



AUSTRALIAN
AVOCADO
GROWERS'
FEDERATION

Talking Avocados

—The Australian Industry
Newsline,
First Edition,
March, 1990.

AVOCADO NEWS TO PRESS

For some eight years we have discussed the problem of lack of communication throughout the industry. A national news sheet, newspaper or journal have all been proposed but never eventuated. Queensland C.O.D. greatly assisted with the issues of Fruit & Vege News being devoted to Avocados. This was endogenous, but highlighted even more the need for an industry publication. Well, we have it, and I trust we have your full support to make the venture successful.

'Talking Avocados' can assist everyone in numerous ways. One important aspect is to keep all growers up to date with research and technology; you will be within a short time of any new breakthroughs and this can be vital to orchard management. The practice of injecting trees with phosphorous acid was in common practice in Queensland some eighteen months before it became general elsewhere in the other states.

Another aspect of 'Talking Avocados' is to provide a forum for you, the grower, to air your views and to let us know your problems—write to the editor. Additionally, we shall publish excerpts of major interest from avocado journals & newsletters from other countries—Israel, South Africa, U.S.A. and New Zealand.

I also wish to briefly mention the Biennial Federal Conference and in particular the Research aspect. Up till now our research projects have been tied to the obvious major problems. Phytophthora etc. and have been tackled with great success. Now I feel that many of the minor problems particularly those confronting the smaller growers, need to be addressed. At the federal conference we shall be compiling a list of those problems and allocating priorities for the allocation of research funds. There are further details on the conference in this issue. It will be important to you and all growers. Some of the major items of interest will be the research programme, with updates on current and continuing research and future research priorities; finance, with one of Australia's leading finance advisers; and export achievements and the future. Your attendance and participation could be of immense value to both yourself and your industry.

I look forward to renewing friendships and meeting many of you at the conference in July this year.

David Rankine
President, Australian Avocado Growers' Federation.

MANAGING QUALITY IN AVOCADOS

Terry Rodge and Simon Wathen
Davy Quality Management Services, BRISBANE.

Quality has become something of a buzz word in horticulture, but in spite of preaching of the industry leaders, there has been little guidance as to how quality can be achieved. There is even confusion as to what the word quality really means. It is not a ridiculously high standard that is impossible to achieve; simply means meeting the customer's requirements.

Every grower or packer must be certain that fruit will always satisfy his customer. To achieve this, a deliberate strategy is needed. The most important part of this strategy is a series of quality checks at all stages of growing and handling. These checks stop unsatisfactory fruit from incurring unnecessary packing and transport costs and backlash from customer dissatisfaction. Results of quality checks must be recorded to allow problems to be fixed and quality levels improved.

Steps required to truly manage quality are:

1. Set standards. These may be D.P.I.E. (Federal) standards or based on the requirements of a particular market. Standards should be set for the product at all stages of production and handling.

2. Work out what quality aspects have to be controlled, and the stage of the system when they should be checked. (eg. in the field, at the pack house, at the market)

3. Set up a monitoring and recording system, with clearly defined actions when product does not meet standards.

4. Use information from records along with research findings to solve quality problems and improve product quality.
5. Review and fine-tune the system regularly. Audits by both senior management and an independent auditor are needed to ensure that the quality system is working and continues to work.

COMMITMENT

For a quality system to work it must cover all aspects of production from growing through to the consumer. Management and all participants must be committed to having the product meet the customers specifications. A certain amount of formal training is needed, so all staff know the standards and their own roles.

BENEFITS

Quality management does have a cost. A quality controller must be recruited and staff trained. In the short term it is likely that more fruit will be rejected, but in the medium term there will be several benefits.

- *Reduced packing costs.
- *More reliable market outturns
- *Greater buyer confidence.
- *More return orders.
- *The ability to promote an elite brand and receive a market premium.
- *A steadily improved level of quality.
- *A higher percentage of marketable fruit due to awareness of problems and better management.



A quality assurance programme has been implemented at the Sunshine Coast fruit Marketing Co-operative.



THE FIRST STEP

The first quality system for avocados in Australia is still being put into place by the Sunshine Coast Fruit Marketing Co-Operative. This will be necessary if the co-operative is to compete in Europe. The system is also needed to maintain the standard of domestic market fruit.

The QDPI and Davy Quality Management Services produced a quality manual. This covered handling procedures and the quality checks from orchard to market. Staff structure and the roles of all participants were clearly defined. The manual is a reference for those involved in quality.

Grade standards for each of their brands were presented in user-friendly photographic form. These were and are used to train packhouse staff.

The first stage of setting up the system was appointing a quality controller. She has been monitoring the quality of packed fruit, taking records and giving feedback to sorters, and will become the key person as the system develops.

GROWER INVOLVEMENT

In the 1990 season, fruit and handling systems will be monitored in the orchard and prior to sorting. Growers will be informed about market specifications. This may include size, blemish and level of pests.

An improved spray programme is recommended to minimise pest and disease levels. This also avoids the use of chemicals which may be unacceptable to certain markets. Growers will be required to keep a diary of all sprays used. This diary is part of the documentation in the quality system.

Dry matter will be tested to ensure that fruit is not immature, or too mature to withstand a voyage to Europe.

THE MARKET CHAIN

As good fruit often deteriorates during transport and marketing, checks of fruit handling and condition will be carried out in the marketing chain. Fruit temperature will be monitored in the coolstore and through to the market.

FURTHER INFORMATION

Davy Quality Management Services was established to develop and set up systems to meet the specific requirements of horticultural producers and exporters.

The company has a wide range of experience in New Zealand where quality assurance is a cornerstone of export marketing. DQMS has branched into Australia where enquiry and demand for QA systems is alive and growing.

EDITORIAL

Naming this publication has been the most difficult part in getting this first edition together. The title we are using could be permanent or it could be temporary? If you have an inspiration please pass it on to me.

I believe this newsletter is packed with views, news and information that everybody involved in the Avocado Industry would be keen to know. Please keep the contributions flowing and let me know if you have any suggestions or constructive criticism. The Letters to the Editor section is there to invite discussion and sharing of ideas.

Compiling the subscription list has been the sort of job that even the computer balks at!! Please spread the word about this new initiative and send your subscription forms in "Pronto!!" so that the list can be revised to an even more mind-boggling document.

The next edition will include updates on trunk injection, stem end rot and more stories on marketing ventures. As I sit here pen pushing, a few quotes from the desk diary (my inspiration while pen pushing.....) have caught my eye.

Did you know that:

G.C. Lichtenberg said "The most dangerous of all falsehoods is a slightly distorted truth." and Martin Luther said "Peace if possible, but truth at any rate." I think I agree with them.

Marie Piccone
Editor

Enquiries regarding advertising, articles etc. in "Talking Avocados" should be referred to:

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THE FEDERATION

Delegates who represent the member states on the parent body, the Australian Avocado Growers Federation (AAGF) are as follows:

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This is the growers paper and reflects their views and opinions; it does not necessarily represent the policies or views of the President, Committee or members of the AAGF.

LETTERS TO THE EDITOR

"Farmers Case Dismissed!" This was the heading in the Sunshine Coast News several days after a case on alleged spray drift (Health Dept. Vs Mosely) was dismissed in the Nambour Magistrates Court.

After my reminder to the editor, the hearing did get a small headline and a column spread on page 5.

A pertinent comment from the magistrate "Mrs Rushton..... was emotional and at times volatile. I further find she tended to exaggerate" did appear in the press. I conclude the media did not wish to spoil a good story sticking to the facts.

After the initial front page coverage of this case and the subsequent trial in media, it would have been inconsistent to have given a fair coverage of magistrates finding.

THE SPRAY SCENE: Fringe dwellers on the horticultural scene have dreamt that sustainable agriculture is possible on "organics" only. We can't let them do not starve most of our present generation before they wake up!

