attributes, where and how they are grown, the care required from picking to purchaser and health attributes.

The first of the avocado specific segments will be aired in October, but avocados will be featured as an ingredient in many other segments.



## Heart Foundation Tick



In recognition of the fact that avocados are a healthy food, high in monounsaturates, and are good for your heart, the use of the National Heart Foundation tick logo was approved for use on fruit in 1993.

Use of the National Heart Foundation Tick logo has proven to be beneficial to many consumer product categories. There is ample evidence from market research which indicates that there is very high "Pick the Tick" recognition and that the Heart Foundation tick is seen as a seal of approval significantly influencing purchase decision.

The Heart Foundation Tick is part of

our overall promotional strategy to reposition avocados. In the past, there has been a misconception by consumers about avocados and cholesterol. This is still widespread among the shopping public and shoppers are often seen sorting through avocados to find the stickered "cholesterol free" ones.

The licence fee to use the logo is being paid from levy funds.

Although no fruit, vegetable or nut contains cholesterol, the stickered avocados with the heart foundation tick will assist in educating the consumers.

## Quality

A Quality sub-committee was convened late 1993 to review the emphasis of the quality drive. The committee comprises Bart Gannon and Richard Bennett of the AHC; John Bolton, Rod Dalton, George Green and Marie Karanicolas of the AAGF and Scott Ledger, QDPI.

In analysing research work conducted for the AVOMAN project by Scott Ledger the emphasis in the drive to quality was redirected from compiling an industry quality manual to solving the internal quality problems of Hass avocados.

The group held further meetings to define the problem, in collaboration with markets wholesalers and retailers. A project titled "Improving the management of avocado quality during marketing" was drafted and submitted to Agribusiness Programmes for funding.

The application was successful, consultants appointed and a management committee consisting of AHC, AAGF and QDPI formed to review progress quarterly. The initial data gathering phase is well underway and the first quarterly management committee meeting took place in August 1994.

To cost \$137,000 over 3 years, the project will identify problems in handling and merchandising avocados from the packing shed to the consumer, to create training modules for wholesalers and retailers and to implement a

training programme designed to improve the knowledge and skills of those ripening, handling, storing and selling avocados.

The end result will be ripe sound fruit with adequate shelf life and improved eating quality. Local and overseas experience shows turnover increases three or four times when consumers can buy ready to eat avocados.

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**Turnover increases  
three or four times  
when consumers  
can buy ready to eat  
avocados.**

---

## Quality Training

Quality management in Australian Horticulture has received a major boost with the development of a national training and management program by the AHC.

A feature of the scheme are the steps that have been developed for producers, packers and marketers. As businesses progress, their achievements will be formally recognised at key stages under the training scheme.

The main purpose of the program is to assist horticultural businesses to improve

their profitability and international competitiveness through quality management.

The national scheme has been developed by the AHC in conjunction with industry, State Departments of Agriculture and AQIS. The training initiative is reinforced by the Horticultural Task Force's report which identified a need for industry to move towards improved quality management systems.

Jillian Wills has been employed as the AHC's Quality Training Co-ordinator, to co-ordinate the development and implementation of quality training programs for horticulture including development of the national training scheme.

## Market Research

In late 1993, the AHC again reviewed its methods of monitoring and evaluating its promotional programmes. As a result, the AHC commissioned market research to monitor consumer behaviour, purchase and price trends. While the results will provide important data on the effectiveness of promotional activities, it will also help identify aspects of consumer behaviour for targeting in subsequent campaigns. A one-year study began in April 1994 and will involve surveys of 42,000 people in rural and urban centres across Australia.

The research is possible because the cost of such a broad project is spread across all AHC participating industries.



### AHC Resources

The AHC now has a full complement to help provide a complete marketing support service to horticulture.

Since the appointment one year ago of Bart Gannon to the industry manager's position for avocados, a further two industry managers and a new marketing manager complete the marketing team at the AHC.

Industry managers provide the key liai-



In the 12 months since Bart Gannon's appointment, he visited all major production areas and spoke with growers Australian-wide.

son link between industry and the AHC, developing marketing plans in collaboration with the industry marketing forum. An increasing focus on exports resulted in a position established for an Export Development Manager with the Quality Management team increased to three persons.

Reflecting the importance of communications and the appointment of Industry Managers, a position was established for a Communications Officer, in lieu of the Marketing Promotions Coordinator, enabling the communications staff to split the focus between export and domestic communications.

### Future Challenges

To get consistently good quality, ready to eat fruit onto the plate is the greatest challenge facing the Australian Avocado

industry in the next few years. It requires affirmative action by growers, wholesalers and retailers.

The product promise of taste, texture and appearance fulfilled every time will generate more frequent purchase and widespread use by existing avocado eaters.

Increasing market penetration by attracting new users will be the challenge faced by the marketers. Their communication message must be clear, consistent and confident.

As the Australian consumer increasingly reflects overseas trends, buying more "Now Foods", convenient fresh cut fruits, salads and vegetables, the avocado must be ready to take its share of the value-added dollar.

The unwelcome alternative - to face relegation to a contracting category of wholesome but boring old fashioned foods.