The proposed Green Paper, which was shelved by the Nationals may soon be reviewed by the new QLD Government members. We must ensure that they are properly informed on issues that affect, not only the avocado industry, but primary production. Both state and federal budgets would be much deeper if we had a viable agricultural industry. Neither export or local markets accept inferior produce blemished by diseases and insects.

The community has the right to expect that approved chemicals at the correct concentration will only be applied to the target area. Before we spray we must read the label, to check both the concentration and with-holding period, so both operator and consumer have no cause for concern.

A programme of integrated pest management can be adopted and chemical controls used only when natural or introduced predators let us down.

We need some initiative to better inform the public on the necessary responsible use of agricultural chemicals in the production of quality fresh fruit and vegetables.

Perhaps our industry leaders should look seriously at recruiting a panel of speakers to get the message across to schools, retirement villages, service garden clubs.

Ted

Montville.

Perhaps the panel of speakers might also target media, politicians etc?

Dear Friends in Australia,

It is our privilege to extend a cordial invitation to you to participate in the Second World Avocado Congress, which will convene in Anaheim, California, USA, April 21-26, 1991. The official headquarters for the Congress is the Doubletree Hotel at the City. The Doubletree Hotel is located near Disneyland, Knott's Berry Farm, and other major attractions.

The Second World Avocado Congress will, for one full week, bring together people, their problems, solutions, technologies, and dreams that comprise the truly global avocado industry. From this will come "The Shape of Things to Come," the theme of a Congress that can give you one step up on concepts, legacies, and technologies that can favourably impact your avocado operation. The Congress will include all aspects of avocado production and marketing, sessions on breeding and genetics, propagation and other nursery practices, and water management, plant nutrition, insect pests, diseases, tree and fruit biology, post harvest handling, marketing, economics, and consumer trends. The Program will include an Opening Session, entitled "Janus Looks at the Avocado Industry," presented by Mr Jack Shepherd, President Emeritus, Avocado Growers of California.

The official language of the Congress will be English; however, simultaneous interpretation in Spanish will be provided during all sessions and workshops.

The Congress is a great opportunity to bring worldwide focus on yet unsolved problems, find out where the latest research is being done, and who's already doing new things. Take the opportunity to join us and participate actively in the forums and workshops, enjoy the tours, and the hospitality of Southern California. We look forward to welcoming you in 1991.

Sincerely Yours,

M.L. Arpaia,

W.H. Brokaw,

Co-Chairs Organizing Committee.

TARGET 90

The "Target 90" group which visited Europe last spring, of which I was a member, learned there are a lot of improvements Australia needs to apply to both the export markets and local markets. The export market is extremely competitive. Although there is a window for Australian avocados in Europe, there is also a lot we can do to help our industry in our own market place. It seems logical that the way to do this is to have more marketing power to achieve the returns we desire. To have more power as an industry we need to become more united as an industry, in the marketing of our fruit. To become more united, each avocado growing area needs to seriously consider the impact our industry would have in the market place, if we marketed our produce under a single brand. Single Brand Marketing is one of the aims of the Target 90 program.

Marion Mathews,

President Sunraysia Avocado Growers Association.

Dear Madam,

The Atherton Tableland avocado growers warmly welcome this, our first national avocado newsletter.

The industry in Australia is scattered over a very large area of continent so that people who live on the perimeter often have a feeling of isolation and remoteness. Growers on the Tableland certainly feel this way. We are a long way from our export markets and the cost and effort of getting there to talk to agents and view our fruit is great enough to prevent many from making even an annual visit.

Our West Australian colleagues have to contend with even greater distances. They have further to travel to the east coast markets and it requires a special sort of dedication on their part to regularly attend Federation meetings and conferences.

However geographic location is not the only factor that sets people apart from the main stream of the industry. Many growers who live close to where it is all happening are content to do their own thing with only as much industry contact as will enable them to continue in business from year to year. They do not go to conferences or local association meetings. They exist in self imposed isolation and wonder what proportion of people with avocado trees make up this group. For all those for whom the feeling of unity has been dulled by isolation, whether geographic or self imposed the newsletter is a great step forward. It will keep growers abreast of what technical workers, the market and the industry are doing. It will give growers a voice to tell researchers, extensionists, marketers and industry leaders what they want.

Members of the Atherton Tableland Avocado Growers Association would like to congratulate the various groups and individuals who have made this newsletter possible. The federation who sponsors it, the various grower associations who are providing early financial support, advertisers, contributors of course our talented editor Marie Piccone, whose energy and enthusiasm make those in isolation wonder how we could have survived so many years without it.

Yours faithfully,

Don Lavers,

Chairman ATAGA.

LEQUES IN THE MAIL!!

Farming is a risky business. Each year we face the possibility of being wiped out by drought, flood, hail, bush fire, pests or disease. Because we have little or no control over these factors, we accept them as part of farming. We soldier on, ever optimistic that the good seasons will outweigh the bad. Once the crop is harvested, packaged, and consigned to market, we tend to think our worries are over. We keep our fingers crossed that the agent will return us a good price and find the mailbox in search of the long awaited cheque.

Unfortunately, each year some farmers don't receive their cheque at all. The agent may eventually be paid a portion of what was owed them, after the Receiver has wound up the company that they consigned to.

1989 saw a couple of major avocado handlers go down the tube: Lojon in Sydney, and Proveg in Melbourne. Some minor agents also collapsed during the period.

Market agents have a very high weekly turnover of cash. To entice retailers to deal with them they may offer extended credit. Indeed large retailers may demand extended credit under threat of ceasing to do business with the hapless agent if he doesn't comply. By law the agent is supposed to pay the grower within 14 days of receiving the produce. Often they don't. Now it may be that they are just being greedy and playing the short term money market with YOUR money. But in my experience delaying the payments to growers is one of the first signs that an agent or merchant is in financial difficulties.

The staggering escalation in interest rates over the last few months has put enormous pressure on the business community. Witness the saga of Bond, Ansett and Skase! A whole heap of smaller businesses are going under too. You can be sure that 1990 will see the demise of more market agents. How can you avoid being caught up in their collapse and perhaps being dragged under yourself?

You can eliminate 95% of the risk by insisting on prompt payment. In Qld, N.S.W. and Victoria there are strict laws governing payment to growers by the market agents and merchants. W.A. and S.A. have none. Policing of this legislation is done by the State Dept of Agriculture Inspectors in the central markets. The legislation varies slightly in each of the 3 states, but as a general rule of thumb, payment must be made within 14 days of the produce being received by the agent. If you have not received your cheque within 17 days (allow 3 days for mailing) phone your agent and tell him it's overdue. Undoubtedly you will be assured "it's in the mail". Give him another three days grace and if it still hasn't turned up, phone the market inspectors immediately. Don't waste your breath arguing with your agent. **AND DON'T SEND ANY FURTHER CONSIGNMENTS TO HIM EITHER!** You will probably hear from your agent fairly quickly. Tell him politely that you are familiar with the law and if he values your business he would pay you on time. If he is apologetic and promises prompt payment in future, you may choose to give him another chance. If he is rude, abusive or threatening, you can be pretty sure his firm is in financial difficulties. Tell him that there are plenty of other agents in the market place and that you prefer to do business with people who have good manners and financial integrity. Then hang up!

I am continually surprised and alarmed at the stories I hear of growers waiting many weeks for their payments. Often they keep on sending to the agent anyway. Don't YOU be one of the suckers who get caught! There are some decent agents out there who are a pleasure to deal with. Search until you find one.

A final word on the subject. We hear a lot about the shonkey agents. Well there are just as many shonkey growers who don't treat their agent fairly. The farmer who whinges the most about crook agents are usually the worst offenders themselves. If you send underweight packs of poorly presented inferior quality produce to an agent, he sure as hell isn't going to put much effort into getting you a good price. If you expect an agent to try hard on your behalf, you have to put your own house in order first. Then having endured all the unavoidable risks associated with farming, eliminate the final one. **INSIST ON PROMPT PAYMENT.**

Brian Capamagian
Mapleton, Qld.

STILL FERTILISING BY THE SEAT OF YOUR PANTS

Marie Piccone

Horticultural Consultant Townsville Qld

Leaf and soil analysis tells you the nutrient levels and needs of the avocado trees in your orchard. Looking at the trees, using your neighbour's programme last year's rates or just guessing, means that you are still fertilising by the seat of your pants - and most probably losing money!!

WHY BOTHER?

Proper use of leaf and soil analysis results will mean:

- *More yield where nutrients were limiting crop potential, eg boron at flowering;
- *better fruit quality and shape as levels are properly adjusted, eg calcium during early fruit development and zinc for fruit shape and sizing;
- *spending money on the required fertilisers at the best rates rather than hoping you're doing the right thing.

By the time you see visible symptoms of nutrient imbalances in the tree, yield and quality are already seriously affected and it will take time to get the nutrient back to optimum levels. Regular leaf and soil analysis helps you to detect the trends and problems early. So this year - be proactive rather than reactive. Take leaf and soil samples for analysis.

THE DETAILS

A specific part of the tree is sampled at a particular time of the year. For avocados, the period from late April to mid-May (as the tree goes into the winter rest phase), is the time to sample leaves and soil.

LEAF SAMPLING

- *The leaf sample for analysis should be 30-40 of the youngest mature leaves from the hardened summer flush. The leaves should be healthy and free of pest, disease and physical damage.
- *All leaves in a sample should be taken from terminals not carrying fruit.
- *Any one sample must consist of leaves from one variety only. Take the sample leaves from 15-20 trees.
- *Wash your hands before picking leaves and do not smoke during sampling.
- *Take the leaf sample early in the morning (before 9 am). Samples should be kept cool after they are collected, and despatched to the laboratory as soon as possible.
- *Remember that foliar sprays (eg. fungicides that contain copper, or manganese i.e. mancozeb, or nutrient sprays such as zinc chelates, iron compounds etc), will often give false readings despite thorough washing of leaves in the laboratory before chemical analysis.
- *Leaf analysis should be done annually to review the nutritional programme.

SOIL SAMPLING

- *Samples for soil analysis should be taken at a depth between 0-30cm from twenty sites per hectare or ten sites per block (if the block is smaller than a hectare).
- *Avoid sampling from soil at the dripline. Take the samples from any other area under the tree canopy.
- *Thoroughly mix the total sample and take a sub-sample (500g) for analysis in the laboratory.
- *Where soil nutrient levels are not optimum, sampling should be done annually until the imbalances are corrected. If leaf analysis indicates no problems, soil analysis can be done once every two years.
- *Soil analysis should be done at the same time as leaf analysis. It should not be done where fertilisers have just been applied.

So put a big cross on your calendar and make sure you spend a little money on leaf and soil analysis-it's a wise investment in your future crops.



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Get the Crop King Compulab Service working for you.



Why test at all?

Soil fertility is any farmer's greatest asset. Making the most of this fertility is the key to successful crop and animal production. The quantities of nutrients available in the soil are the key to your crop's potential. A crop may be limited by the least available nutrient present, even though all other essential nutrients may be present in adequate quantities. Soil testing can be used to provide a more appropriate fertilizer program. Soil testing should be used regularly to monitor soil fertility and check long-term fertilizer programs.

Sampling is simple

Crop King Sampling Kits are available from your local Crop King dealer for sampling soil (or plant tissues). Each kit contains everything needed to take the samples and send them to the Crop King Compulab Service Laboratory. Sample bags and information sheets for individual samples are also available.

Plant tissue

Plant tissue testing is suited to tree and vine crops to monitor nutrient uptake and the effectiveness of your fertilizer program. This enables fertilizer programs to be geared to higher yields of farm produce. Plant tissue testing can also be used for solving problems in broadacre crops. Within 2-3 weeks of mailing your soil or plant samples, you receive a detailed analytical report. This report, together with the field information the farmer supplies, is interpreted by a CFL Sales Agronomist or Crop King dealer.

See your local Crop King dealer or phone (07) 390 9479 for further information.

CROP KING

The know how. The back up. The smile.

RESEARCH

WHO IS DOING WHAT?

Don Lavers,
AAGF Delegate

The following are some of the research projects currently in progress:

- *Phytophthora root rot... Etiology and control, interaction of nutrients a distribution of phosphite in the tree, evaluation of clonal rootstocks — Ken Pegg and Tony Whitley.
- ...Evaluation of tolerant rootstocks — Tim Trouchoulis.
- *Growth Cycle... Growth and flushing patterns of roots, impact of maturity on productivity, use of plant growth regulators — Tony Whitley.
- *Pest control... Biological control integrated with chemicals and pheromones — Geoff Waite.
- ...Integrated pest management in fruit and vegetable crops — John Hurrell.
- ...Preparation of a book entitled 'Protect Your Avocados' — Roger Hurrell.
- ...Monolepta beetle control — N. Treverrow.
- ...Avocado leafroller control — Bruno Pinese.
- ...Pesticide residues after low volume orchard spraying — Alex Banks.
- *Post Harvest... Cold storage disinfestation against Queensland fruit fly — Andrew Jessop.
- ...Preparation of a quality assurance manual — Scott Ledger and Alex Banks.
- ...Early season avocado quality — Scott Ledger and Sheila Spraggon.
- ...Controlled atmosphere storage, performance of waxing under CA storage — Scott Ledger.
- Anthracnose... Infection processes and control — Lindy Rappel.
- ...Control of preharvest diseases, storage and ripening — Ross Fitzell.
- Irrigation scheduling — Terry Campbell.
- *Marketing... Development of a strategic marketing plan — Kevin Smit and Scott Turner.
- *Cholesterol... Effect of avocados in the diet on blood cholesterol levels — Ian Colquhoun.
- *The following projects are to begin soon:
- *Carbohydrate physiology... Impact of management practices, notably maturity and time of harvest on carbohydrate levels and tree productivity of plant growth regulators on flower initiation — Tony Whitley.
- *Ethylene scrubbing tested under commercial storage — Tony Shorter.

In the next edition, we will endeavour to give readers an opportunity to indicate their views on research priorities. If the list is not complete, please let us know!

LOW VOLUME SPRAY RATES — TIME TO TRIAL

Alex Banks
DPI Nambour Qld

Avocado growers have always been faced with the problem of low registered mixing rates for use with low volume equipment such as sprayers. A trial has commenced on the Sunshine Coast to overcome this knowledge and registration.

Low volume (300 l/ha — 160 trees) and a high volume (1500 l/ha trees) sprays of copper hydroxide and endosulfan are being applied to Fuert at two weekly intervals. Both treatments apply the same amount of chemical (eg 20g copper hydroxide), but the low volume mixture (eg 10 g/l copper hydroxide) is five times more concentrated than the high volume (eg 2 g/l copper hydroxide). Sprays were commenced in October and will continue until April. Residues remaining on fruit from the two treatments will be compared with the hope that those from low volume sprays are no greater than produced by high volume applications. Control of the pests using the two volumes and rates will also be assessed.

Although only two chemicals are included in the trial it is probable that results, if positive, will be extrapolated to cover other chemicals used in ways on avocados. There is a very good chance that these results will be applicable to other tree crops, as well as avocados. However extension and results will depend on the evaluation by the registration authorities. (Federal State Departments of Agriculture).

Funding for this much-needed trial is being provided co-operatively by Hoechst, Shell, Imchem and Incitec.

UPDATE ON CULTAR RESEARCH

Geoff Hillier
ICI Crop Care Brisbane, Queensland.