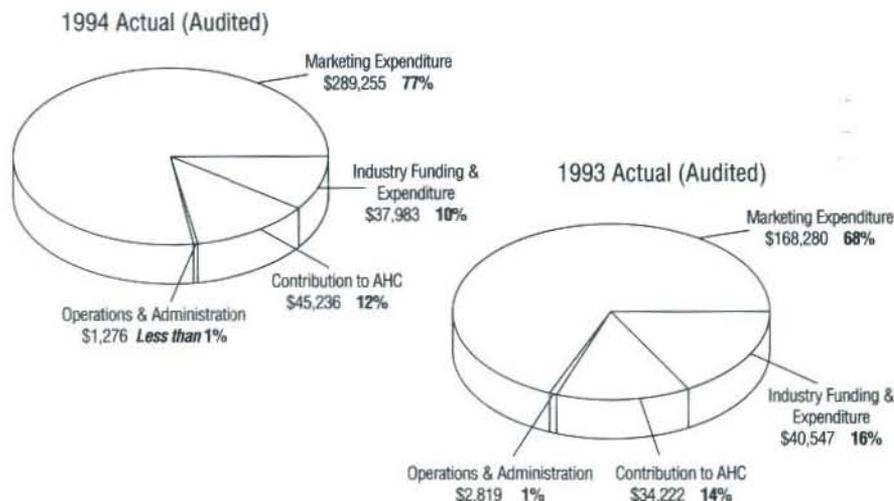
**The product promise of taste, texture and appearance fulfilled every time will generate more frequent purchase and widespread use by existing avocado eaters.**

### Financial

Total Marketing expenditure for 1993/94 was \$289,255, 77% of net levy income. This is an increase from the previous year of \$120,975 or 72%.

Of the increased marketing expenditure, an additional \$96,416 or 80% was devoted to domestic marketing. In 1994/95 expenditure on domestic marketing is forecast to remain at approximately the same level as in 1993/94. However, a figure in the vicinity of \$53,400 will be devoted to marketing research, export marketing and the Agribusiness Programs project.

#### Australian Horticultural Corporation - Avocado Division Expenditure Comparison 1994 Actual vs 1993 Actual





# California Report

by Bart Gannon, Industry Manager AHC

As part of a fact finding and familiarisation trip to the US aimed to coincide with import, distribution and promotion of South Australian Riverland Navel Oranges in early September I visited California. Included in the trip, was a series of key meetings with the Californian Avocado Industry.

I have reported on the meetings to the full executive of the Federation and written an account of my impressions for the AAGF. I will also include commentary on the US trip in meetings with regional grower groups planned for early November.

Prior to this trip, I had previously visited Southern California once before, but this was prior to my role within the avocado industry. Therefore, it came as an interesting surprise to see how widespread avocado consumption is in this part of the US, no doubt influenced by the Hispanic population. Data shows they consume three times the amount used by Caucasians.

The mainstay of the industry is a single dish—guacamole. It is everywhere, not simply in Mexican restaurants, it features prominently on the menu in all eating establishments from the ritziest to the fast food outlets. Supermarkets capitalise on this, as avocados are invariably displayed next to tomatoes. Interestingly, the price of tomatoes and demand for avocados are linked.

The Avocado Commission even sponsor an official NFL team recipe taste-off, culminating with the Super Bowl teams vying for the guacamole recipe of the year.

## Production

The Californian avocado industry represents over 90% of the total US production. There are some 60,000 acres in production and the acreage is mature (there might be less than 100 acres of new plantings). Over half of the production is located in San Diego County, the most southern part of California with the balance located within 160 km of Los Angeles. Seasonal variation in yield is high, creating season to season difficulties in marketing the crop. The other growing state is Florida but it accounts for only 10% of production, and has different varieties to suit the Caribbean palate.

The bulk of the California crop grows on steeply sloping desert soils. Water is a

problem—it is presently over \$700/acre ft—and likely to get dearer as the drought persists and domestic use takes priority.

## Varieties

Thirty years ago the main variety was Fuerte. However, Hass is now by far the number one variety, accounting for over 90% of production with Pinkerton coming second over Fuerte, now in third place. But Hass continues to replace all the varieties. Their season is long, they leave the fruit on the tree much longer without (they say) great effect on the quality. The result is domestic Hass 10 months of the year. Chilean Hass arrive to fill the gap in September and prices drop by half with their arrival.

## Marketing

There are 6000 growers and because of the cost of inputs increasing, their quality is deteriorating. Two thousand growers are in one of the three co-ops. They commit annually to their co-op in an exclusive marketing agreement for specified acreage identified by Federal Tax ID numbers. Growers are then obligated to deliver all the production from that area. Growers may choose the packing shed they send to, (there are only 13 in the entire industry) but unlike the citrus packhouses growers generally arrange their own picking team, very often paid for by the co-op and deducted from proceeds.

## Funding

The California Avocado Commission is a legislated body, controlled by a board representing handlers and growers with a mandate to maximise profits to growers from avocado marketing, domestic and export. There is a compulsory levy determined annually by the board. It is presently 4.25% of gross proceeds, collected by the first handler of record.

The levy is used by the Commission to conduct not only domestic consumer advertising and promotion but also below the line activities, export advertising and promotion. The mix varies from season to season depending on supply which affects demand in the marketplace. In recent years, the Commission has kept consumer advertising constant and varied the other elements as the season dictated.