Two approaches have been adopted with Cultar research in avocado orchard trials. The first is a soil applied treatment based upon tree size. The preferred approach because of its reliability and influence on yield a vegetative growth. Early research showed some difficulty with this technique but that was mainly to do with application timing.

Further work showed that, providing the material was applied before flushing and was kept wet for a few weeks after treatment, there was no problem. If timing was incorrect or soil too dry, the uptake was delayed and expression of the benefits was also delayed.

Cultar was found to show vegetative growth control of both spring and summer flushes from soil application in late winter or early spring and in the following season there was some benefit in setting fruit.

Hass has been the most thoroughly researched variety and is the only variety on the proposed label. Fuerte has also been researched but has not shown the same responses.

The second trial method of application was by foliar spray. This method had a more instantaneous response when applied at flowering in that more fruit set and some growth control of the spring flush resulted.

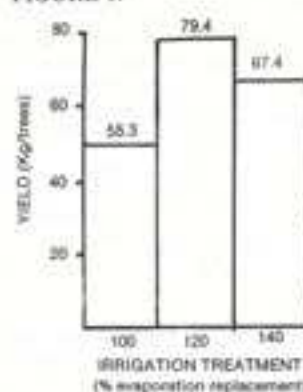
Unfortunately, vegetative flushing over the summer after treatment in spring is not controlled and that most probably is the reason much of the extra fruit is shed during hot spells over the late summer. The new growth is competing with the fruit growth.

That response is not universal and depends to some degree on the crop loading and severity of hot spells but foliar treatment, in general, provides less benefit than does soil applied treatment.

Progress from here will be into other varieties including those for North Queensland and newer varieties that are replacing Fuerte. Also work is being done to control regrowth after heavy pruning and staghorning.

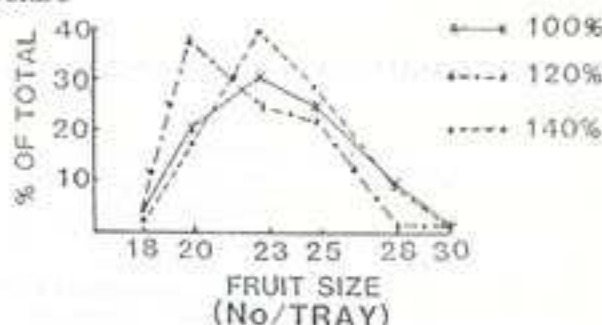
Registration submission was made in late 1988 but may not be approved until mid 1990 because of delays in the system. Yield improvement and consistent production for an extended period prior to tree thinning or drastic pruning are the key benefits that Cultar will offer avocado growers.

The results of the trial looking at different irrigation rates were: (See figure 1)
FIGURE 1.



Statistically the yield of the 100% treatment was lower than the other two, although there could be shown to be no difference between 120 and 140%.

The same trends were seen with the fruit size (See figure 2)
FIGURE 2



Clearly there was more large fruit in the 120% treatment than in the other two. The conclusion was that irrigating with 120% of the evaporation rate should be the preferred option.

A follow up harvest in this trial, picked in 1989 and just compiled, confirms that the 120% treatment gives the highest yield as follows: (See figure 3)

Statistically the 120% and 140% treatments were not significantly different, nor were the 100% and 140% treatments significantly different. It is obvious that watering at 120% replacement of the evaporation is better than 100% and there is no value in going any higher as it wastes power and fertilizer (through increased leaching). It was also very interesting to note that watering at only 100% replacement of evaporation produced a much higher percentage of seconds. Seconds fruit was undersized and damaged. (See figure 4)

The follow up 1989 harvest also showed that there was probably not a lot of difference in fruit size between watering rates, although 120% and 140% treatments produced a higher percentage of large fruit.

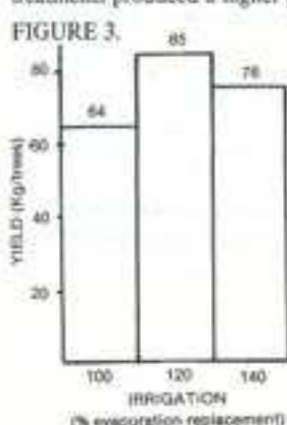
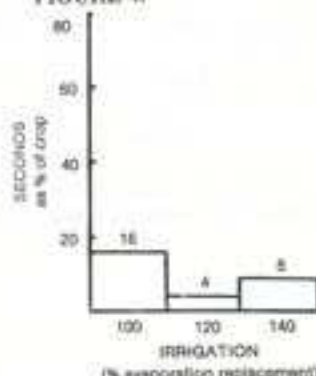


FIGURE 4.



CURING OF 'HASS' FOR COLD DISINFESTATION

Project update: January, 1990.

Andrew Jessup, Research Horticulturist

Since late 1986 significant progress has been made on lengthening the shelf life of 'Hass' avocados while in the same process ensuring complete disinfection of Queensland fruit fly. This treatment has major implications for the export of avocados by sea freight and in the extension of their period of supply.

It appears, from research conducted at the NSW Agriculture and Fisheries Gosford Postharvest Laboratory, that a pre-storage dip in a warm fungicidal solution will significantly reduce storage rots and chilling injury symptoms when fruit are stored at 1°C for 20 to 25 days. Studies at this laboratory have shown that

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CALCIUM PROLONGS SHELF LIFE.

Dr. Chris Yuen,
Dept. of Agriculture, W.A.

Of interest to avocado growers around Australia are the results of trials into prolonging shelf life of avocados by vacuum infiltration of calcium chloride into fruit. These trials were conducted by Dr Chris Yuen, post harvest research officer with the W.A. Department of Agriculture. Dr Yuen's work was done on Hass and Fuerte varieties. The process, which reduces ethylene production and ripening, delays the ripening of the fruit and has been successful in consistently producing a two (2) week extension of shelf life. He reports very few injury problems and no adverse effects on taste and appearance.

MAKING THE MOST OF WATER ON SANDY SOILS

Greg Luke, Dept. of Agriculture, W.A.

Another W.A. Agriculture Departmental program conducted by Greg Luke (Irrigation Research Officer) involved irrigation trials on avocados growing in the deep sands of our W.A. coast. The results should be of interest to those who grow avocados on sandy soils.

The trials were carried out on 5-6 year old Hass trees about 50km North of Perth, over a period of 3-4 seasons. The first crop was harvested from the trial in 1988.

Water was put on at 100%, 120% and 140% replacement of the evaporation rate with marked differences in fruit yields.

storage for 12 days at 1°C will effectively eradicate from 'Hass' avocados infestations of eggs and larvae of Queensland fruit fly. If fruit fly is present in the fruit at harvest and at packaging export trading to Japan, the USA and New Zealand would be seriously hampered or more likely, not even considered.

To date successful studies have been conducted on fruit which have been dipped for 3 to 5 minutes in 0.05% benomyl at 50°C then stored at 1°C for 16 to 25 days and then ripened at ambient temperatures. Other fungicides—TBZ, imazil and guazatine—hot water alone, i.e. without fungicides, were not as effective as benomyl in the reduction of chilling injury and storage rot symptoms.

There was no development of vascular browning ("pulp spot"), flesh greying ("mesocarp discoloration") or patchy ripening and there was a reduced incidence of anthracnose following this treatment. Trials were conducted on early-, mid-, and late-season 'Hass' from one area in Northern NSW and on mid-season 'Hass' from the Tambourine and Atherton Tableland areas of Queensland.

Using funds granted to the Gosford Postharvest Laboratory by the Australian Avocado Growers' Federation and the Horticultural Research and Development Corporation studies are underway to test for possible differences in response to the treatment by 'Hass' avocado from various other production areas in NSW and Queensland. Additionally, other experiments will commence to study the rate of heat penetration into and out of avocados during the dip treatment and to test for effects on enzymes, proteins and vitamins. It is anticipated that the results from this research will be completed by June, 1990—so watch for further results.

A BIG STEP FORWARD IN AVOCADO CROP PROTECTION

R.H. Broadley,

D.P.I., Nambour, Qld.

The market place is demanding supplies of unblemished, disease-free fruit. At the same time, there is increasing pressure on many avocado growers to limit the number of chemical sprays used in an orchard. This is particularly important, because of increasing urbanisation of rural areas, bringing domestic residences close to traditional farming operations.

One of the solutions to these problems is to develop integrated crop protection systems. These systems are based on pest scouting, determining whether pests are in sufficient numbers to warrant spraying, and deciding on a control measure which may or may not be a chemical spray. Of course, there are exceptions to the above, and pests such as fruitspotting bugs and diseases such as anthracnose require regular treatments.

The Queensland Department of Primary Industries is actively researching pest management systems, to allow growers to make better pest control decisions. This information will be made available to growers by next season. Two books will be published. The first is called "Protect Your Avocados" and will deal with day-to-day insect, disease, mite and weed control. It will also deal with pesticide application, and safety when spraying.

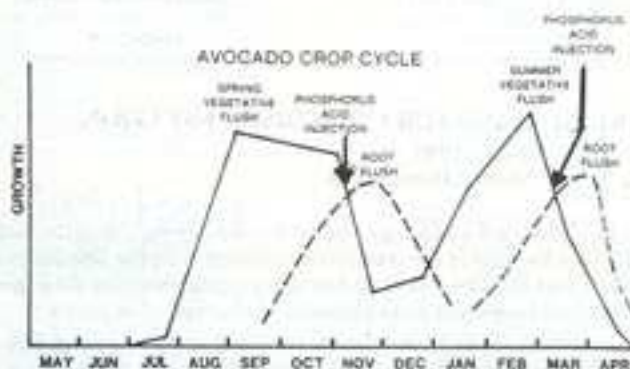
The second book is called "Pests and disorders of avocados", and will have colour photographs (and text) of insects, mites, weeds, fungi, bacteria, viroids and disorders of avocados.

In the meantime, growers may be interested to know that two videos are available for sale from the QDPI Information Centre, Information Branch, GPO Box 46, Brisbane Q. 4001. Cost is \$25.00 each.

The first 25 minute video deals with identification of damage by avocado pests. It is titled "Insect and mite pests of avocados", and is very comprehensive.

A second 25 minute video is called "Management of Phytophthora root rot in avocados". This is a professional production describing most symptoms of root rot, cultural and chemical management of root rot (including tree injection), and rehabilitation of affected trees. There has been a high level of Phytophthora activity in orchards this season, and this video can be of considerable assistance to you.

Note that injections must be timed AFTER the spring flush and AFTER the summer flush has matured for best results.



ENTOMOLOGICAL INVESTIGATIONS IN S.E. QUEENSLAND

Geoff Waite,

DPI, Nambour, Qld

Research into pest control in avocados is presently centred on the testing of pheromones for the trapping of ivy leafroller and orange fruitborer, and consequences of using pyrethroids on avocados.

PHEROMONES

New blends of pheromones for ivy leafroller and orange fruit borer have been tested during the last year. Good catches resulted in the spring with the num caught surpassing previous catches, even during the autumn. The blend is presently being modified by our CSIRO collaborator Dr Chris Whittle. Further tests will be carried out during the coming "leafroller season".

PYRETHROID STUDIES

The avocado orchard at M.H.R.S. has been treated on a 2-3 weekly schedule during the spring-summer-autumn period for the past two seasons, firstly with deltamethrin (Decis) and then with fenvalerate (Sumicidin). In both years fruitspotting bug control has been excellent (better than 99%), but as expected, latania scale and tea red spider mites have become a problem. Scale populations on twigs and limbs are alarming and it is anticipated fruit will be severely affected by harvest date. Although mite populations have been high on occasions, they have not caused severe bronzing to the trees.

A field trial is being conducted in a commercial orchard to establish maximum residue level (MRL) to enable the possible registration of low volume applications of fenvalerate for avocados.

I have recently put together a submission to the Director of our Division Plant Industry to invite and support Dr Jeffrey Aldrich of the U.S.D.A. in Hormone Laboratory, Beltsville, Maryland, U.S.A., for an eight month sabbatical at Maroochy Research Station to assist me with investigations into pheromones of fruit spotting bugs. The proposal has received enthusiastic support and I hope Dr Aldrich will be here sometime in October 1990. These investigations might be regarded as somewhat of a "long-shot" but I believe this pest is of such importance, not only in avocados, but to the whole tropical subtropical tree crop industry of Australia, that we should look at all aspects of possible control, no matter how remote success may seem with our current knowledge.

SUCCESS STRATEGIES FOR NEW "CO-OPERATIVE"

Jim Manwaring,

Department of Agriculture, Haymarket, NSW.

The accompanying table compares some traditional ways of starting operating co-operatives, with more effective ways that are, in my view, essential to co-operative marketing success in the 1990's.

THE ISSUES	THE TRADITIONAL WAY	"ESSENTIALS" FOR THE 1990's
1. Research	Little research done before the co-operative is formed.	A thorough feasibility study 11 aspects of forming a co-operative.
2. Capital Required	Low capital investment.	High equity investment by members subscribed, in part, by share lending mechanisms.
3. Commitment	Vague and loose ties between the co-operative and its members.	Young producers committed to finance and deliver 100% production to the co-operative.
4. Producer Discipline	Very little.	Strict discipline imposed through a contract to deliver money, deliver all of production to co-operative; and to adhere to quality assurance scheme.
5. Board of Directors	Weak on business management skills.	Very strong on business management skills. Two non-producer directors with special know-how.
6. General Manager	Lacking in skills and personal confidence.	Highly skilled, self-confident, market-oriented.
7. Marketing	Guiding philosophy: depend on a new market.	Identification of defined customer needs and achievement of competitive advantage.
8. Communications	The key-note piece of communication is a co-operative NOT understood.	Good communications, producer involvement and education were at the heart which holds the co-operative together.
9. Strategic Planning	Crab by crab mentality, small concentration on current operations.	Markets major issues 3, 5, 7 years into future. Examine co-operative's strengths, weaknesses, opportunities, threats.

AVOCADO EXPORT MARKETING

Murray Stewart

Director of Consulting Services

Hall Brown & Stephens, Brisbane, Qld.

BACKGROUND

Under a Federal Government program to develop the export marketing of horticulturists in Australia, a group of Avocado growers, packers and cooperative members from throughout the major growing regions were selected to participate in a program to develop opportunities for their product in overseas markets.

The group got together at the initiative of Mr Stewart Penny, the chairman of the Sunshine Coast Fruit Marketing Co-operative and formed a steering committee comprised of voluntary representatives from throughout Australia. The group called themselves "Target 90"—a name selected to mirror the need to have in place a committed group of growers and others by the start of 1990.

Throughout the course of 1989, a number of activities were designed and conducted to expose members of the group to facets of marketing such as insurance, retail buyers and their policies, agents and wholesalers (in both domestic Australian market and selected overseas markets).

THE PROGRESS MADE

The steering committee and a significant proportion of the Australian avocado growers have been exposed to the information gained from the various export domestic marketing skill development activities conducted under the program. Thus a basic level of awareness appears to have been created amongst a number of growers about aspects of marketing in domestic and export markets ie, they need to consider by way of product quality and marketing options etc. Export opportunities have been identified and analysed in terms of what it will take to enter various markets and the financial returns involved. The different options available to enter export markets were considered and extensive assessment of the New Zealand Apple and Pear Board, with a view to working with them in Europe, was concluded.

At the end of the steering committee came to the conclusion that the essence of the steering committee came to the conclusion that Australia can compete in European markets on quality, packaging and delivery.