In smaller crop years, the industry has heavily invested in the "ripe" program. When there has been need to move volume, promotions to excite the marketplace and higher levels of co-operative advertising, couponing, and public relations including in-store promotions have been utilised.

The co-ops and independents direct their marketing effort at the wholesalers and retailers and leave consumer promotion to the Commission.

The Commission also regulates the start of harvest. After reviewing the data from extensive field visits, a committee publishes the date when the harvest may commence, and fruit may not be marketed prior to this.

## Ripe Program

Now a few years down the track, the "Ripe" initiative was driven by a need to create an environment for impulse buying of avocados. Research in several countries acknowledges 60-70% of fresh produce purchase decisions are made in the store. If ripe avocados are there, they will be bought!

It is universally agreed the consumer would like to have a regular supply of fruit ready to eat. The adoption of the Ripe program has not been a completely smooth transition. The Ripe program was an initiative of the supply side of the industry which acknowledges the unexpressed needs of the consumer. The program imposes strategies on the demand side, requiring them to modify standard procedures and to carry a greater downside risk, however, it has been worthwhile, demonstrating a threefold increase in turnover. Nonetheless, there has been a problem with wholesalers and retailers in building up their confidence in the program. Understandably, growers and shippers (packers) have no problems committing to the program.

The program is still very much a developing concept rather than a fully operational plan. The co-op's customer is still the driving force because when the order is made, they stipulate whether they want conditioned fruit and in what state of ripeness. Thus far the adoption of the "Ripe" program has been dictated by the retailers and whether that reflects the wishes of the



consumer is not known. The increase in consumption with ripe outselling unripe by 3:1 would tend to indicate consumers are happy with the program.

There is as yet no manual or regulatory standard for "ripe" avocados. The customer can stipulate what stage he wants fruit to be delivered at, at any time in the season. The "ripe" program then repre-

sents a classic attempt to satisfy what the customer wants.

Australia has the opportunity to learn from their learning process when we move to formalise our own ready to eat program.

Exports

Because domestic demand has exceeded supply for the seven years out of eight,

fuelled by a great demand for guacamole, exporting has been a very minor part of the business. Calavo the largest co-op and Mission an independent co-op would account for 85% of exports, mostly to Japan. In addition, the price realised is similar to price paid for domestic fresh, so there is no great fiscal advantage to drive the export push.

Japan has been buying avocados from California for the last 20 years or so. Japan is not a huge consumer of avocados, but the main problem for the industry is to maintain the regularity of supply in the face of strong domestic demand. Japan demands a consistent supply of good quality fruit.

The US exporters have collaborated with Mexican growers to have year round continuity of supply. These milestones have been achieved across national boundaries for the benefit of the customers of the US industry, which benefits Californian growers.

Five-a-Day Promotion

This is a government and industry driven initiative to encourage US consumers to eat five servings of fruit and vegetables each day. Avocados were excluded initially due to concerns over the level of fat. However, after much negotiation and lobbying, the industry has since gained inclusion into the program by limiting the size of servings to 6g of fat. This is principally achieved by positioning the avocado as an ingredient not as a serving on its own. Industry feels it has thus far had little effect on demand for or positioning of avocados.

**1. Storing**  
Store California avocados at 41° - 45° F in a cooler.

**2. Softening**  
Soften pre-conditioned California avocados at 65° - 70° F for 2-3 days.

**3. Handling**  
Ripe California avocados bruise easily - don't dump them into display.

**4. Separating**  
Separate California avocados by rotating soft fruit to top & hard fruit to bottom.

**5. Stickers**  
Identify ripe, ready to eat California avocados with ripe-sticker.

**California AVOCADOS**  
RIPE WITH POSSIBILITIES  
California Avocado Commission  
1251 E. Dyer Road, Suite 210 • Santa Ana, CA 92705 • 714/358-6761

Facts About California Avocados:

Availability

- Quality fruit available year-round.
- 90% are Hass avocados.
- California produces 95% of U.S. crop.

Nutrition

Avocados are:

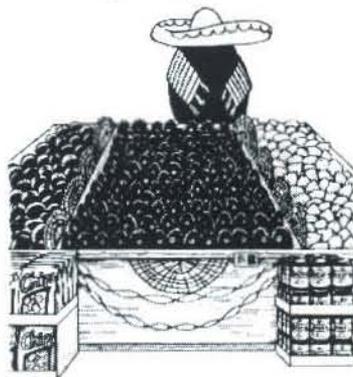
- A CHOLESTEROL FREE FOOD.
- A sodium free food.
- Nutrient-dense.
- A healthy alternative to sour cream.

Usage

- Nearly 50% of U.S. households buy avocados.
- Ripe outsells unripe 2 to 1.
- Ripe displays increase sales.
- Avocados ripen in 2-5 days when placed in a paper bag with a banana or apple.

Merchandising

Sales increase when displayed with tomatoes, lemons, salsa, chips and guacamole mix.



The Fact Is, Consumers Want California Avocados Ripe Now!

Both sides of a brochure showing facts about Californian avocados and how they should be handled.