Prices and returns from these markets were quite acceptable providing strict attention was paid to freight, packaging and marketing costs etc.

The lessons learned from analysing fruit marketing in Europe could probably be applied into the local domestic market, with the objective of increasing the potential dollars returned to growers.

However, whilst these issues may seem quite positive, translating them into reality is an entirely different matter.

THE PROBLEMS

Whilst there has been a significant increase in knowledge about many facets of marketing of Australian avocados in export markets (and flow over into the domestic scene), there has also been a gradual problem develop over the course of the project.

The problem is outwardly one of the almost total lack of real commitment and loyalty amongst avocado growers to work toward developing and implementing a marketing system that will provide them with a very significant increase in dollar returns for their efforts and investments.

The most logical and powerful option for growers is to form themselves into a marketing organisation (called in the case of Target 90, a single desk marketing organisation) which will translate the inherent marketing muscle that lies from being able to control the supply of fruit, into a means of improving the total lot for growers.

This lack of REAL commitment appears to be related to the following issues: Can the concept of the growers controlling their destiny actually work?

Can growers make the move from being highly fragmented, individualistic players of fruit into a central, powerful marketing operation?

The rugged individual and suspicious nature of Australians appears to be a major inhibitor to achieving unity and strength.

Perhaps the unknown and uncharted waters frighten people and works against taking advantage of the real power that growers have at their disposal.

Personality Conflicts Cloud the Real Issues

With such a wide range of people, with various backgrounds and personalities involved in the avocado industry, it was inevitable that personality conflicts would arise as the threat of change becomes more obvious.

Suspicion of the motives of individuals, conflicts of personal styles are just a few of the problems that have emerged over the course of 1989.

Interestingly most of the parties in the industry contend that they are working toward a similar end (increasing the lot of growers); there simply is a difference in the way in which they see the end being achieved.

The outcome of these problems has been to severely restrict growers from being able to realise the true financial potential of the avocado product.

THE CHALLENGE AHEAD

Avocado growers need to appreciate that there are very significant changes taking place in consumer buying habits, retailing, competition from other fruits in export markets. These changes are already impacting upon the grower and so they do something very positive about the way in which avocados are marketed in Australia and take advantage of export opportunities then their social viability is very much under threat.

There is nothing so constant as change, thus growers need to come to grips with how these changes will affect them in the future. Unless they do so (and very likely then the chances are that a number of growers will leave the industry not voluntarily by choice).

There is a very real opportunity for avocado growers to significantly increase their returns and all that, that also means for them as individuals. To do so requires unified and committed growers who work together, despite differences in personalities and style, to exercise the marketing clout that they have at their fingertips. To do so must come from the growers — no-one else (Governments will hold their hands and nor should they be expected to do so).

LOOKS LIKE ITS UP TO THE GROWERS!

MARKET FEEDBACK

Charles Cutler, a wholesaler who has specialised in handling and marketing avocados spoke to Don Lavers on the Atherton Tablelands in January. Charles answered some very interesting questions and made comments of interest to the avocado industry.

What are the things that make fruit poor quality?

Poor quality fruit has excessive blemish and breaks down.

What are the trends in price?

During the season, as soon as everybody is in "full stream" and there is overlap of supply between growing areas, the market gets "oversupplied".

Would you agree that often the volume is high in June, for example, and the price is rock bottom whereas, the volume can be high in September, but the price is also relatively high?

Yes, the reason is that during the winter, sales of avocados are slow. In September as the weather warms, sales increase. This is not only prevalent for avocados but for other commodities as well.

Is maturity a big problem?

It is a big problem at the beginning of the season and perhaps at the end of the season, particularly where fruit is hung late. Quality suffers and the product is not in peak condition for consumption.

Immature fruit on markets in February and March is a major problem and should be addressed urgently this season because the large volumes of immature fruit expected mean that repeat sales to consumers are definitely slower.

Can you think of anything industry, groups or individuals can do to promote sales?

Give the customers clean fruit that is mature, without blemish, and the right colour. Let them be able to buy fruit that is exactly as they expect it to be.

Melbourne has always liked green fruit. Is it a preference on the part of wholesalers, retailers or consumers?

It is a preference on the part of retailers. The retailers say that green fruit sells best and when it is displayed beside Hass (even where Hass is cheaper) it still sells first. The public in Melbourne has been educated over many years to prefer green fruit. The green fruit looks more attractive to the Melbourne market.

Are retailers doing a good job in presenting and selling avocados?

The retail trade is doing a better job every year. Competition is very fierce and especially in Melbourne standards are high and increasing. Retailers are more business-like than ever before. There is still room for improvement, though.

What type of retailers are doing the best job?

Some of the new larger entrepreneurial retailers plus the small specialists as well as the retail markets (eg Victoria Markets) are professional. For these markets, the fruit supplied has to be ripened, generally large and of good quality. These markets actually sell very large quantities of avocados and I believe are the best promoters of avocados to the public — better than the supermarkets.

Some retailers say they don't like handling ripe fruit. What do retailers say to you? Good retailers buy 'green' fruit at the market and request the fruit to be ripened on their behalf. They then tell us when they'll pick them up. Retailers that have little interest end up with wastage due to ripened fruit spoiling. Good retailers place the right quantity of ripe fruit on the shelves to meet the demand. They take some for the beginning of the week and larger loads at the end of the week when demand and throughput are high.

When did you become aware of the improved sales for ripened fruit?

It all came about when we were trying to improve sales of avocados during winter. It is hard to remember the year, but it was about ten years ago when we started to get fairly large volumes of fruit (especially from the Atherton Tablelands) during the colder months. In the very cold weather, retailers had them for two to three weeks before they even sold them! We needed to develop a system — we started on a small basis. It has meant the success of my business as far as selling avocados.

QUOTES FROM CHARLES CUTLER

"The majority of specialist avocado wholesalers no longer want to handle poor quality fruit. Growers of poor quality fruit actually cost the wholesaler money."

"It is very nice for me to handle twenty pallets at a time from one outlet knowing that quality and presentation is the same at the bottom and the top of each pallet."

"In Melbourne, Fuerte is still the most acceptable variety. Whether that is good or bad is debatable. Order of preference is Fuerte, Sharwil and then Wurtz. Unfortunately, Hass is hard to sell when "green skins" are available. Get rid of varieties like Zutano, Bacon etc."

"Before a grower even plants a tree, he should research thoroughly his chances of marketing that variety and/or product."

KEEPING IN TOUCH

SHORT AND SWEET FROM W.A.

Growers in W.A. have finished what turned out to be a good season price-wise, but this was offset by generally lower volumes of fruit picked. It seems you cannot have your cake and eat it too.

PROPERTY PROFILE FROM W.A.

One of Western Australia's larger growers is Baldvins Estate situated 60 kilometers south of Perth.

The Estate covers 440 acres of which 300 acres is developed. It was established by Peter Kailis in 1982 and is now approaching full production.

The major crop is Avocados, with 10,000 trees planted, and the Estate also has a 20 acre Wine Vineyard, Limes, Mangoes, Table Grapes, Kiwifruit and Custard Apples. A modern Winery is also part of the Estate.

The soil is Tuart Sands which can only be considered as marginal for Avocado growing. However with the use of fertigation and mulch the trees are growing well and cropping consistently.

Good quality surface water is available and with computerised controllers the whole property can be set up for fertilising in 1-2 hours. In one working day all trees and vines on the estate can be fertigated.

Mulch is mainly wheat straw and chicken manure, and sewage and brewery sludge are being evaluated.

Phytophthora is controlled by injection and orchard hygiene.

Anthraxnose can be a problem in wet years and is contained by a regular orchard spraying program and post harvest treatment.

No insect pest of any consequence needs control on the estate, indeed in most of the Western Australia growing areas insect pests are not a problem.

Force draught coolrooms and electronic weight grading are used to ensure consistent quality and presentation. Ripening facilities are also operated.