# Getting The Most From R&D

By HRDC Program Support Manager, Gerard McEvelly

If someone offered to double your money on the condition that it would be put into an area that could improve your business efficiency and profitability, you would understandably view this as a good investment. The (avocado) industry, through its R&D levy, as well as with non-levy contributions, has seen the value of having its investment dollar matched by the Commonwealth and has involved itself in research and development through the HRDC since (1990).

In addition to this the horticultural industries have been well served by the State Departments of Agriculture, who, despite suffering considerable cut-backs, have continued to finance the bulk of R&D work in horticulture.

But the real question that must be asked is how we can all—industry, government and researchers—help to maximise the return on our R&D dollar? Where can things be improved?

These questions were considered by the HRDC when it undertook a major review of its activities, five years into its existence. The conclusion was that, although horticultural industries were becoming more involved in the R&D process in terms of funding, there was still room for industries and researchers to work more closely together. Without this close understanding, there is less chance of the R&D being closely focused on the industries needs and so the research outcomes are less likely to be adopted.

With this in mind, the HRDC has re-emphasised its basic strategies for ensuring efficient use of R&D resources, as follows:

- a. the allocation of resources in line with clearly identified industry priorities, and
- b. close interactions between researchers and industry, to maximise adoption of R&D outcomes.

The Corporation is driving this message home by asking all applicants to assess and, if necessary, build up their knowledge of the industry before completing an application. This will involve answering questions such as:

1. How much does this problem or missed opportunity currently cost the industry?

2. What proportion of total production and marketing costs does this represent?

3. Where do you rate the outcome of this R&D on the consumers desire to pay?

The answers to these questions may be hard to find, and yet they are crucial to making informed decisions about how to best spend the scarce R&D dollars.

Other questions relate to the applicants understanding of the industry situation:

1. What resources (capital, time, knowledge, skills, information) would be required by the industry to adopt innovation(s) arising from this R&D?

2. What role will you and others play in the innovation process? Please be specific.

3. What could the industry do to strengthen links with you on a day to day basis?

In other words, does the applicant know enough about how the industry "ticks" to be able to foresee and overcome any potential barriers to adoption of the R&D outcomes?

In some horticultural industries, these close links have been built up by means of local grower groups, which meet regularly to discuss technical and other matters and may invite researchers to talk to them about their work. Another option is to set up a system of "project champions", who are growers willing to talk to a particular researcher and provide a practical slant on the work in progress. In addition, HRDC requests all industries to establish R&D committees, to assess applications and make recommendations to the HRDC Board. The members of these committees can play an important role in improving communication between the researchers and the industry membership.

The avocado industry has had a tradition of close involvement with the State Departments, who in turn have provided strong backup to the industry. It is certainly important to retain and build on that relationship, in order to secure a bright future based on the rapid adoption of new technology.

To date, the avocado industry has supported 13 projects through HRDC, as listed elsewhere in *Talking Avocados*. Some were supported by local grower groups prior to the introduction of the

R&D levy. Some non-levy funding has also been accepted by the HRDC Board since, on the basis of the short term or localised nature of the work. The scope of the R&D program has been limited by the funds available, but nevertheless some very valuable results have been obtained.

A number of important R&D projects will be reported on at the Perth Conference, including Bob Paulin's rootstock work, Tony Whiley's work on carbohydrate fluxes and the possibilities for yield prediction, Lindy Coates' work on anthracnose and, of course, the Avoman project which has the potential to bring all these different aspects of the management of an avocado enterprise together and present them as an overall system.

## HRDC Report to Industry

The annual HRDC reported to the avocado industry was presented at a meeting of the AAGF at Rocklea, Queensland on 12-14 September 1994.

Although the adjacent article was not part of the report, it does indicates what the HRDC is trying to achieve.

The other articles under the HRDC banner formed the basis of the report with an indication of the projects since 1988 and their current status.

Current projects are defined with an outline of each project and the results so far achieved.

A summary of all the HRDC-funded avocado R&D was distributed at the AGM and further copies may be obtained by contacting Gerard McEvelly on (02) 418 2200, Fax (02) 418 1352, or through your AAGF executive member.

### HRDC Funded Research and Development on Avocados: 1988 -1994

Project	Project Name	Source of Industry Funds*	Avocado Industry Priority**	Status : Completed/Continuing
AV004	Population dynamics and biological control of the avocado leafroller in North Queensland	vc	1	Final Report completed
AV010	Curing 'Hass' avocados for cold storage disinfestation against Queensland fruit fly	vc/levy	1	Final report completed
AV018	Production of clonal avocado rootstocks and the evaluation of their performance	vc	3	Final Report due December 1994 - wide scale commercial trials planned - see AV300
AV033	The relationship between carbohydrate levels and productivity in the avocado and impact of management	vc	7	Final Report due December 1994
AV067	Avocado R&D Planning Meeting	levy	-	Final Report completed: "The Australian Avocado Industry R&D Plan 1991-1996"
AV128	Development and support of marketing groups in South East Queensland avocado industry	vc	6	Final Report completed - will be published in the next issue of "Talking Avocados"
AV203	Optimising disinfestation and storage qualities of avocados	levy	1	Further work held over while overall submission on disinfestation is prepared; see AV400
AV207	Biological control of Anthracnose of avocado	levy	1	Continuing
AV208	Avocado and rockmelon processing for the domestic and export markets	levy/vc	11	Final Report due December 1994. (Only supported from avocado levy in 1992-93)
AV209	Improved management of avocado productivity and quality (AVOMAN)	levy/vc	10	Continuing.
AV300	Production of clonal Hass avocado trees on six clonal rootstocks	vc	3	Continuing. Final Report due May 1995
AV307	Salt tolerant rootstocks for Riverland conditions	vc	3	Continuing.
AV400	Disinfestation of avocados against Mediterranean fruit fly	levy	1	Continuing. (New for 1994/95)
AV401	Fruitspotting bug in avocados	vc	1	Continuing. (New for 1994/95)

\* Levy or vc (voluntary contribution)

## \*\*Avocado Industry R & D Priorities

The priorities, as listed below, have been set by the industry. These priorities are reviewed from time to time and amended as necessary.

- |  |                                     |
|--|-------------------------------------|
| 1. Pest and disease control                  | 10. Total management                |
| 2. Quality assurance                         | 11. New and value added products    |
| 3. Rootstock                                 | 12. Irrigation and water management |
| 4. Fertiliser and plant nutrition            | 13. Product handling                |
| 5. Retail and wholesale handling             | 14. Crop forecasting                |
| 6. Market research                           | 15. Orchard floor management        |
| 7. Yield productivity and cultural practices | 16. Storage                         |
| 8. Varietal improvement                      | 17. Harvesting                      |
| 9. Technology transfer                       | 18. Soil quality                    |



## HRDC Report 1994/95

### AV207: Biological Control Of Anthracnose Of Avocado

**R & D Agency:** QLD Dept of Primary Industries

**1994/95 Budget:** \$55,001.

**Chief Investigator:** Dr AC Hayward.

**Industry Funding:** Avocado levy and the New Zealand Avocado Export Council.

#### Synopsis

This is a collaborative project between QDPI and the University of Queensland which aims to develop biological control of anthracnose of avocado, thereby reducing the industries reliance on fungicides and increasing export opportunities. Currently export levels are limited to 0.5% of production due to the use of post-harvest chemicals. This level could be increased to at least 10% if chemicals are not used. The Australian and New Zealand industries are valued at approximately \$50m and \$7m respectively.

Apart from limitations on export, consumer concerns and regulatory changes place the availability of fungicides to control diseases under threat. Biological control offers the most potential as an alternative to fungicides for anthracnose control in avocado.

#### Progress Report

Phylloplane micro-organisms isolated from avocado leaves, flowers and fruit were screened against the fungal pathogens which cause avocado anthracnose (*Colletotrichum gloeosporioides* and *C. acutatum*). Isolates which reduced either mycelial growth or spore germination of *C. gloeosporioides* on artificial growing media were tested for inhibition of lesion development on detached avocado fruit inoculated with either *C. gloeosporioides* or *C. acutatum*. Isolates were tested up to 4 times each and then ranked according to degree of lesion inhibition and consistency of effect. The most promising isolates selected from this screening procedure are currently being field-tested on an unsprayed avocado orchard at Mt Tamborine. The effect of copper-based fungicides on natural populations of phylloplane microflora on avocado trees was assessed on adjacent sprayed and unsprayed avocado orchards over a 12-month period. Copper reduced

numbers of filamentous fungi, bacteria and yeasts on leaf surfaces, with the effect on bacteria being the most significant. These studies also showed that anthracnose levels were lower in the unsprayed orchard than in the orchard regularly sprayed with copper fungicide. The effect of nutrients on phylloplane microflora populations is currently under investigation.

### AV209: Improved Management Of Avocado Productivity And Quality

**R & D Agency:** QLD Dept of Primary Industries.

**1994/95 Budget:** \$59,228.

**Chief Investigator:** Mr S Newett.

**Industry Funding:** Avocado levy and Sunshine Coast Avocado Growers Association.

#### Synopsis

The Australian avocado industry has identified low orchard productivity and poor fruit quality as priority areas for research and development. Technology exists to allow orchard performance to be improved but it is not reaching growers or being utilised. A more effective transfer of this information will allow industry to achieve its goals.

Diminishing resources of organisations traditionally servicing the rural community are likely to further impede technology transfer through conventional channels in the future. Innovative, information transfer systems are required to improve communication between R&D sources and grower clients. Furthermore, the quality of avocado information can be enhanced by incorporating technology in economic, cultural and marketing strategies applicable to individual growers. Development of a "Total Management System for Avocado Production", incorporating hardcopy, software (AVOMAN) and video tapes, is perceived as offering the most effective method of transferring existing information, in a useful interactive format to industry. The package will need to accommodate the variable environmental conditions under which avocados are grown and marketed in Australia, and have the capacity to incorporate new and improved knowledge as it becomes available. The management system will also be responsive to market signals indicating problems

with internal and external quality. It will be delivered to growers through self-help systems, group extension and consultants.

The "Total Management System for Avocado Production" will be developed in conjunction with "Regional Productivity Groups" (RPG's) consisting of 6-10 participating growers in each group. These groups will be formed by extension officers working in the project and they will develop databases and supply feed-back to improve the usefulness of AVOMAN. In addition their interaction will facilitate a more successful adoption of the management package and action on quality issues by the avocado industry. Agribusiness will be consulted during the development of the management packages and where appropriate will be invited to participate in the evaluation processes.