N.S.W. — ONE INDUSTRY — ONE REPRESENTATIVE

Orf Bartrop,

Secretary, N.S.W. Avocado Association Inc.

For several years, the New South Wales avocado industry has been represented by two bodies, the Avocado Growers' Association of N.S.W. Incorporated (AGA) and the Richmond Avocado Producers Ltd. (RAP).

The need for a single representative body in N.S.W. had been realized for some time. Both organisations have been co-operating on various projects for some years but it was not until this co-operation culminated into a season-long joint marketing project (designed to increase consumer demand for avocados in the Hunter Valley/Central Coast area of N.S.W.) that the full benefits of a single operation were fully appreciated. It was this marketing initiative that finally convinced members of both organisations to take the process one step further and seek amalgamation into a single representative body.

At a historic meeting on 6 December 1989, the AGA changed its Constitution and effectively formed a new body known as the N.S.W. Avocado Association Inc. This organisation became effective as of 1st January 1990.

The constitutional changes made were designed to take the best attributes of the AGA and RAP and incorporate them into the new Association. What resulted was a recipe for a much more effective and representative organisation that has the capability to surpass the efforts of either of the previous two groups working alone. Members of the RAP have yet to join the new Association but they will be holding a meeting on 31st January at which resolutions will be put to wind up the RAP and transfer all members to the new Association.

1989 — A YEAR OF ACTIVITY FOR THE SUNSHINE COAST AVOCADO GROWERS (SCAGA)

The most notable events for the year just ended were:

The spray controversy on the Blackall Range located in the Sunshine Coast Hinterland was attributed in part to ill-conceived town planning approvals by the Maroochy Shire. This poor planning allowed close rural residential development into a long established prime horticultural area. This spray controversy gave rise to the Shire's intention to introduce a By-law to control the Misuse of Agricultural Chemicals.

Heavy late autumn and winter rains resulted in tree and/or fruit loss.

SCAGA marshalled grower comment and submitted detailed constructive criticism and objections to the Green Paper on Improving Safeguards in the Use of Agricultural Chemicals in Queensland.

1990 CROP PROSPECTS FOR THE SUNSHINE COAST AREA.

Alex Banks, DPI and

John Bolton Secretary SCAGA

The 1990 crop doesn't look like starting the new decade off with a bumper harvest. Prior to Christmas, yield appeared to be down on last years below average crop. However as fruit started to fill they became easier to see and the crop looks like being similar to last year's.

Fuente has set a low to moderate crop consistently across trees. Sharwil, as is custom, is variable with some good fruit set on trees both on the range and on the coast. Hass is the big worry. It is estimated that 60% of trees are carrying low crop loads, 20% have moderate loads but are in good health. The remainder have flowered heavily, dropped foliage and have set heavy crops without leaf protection. Fruit set between trees on the same property is tremendously variable. This variation extends to different parts of the one tree. Some branches have

clusters of fruit with very little foliage cover. Sunburn is already evident. Y has also performed poorly on most orchards around the coast. Fruit set appears to be excellent following a heavy flowering, but most of this develops into cocktails and fell off during October and November. This would indicate a temperature effect on pollination. It is interesting to note that on some Hass are large numbers of cocktails as well. Cold conditions seem to be the reason for the resultant low crop load. Fruit set definitely improves as you travel north to the Kandanga-Gympie area. There are some very good, consistent crops in varieties.

These observations on crop levels will mean that growers will need to be carefully about fertilizing amounts. Applications should be tailored to sun tree's status with regard to crop load, vegetative vigour, health and with an eye to last year's leaf and soil analysis. Appropriate reductions in fertilizer amount will reduce costs of production in a year when returns from trees may be low due to low crop set.

NEWS FROM SUNRAYSA

Marion Mathews, SAGA.

In 1989, the avocado crop was variable throughout the Sunraysia area. Growers experienced heavier crops while a few experienced light crops.

The crop was generally mature earlier by about one month which would appear to be the influence of our very mild winter weather, with very few frosts.

The warm humid wet weather experienced earlier in the year resulted in a flare-up of Anthracnose in avocado orchards which, until now has been a concern in Sunraysia. In December and in January, namely the ones when growers with ineffective windbreaks suffered a substantial drop of mature fruit by strong winds. On January the 3rd the temperature reached 47°C, equalled the last hottest day in January 1939. Despite the harsh weather in January the fruit set for 1990 looks very good at this stage with an 'encouraging' heavy set in most areas. At this stage fruit size is around 7-10 cm long so could still drop if very hot weather occurs. However, this can be alleviated by the use of overhead irrigation to cool trees.

PACKING SHEDS

During 1989 two major packing sheds in Sunraysia went into receivership leaving only one remaining avocado packer towards the end of the season. This was of concern to many growers, as Sunraysia covers a very wide area, and part of N.S.W., and distance for carting fruit to the remaining packer was a journey of 2 hours or more for some growers. This year there are other packers seriously looking at packing avocados in a more central location, which will alleviate this problem.

AVOCADOS IN THE BUNDABERG DISTRICT

Gary Fullelove and Jerry Lovatt,

DPI, Bundaberg, Qld.

The Bundaberg district is now a major supplier of fruit and vegetables to the eastern states of Australia though it is now supplying markets throughout Australia and overseas.

Climatic information for the city is shown in Table 1

Table 1. Climatic data for Bundaberg

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean Maximum (°C)	28.9	32.7	36.0	37.8	34.8	32.4	27.7	23.1	20.4	20.9	26.5	30.5
Mean Minimum (°C)	21.0	21.5	20.3	17.9	14.3	11.9	10.3	11.4	14.2	17.0	19.5	20.9
Humidity (RH %)	67	71	77	71	57	47	47	64	80	76	62	49
Humidity (RH %)	69	69	69	59	52	46	46	60	76	81	67	61
Humidity (RH %)	75	78	78	61	46	40	39	52	67	77	64	53
Wind Days	17	17	2	4	7	5	3	4	5	7	8	4
Evaporation (mm)	270	360	560	630	620	560	430	300	180	100	50	20

Avocados are the major tree crop in the district with about 49000 trees grown on approximately 350 hectares. Of these trees 66% are less than 5 years old and 87% are less than 8 years old. In 1988 117,650 trays were marketed from the area with a crop worth and estimated gross value of \$1.3M.

The four major cultivars are Hass (16892 trees), Fuente (13131 trees), Sharwil (12991) and Sharwil (4319 trees). Harvesting begins in March and is virtually completed by the end of October.

Table 2 shows the annual production distribution from the Bundaberg District.

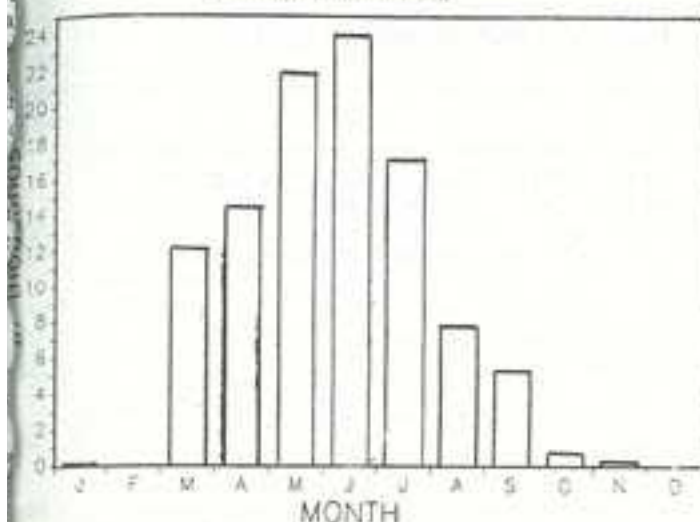
Pest and disease problems are nothing out of the ordinary from production centres. Anthracnose, Monolepta, and Fruit Fly are the major considerations.

Wind in Bundaberg changes direction and intensity, but is almost always present and this would be considered one of the most important physical factors to control in producing quality avocados. Prevailing winds are from the north-east to north-east during the warmer months and from the south to south-east during winter. Hot dry north westerly winds are common during October, November and can cause severe stress and fruit drop. Windbreaks and overhead irrigation systems are therefore essential.

The avocado industry in the Bundaberg district is still young but the expansion seen 5 to 8 years ago is considered over with only small areas of new plantings now occurring. However because of the young average tree age production increases can be expected to continue for several years.

Charles Dimes is the local representative on the Avocado sub-committee COD and can be contacted on (071) 56 1207 should growers have any enquiries.

AVOCADOS 1988



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CONFERENCE '90 — PROFIT THRU QUALITY

11-13 July 1990

Conrad/Jupiters on Queensland's beautiful Gold Coast will be the venue for the most important meeting of avocado growers ever to be convened. The Australian Avocado Growers' Federation believes that the industry is at a critical stage in its development and that any grower who wants to remain viable up-to-date will be attending Conference '90.

Speakers of the calibre of Mark Affleck, Chairman of the Californian Avocado Commission, Richard Davey of Davey Quality Management, John Dermody Executive Director of the Sydney Market Authority, Margaret Thursby of COI, Peter Russell Clarke, Professor Ken Tucker of the Australian International Business Centre and Noel Whittaker, well known financial advisor, will address a range of issues influencing the avocado industry, and should stimulate plenty of discussion.

The Organising Committee is endeavouring to have the conference opened by Mr Ed Casey, the new Minister for Primary Industries in Queensland.

High profile QDPI researcher, Tony Whitley, will report on his overseas trip, his observations, and his conclusions on where Australia should be heading.

Sponsors for the conference should contact Ross Boyle directly to ensure maximum exposure at the Conference.

Further details on Conference '90 can be obtained from AAGF Secretary Ross Boyle, on (07) 379 0228.

PROGRAMME

Tuesday, July 10, 1990

5pm - Welcome cocktail party (Conrad Hotel)

Wednesday, July 11, 1990

7.45am Registration

9am Welcome by AAGF president - David Rankine

9.05am Official Opening by the Honorable E. Casey, MLA, Qld Minister for Primary Industries

9.35am Sponsor acknowledgement

9.45am Conference administration

10am MORNING TEA

10.30am Quality in the market place - John Dermody (Syd Market Authority)

11am Quality assurance - Scott Ledger (QDPI), Brian Capamagian and Richard Armstrong (AAGF)

11.30am Implementation of the quality assurance program - Richard Davey (Davey Quality Management Services)

12pm Panel session with morning program speakers

12.30pm LUNCH

2pm Keynote address by Mark Affleck (Californian Avocado Commission)

2.40pm Questions

3pm AFTERNOON TEA

3.30pm Group discussions on day 1

Thursday, July 12, 1990

9am Central discussion on day 1 group discussion

9.30am An introduction to AAGF - AAGF president & Alec Kidd, OAM.

10am State reports

11am Group discussion on morning session

12pm Promotion and the television aspect - Margaret Thursby (COD)

12.30pm LUNCH

2pm Financial Management by Noel Whittaker (Whittaker, Hurst, MacNaught)

3pm Export Opportunities and Strategies - Professor Ken Tucker (Aust International Business Centre)

3.30pm AFTERNOON TEA

4.00pm Cholesterol Research - Dr David Colquhoun (Wesley Medical Centre)

7.30pm Conference dinner with Peter Russell-Clarke (TV Personality)

Friday, July 13, 1990

9am Overseas sabbatical report by Tony Whitley (QDPI)

10am Central discussion of day 2 group discussion

10.30am MORNING TEA

11am Marketing Research - Scott Turner (QDPI)

Cold Disinfestation - Andrew Jessop (CSIRO NSW)

Crop Protection - Geoff Waite, Roger Broadley, Alex Banks (QDPI)

Injection - Ken Pegg (QDPI)

12.30pm Closing comments

1.30pm Bus leaves for Avocado Land and Anderson's Nursery (subject to numbers).
Bus at cost.

Saturday, July 14, 1990

Open farms available for visit on Mt Tamborine. Own transport required. Arrangements at conference.

Registration Fees

Early registrants can take advantage of discounted registration fees as follows:

Registered by March 1, 1990

\$95 single \$175 husband and wife or
2 from same company
only one handbook supplied.

Registered by May 5, 1990

\$115 single \$200 " " " " "

Registered after May 15, 1990

\$140 single \$220 " " " " "

(Does not include lunch or Conference Dinner)

Daily rate

Registered by March 1, 1990 - \$40

Registered by May 15, 1990 - \$45

Registered after May 15, 1990 - \$50.

Accommodation

Fifty rooms have been reserved at Hotel Conrad & Jupiters Casino at the special rate of \$125 for single/double/twin (2 adults & 2 children) occupancy.

This rate is available to all delegates pre and post conference

Conrad Facilities

Delegates can enjoy the range of facilities provided by Hotel Conrad which include the following:

- Conrad's International Showroom features "Hollywood Legends", the multimillion dollar extravaganza with lavish settings, spectacular costumes, dynamic dancing and breathtaking special effects.

For group bookings, Conrad has extended to delegates a special group price of \$22. You can receive more information about this on arrival.

- Jupiter's Health Club is located on the Pool Level of the hotel

- Jupiter's Tennis Centre is located adjacent to the Pavilion Convention Centre.

The tennis centre features four synthetic grass courts and fully equipped pro shop (including hire of equipment).

Alternate Accommodation

Alternate accommodation can be arranged by delegates, free of charge, through the Gold Coast Reservation Centre on (008) 074 300.

Please return accommodation form with your registration

P.S. Remember, attending conferences is tax deductible.



"We accept personal cheques, bank cheques, cash, or blood."

Registration Form

Fill in, detach and return to:

Secretary, Organising Committee, Australian Avocado Growers' Federation - Conference 90, PO Box 19
Brisbane Market Qld 4109

Delegate's Name

Preferred Name

Accompanying Person(s)

Name of delegate's organisation (if applicable)

Address for correspondence

Telephone Number

Intending to attend Avocado Land & Nursery Yes/No

Number

Intending to visit farms. Yes/No Number

Registration Fee \$

Conference Dinner (\$40) \$

Total \$

(Farm visits are free of charge)

Make all cheques payable to AAGF - Conference 90

A NEW ERA IN COMMUNICATION FOR THE AVOCADO INDUSTRY

The Australian Avocado Growers Federation has launched a new, up-to-date newsletter. The publication is a vital link in the communication process around the industry. Latest technology, progress reports on research, marketing news, points of view, industry news, "reminders" and anything that affects the avocado industry in Australia will be featured.

The first two editions — being printed in March and May — are free but annual subscription will then be \$12 per year for four issues. If you are involved in the avocado industry and you wish to be up-to-date and informed, send in the subscription form NOW so we can put you on the mailing list. Any contributions or advertising enquiries regarding the Newsletter are welcome. Please direct enquiries re: advertising and contributions to

Marie Piccone, Editor, 'Talking Avocados'
P.O. Box 1393, Townsville, 4810.
(PH (077) 71 3388, Fax (077) 21 2481).

SUBSCRIPTION FORM POST TO:

The Secretary, AAGF,
P.O. Box 19,
BRISBANE MARKETS.

Name:

Postal Address:

Telephone Number:

Occupation/Business:

I HAVE ENCLOSED ☐ Cheque for \$12.00*

☐ Money Order for \$12.00*

PLEASE TICK IF A RECEIPT IS REQUIRED ☐

*Covers Subscription - 4 editions (August 1990-May 1991)

Cheques should be made payable to the AAGF National Newsletter.



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