The package should not be viewed as a "stand-alone" management facility but rather a powerful tool to assist growers in association with continued support from extension services, horticultural consultants and agribusiness.

#### Progress Report

Three surveys of internal fruit quality were conducted on Sydney wholesale and retail markets. Up to 25% of the fruit being offered for sale were found to be unacceptable due to disease breakdown and flesh discoloration. The firm dark skin of Hass, the main variety, conceals disease symptoms and makes assessment of ripeness difficult. The results have major consequences for industry. Growers must be provided with and trained in correct procedures for field control of diseases. Marketing of fruit must be improved by industry co-operating with wholesalers and retailers to develop better handling systems and providing training in the use of these systems. Sheets have been developed to record orchard and production unit details and timing and intensity of crop stages. These kits were provided to approx. 80 growers in RPGs around Australia. The orchard and production unit sections of AvoRec (the recording component of the AVOMAN software) were developed and some growers have commenced recording their orchard details. Development of AvoGro (the growth model component) commenced. This component is now

capable of being customised to suit individual orchard situations using observations of crop stages from recording kits. It also interacts with the production unit details in AvoRec to give orchard specific recommendations for root rot control. Development of RPGs has continued within the constraints of reduced travelling funds. Twelve groups are established around Australia. New groups in Sunraysia, northern NSW and Qld are seeking to become part of the project. Five articles have been published in Talking Avocados and numerous items and presentations have been made to various grower groups and grower service organisations throughout Australia. Most RPGs are pursuing a range of activities designed to improve their member's productivity and profitability.

Progress in the project was adversely affected by the reduction in funding from \$53,700 to \$25,000. Less contact with growers in RPGs occurred limiting their input and feedback in the development of the total management package (AVOMAN). One Sydney market survey was cancelled and no work was carried out in the production of the instructional videos.

**AV307: Salt Tolerant Avocado Rootstocks For Riverland Conditions - Establishment Phase**

**R & D Agency:** SA Research & Development Institute.

**1994/95 Budget:** \$3,225.

**Chief Investigator:** Mr P Gallasch.

**Industry Funding:** SA Avocado Growers' Association and Sunraysia Avocado Growers Association.

**Synopsis**

The Avocado Industry of south eastern Australia is based on the irrigation areas of the Riverland (SA) and Sunraysia (VIC). Although small (180 ha), it is viable and expanding slowly to meet a late market niche (Dec to Feb), when the harvest in the major production areas in NSW and QLD is complete, and financial returns to growers are highest. Most Avocado rootstock research in Australia and overseas has concentrated on selecting varieties tolerant to the devastating soil disease *Phytophthora cinnamomi*. This disease is not active in the Riverland/Sunraysia region. However, tree health and crop yields are adversely affected by high salt levels in irrigation water and high soil pH. The best method of combating these problems in horticultural crops is to select and use rootstocks

tolerant to these conditions. Phytophthora tolerant rootstocks are generally unsuitable. A range of rootstock material from overseas (e.g. Israel) and Australian selections are held in the Avocado Nursery Voluntary Accreditation Scheme (ANVAS) and by the CSIRO. Many of these are reported to offer tolerance to the adverse environmental conditions experienced in the Riverland/Sunraysia area, but have not been field tested in Australia. Following a industry needs analysis, the South Australian Avocado Growers Association gave its highest research priority to the selection of a more salt tolerant rootstock. The research project now commenced will supply the material needed and identify the commercial advantage of its use.

**Progress Report**

The propagation of trees for the research project is on schedule and an experimental sight has been negotiated on Yandilla Park by the South Australian Avocado Growers Association. The use of this site will reduce the projects establishment costs. The project aims to identify the most profitable of a selection of salt tolerant rootstocks, tested in sandy soils under South Australian growing conditions. It also aims to establish an experimental planting for future evaluation of the enhancement of yield and fruit quality from trees grown on salt tolerant rootstocks. The experiment is in the Sunraysia/Riverland environment, using the relatively saline water from the River Murray. The aim of the project is to determine the net financial benefit of using alternative rootstocks (currently Zutano is widely used).

**AV400: Disinfestation Of Avocados Against Mediterranean Fruit Fly New Project 1994/95**

**R & D Agency:** WA Department of Agriculture.

**1994/95 Budget:** \$17,716.

**Chief Investigator:** Dr CPF De Lima.

**Industry Funding:** Avocado levy.

**Synopsis**

Quarantine restrictions do not allow exports of avocados to Japan unless a disinfestation protocol has been developed and approved. A disinfestation treatment using cold exposure of fruit has been developed for the Queensland fruit fly. Similar work is required for the Mediterranean fruit fly. Very limited funding was provided in 1992-93 sufficient for only preliminary work which is inconclusive.

**Progress Report**

Cold treatments were partially tested in 1992-93 when \$2000 was provided for the work. As the funds were not sufficient the work remains inconclusive. A submission made to HRDC in 1993-94 was rejected as having no industry support. Cold treatments are a viable alternative to the current chemical dips. Cold treatments are considered to have some damaging effects on avocados and treatment temperatures at 1 and 2°C are recommended for investigation.

**AV401: Fruitspotting Bug In Avocados**

**R & D Agency:** QLD Dept of Primary Industries.

**1994/95 Budget:** \$9,345.

**Chief Investigator:** Mr GK Waite.

**Industry Funding:** Sunshine Coast Avocado Growers Association.

**Synopsis**

Fruitspotting bugs (*Amblypelta* spp) are major pests of virtually all tropical and subtropical tree fruit crops grown on the Queensland and northern NSW coasts. Avocados are especially susceptible and more than 90% of fruit may be damaged on unsprayed trees. Current control is achieved via scheduled sprays of endosulfan which has an uncertain future. A better understanding of the bugs' behaviour would help growers achieve better control and perhaps reduce the cost of that control through a reduction in the number of sprays applied. An alternative chemical control to endosulfan is also required but this must be compatible with IPM procedures. Fruitspotting bugs are primarily pests of green, immature fruit and although they will feed on ripening fruit of certain species, there appears to be a certain stage of physiological development when the fruit is no longer attractive and the bugs move onto alternative hosts. A regular maturity testing procedure for a number of avocado varieties, linked to cage feeding experiments, might indicate when avocados are no longer susceptible. This may reduce the seasonal spray program by up to four applications. For tree-stored varieties such as Wurtz and Hass, the savings may be even more substantial as many growers spray mature fruit in August-September to prevent bug damage. This project is a preliminary to a much more comprehensive project to be submitted starting 1994/95.

# Fruitspotting Bug workshop

Larissa Wilson, Community Liaison Officer, Cooperative Research Centre for Tropical Pest Management

A workshop on fruitspotting bug involving avocado and macadamia growers and QDPI research scientists was held in Brisbane, September 13, 1994. The aim of the workshop was to establish how the tree fruit industry can support or contribute to the research effort to improve fruitspotting bug (FSB) management.

The Cooperative Research Centre for Tropical Pest Management (CTPM) facilitated the meeting to encourage all participants to offer their comments on FSB research and how growers can contribute to the future management of the pest.

"This is an opportunity for you to have your say in how FSB research should go and you may have to think long term rather than short term for the ultimate solution," John Bolton, President of the AAGF, told the growers from NSW and Queensland who attended the workshop.

## The Pest

FSB is the common name for two species of bugs, *Amblypelta nitida* and *Amblypelta lutescens* which attack a broad range of crops including avocado, cashew, carambola, custard apple, lychee, macadamia, mango and papaw to name a few. The pests are difficult to control, being well camouflaged and elusive and extensive damage can occur even with chemical control. Community pressure for less chemical residues on fruit and concerns about the effect of endosulfan on the environment are increasing. Although endosulfan is very valuable in the orchard for FSB control when used correctly, continued reliance on this chemical may be unwise and researchers and producers have decided they must find better options for FSB control which will fit into integrated pest management (IPM) systems and reduce pesticide application.

Unlike Queensland fruit fly which causes damage through egg laying activity, FSB damage occurs when a bug inserts its long feeding tube (proboscis) into the fruit and injects saliva which liquefies the fruit so that the bug can suck it up as if through a straw. Damaged fruit becomes dimpled or cracked because the tissue where the bug fed dies and does not grow with the rest of the fruit. The symptoms of FSB damage depend on the tree species and the maturity of fruit being attacked.

The Table on page 27 summarises the type of damage caused by both FSB species to a variety of fruit crops.

## Research Update

### Natural Enemies

Research has found that spiders and assassin bugs are predators of FSB and several parasitic wasps (called parasitoids) that use FSB eggs as food for their offspring have been found. Dr Harry Fay, a QDPI entomologist based in Mareeba is continuing work into the viability of rearing and releasing parasitic wasps for biological control of FSB. "Since FSB breeds locally, parasitoids have the potential to act like a mobile insecticide—once released they will go and find FSB eggs in the near vicinity," he said.

### Spray Timing

Other research conducted by Harry Fay links the level of damage on carambola fruit to crop phenology. "It may be more cost effective to stop spraying early and lose the late part of the crop unless the late fruit attracts premium prices," he suggested.

### Population Movement And Economics

Projects funded by the Cooperative Research Centre for Tropical Pest Management include a three year PhD study of the movement between FSB populations to learn more about migration of the bugs and an initial survey on the cost of FSB damage.

### Alternative Hosts

Geoff Waite, a QDPI entomologist based at Maroochy Horticultural Research Station, Nambour, has begun an initial project on FSB biology which has identified beach birds-eye fruit, corky passion vine fruit, cotton tree, white cedar, soap tree berries and many other alternate hosts.

### Pheromones

Dr Chris Moore, QDPI chemist, is working with Geoff Waite on FSB pheromones. "Pheromones are insect 'odours' with which insects communicate and which influence their behaviour. If we can identify and synthesise the pheromones which male FSB produce, we could attract female

FSB to monitoring traps or trap crops where they could be sprayed," Chris said. A monitoring system is essential for any IPM program to manage these pests.

### Research Proposals

There are large gaps in the knowledge about the basic biology and behaviour of FSB which must be filled to allow better management systems to be developed. Geoff Waite is currently preparing a submission for a major project entitled "Ecology, behaviour and management of fruitspotting bugs." The project aims are to gain a better understanding of the biology and behaviour of the two species and the relationship between behaviour, alternative hosts and commercial crops. Such information will allow better management of the pests and lower costs to the industry.

### Workshop Recommendations

After the research update session, groups of workshop participants proposed the following recommendations.

1. That the Sunshine Coast resolution to increase HRDC levy from 3 cents to 6 cents per tray be adopted. If these additional funds are not sufficient to fund the project "Ecology, Behaviour and Management of FSB" then the AAGF should arrange to contribute \$15,000/year to that project.
2. That priority be given by QFVG to survey Qld growers of all crops about the extent of damage and cost caused by FSB.
3. That researchers advise growers how they can assist with studies (e.g. record observations, allow use of orchard for study).
4. That research results be published in "Talking Avocados" and included in AVOMAN.
5. That liaison with environmental groups be established through CTPM, Landcare, NSW Agriculture, QDPI (long term) and QFVG (short term) to reduce pressure to ban endosulfan.
6. That a multi-industry information sharing workshop be held in August 1995.

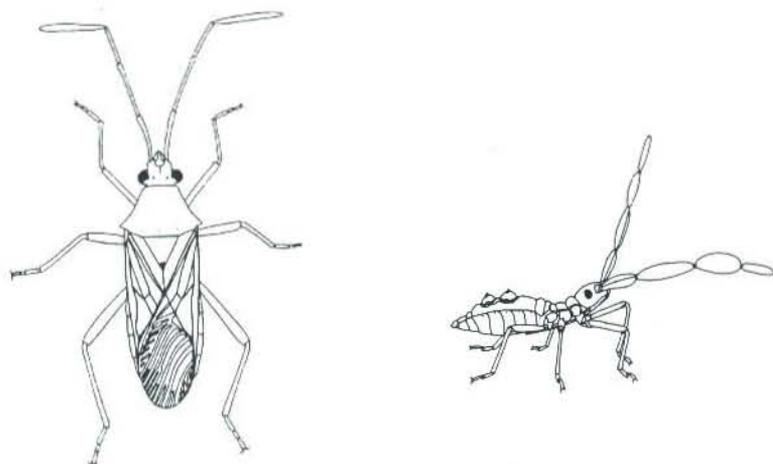
A full workshop report is being prepared and a limited number will be available from Ms Larissa Wilson, phone (07) 365 1860.

## Fruit spotting bug damage on tropical tree crops

Crop	Species†	Plant part	Damage
avocado	<i>A. n.</i> , <i>A. l.</i>	immature fruit	lesions, cracks
macadamia	<i>A. n.</i> , <i>A. l.</i>	nuts, terminals	nut abscission (immature), kernel damage, terminal death
papaw	<i>A. l.</i>	terminal, leaf petioles	terminal death
custard apple	<i>A. l.</i>	flowers, young fruit	lesions, cracks, abscission of young fruit
mango	<i>A. l.</i> , <i>A. n.</i>	terminals, young fruit	terminal death, abscission of young fruit
cashew	<i>A. l.</i>	terminals, nuts, apples	terminal death, abscission of immature nuts
pecan	<i>A. n.</i>	nuts	kernel damage, abscission of very immature nuts
guava	<i>A. n.</i> , <i>A. l.</i>	immature fruit	lesions, abscission of very young fruit
lychee	<i>A. n.</i> , <i>A. l.</i>	immature fruit	abscission of green fruit
longan	<i>A. n.</i> , <i>A. l.</i>	immature fruit	abscission of green fruit
banana	<i>A. l.</i>	immature fruit	spots, lesions on fruit
carambola	<i>A. n.</i> , <i>A. l.</i>	immature fruit	lesions, misshapen fruit
persimmon	<i>A. n.</i>	immature fruit	abscission of small fruit, lesions
kiwifruit	<i>A. n.</i>	immature fruit	lesions

Other exotics damaged include acerola, carob, citrus, durian, feijoa, fig, grape, jaboticaba, jackfruit, loquat, mangosteen, mulberry, passionfruit, pepper, rambutan, soursop, stonefruit, and yellow mambin.

† *A. n.* represents *Amblypelta nitida*, the fruitspotting bug.  
*A. l.* represents *Amblypelta lutescens*, the banana spotting bug.



**Banana spotting bug (*Amblypelta lutescens*) adult (left) and nymph (right)**

## A Different Grafting Technique

Israeli expert, Mr Doron Talmi, has taken technology a step further to maintain market returns while top working avocado trees to an alternative variety.

The technique was developed mainly for citrus. Trees are grafted to improved varieties and results so far indicate that costs are recovered in two years, the third year returning a profit. Although no documented figures are available, indications are that a similar pattern of cost recovery will occur with avocados.

Doron's philosophy is to maintain production by only top working half the tree, the other half being removed at a later date.

Doing half a tree at a time not only maintains the grower's income it also allows the remaining foliage to provide sun and wind shelter for the grafts.

Fruit produced during this stage probably could be bigger and the reduced foliage allows better sun and spray penetration which should result in better quality fruit. Therefore, although yield is down, returns from the crop produced should be better than in previous years.

When the graft advances, the other half of the tree can be lopped—the timing depends on the cash flow requirements of the grower but production can be non-stop.

Doron says that top working trees is more profitable for growers that replacing the whole tree. Trees come back into full production much earlier. Fertigation and other management practices are not affected.



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