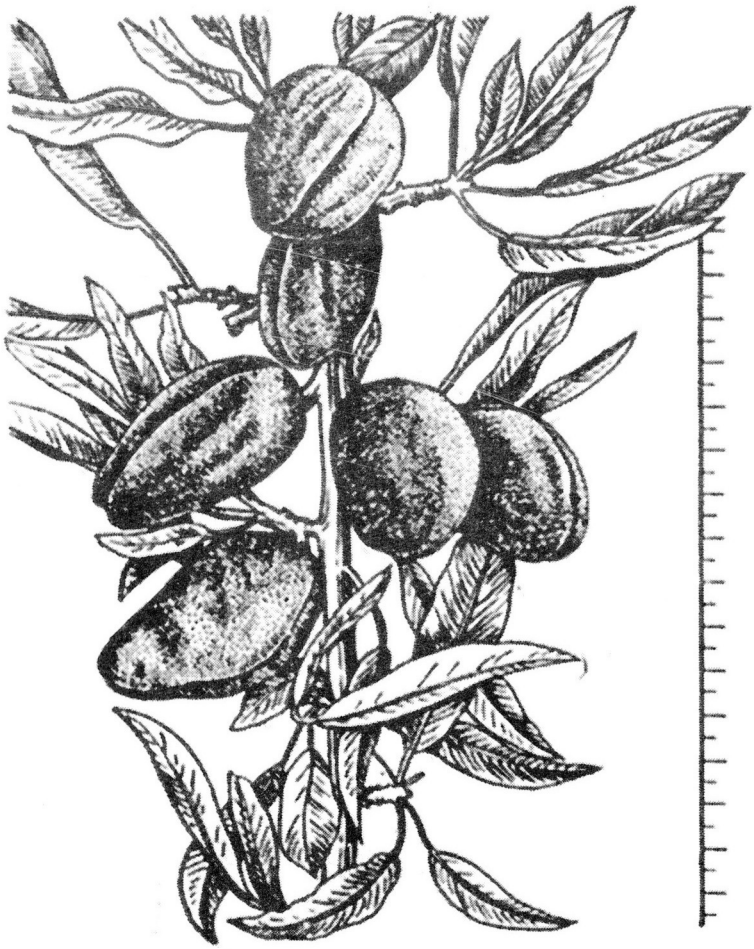
Quandong

magazine of the
West Australian Nut & Tree Crop Association (Inc)
www.AOI.com.au/wanataca

Third Quarter 2001 • Vol 27 No 3

ISSN 0312-8989 • $3.00



The Almond *(Prunus amygdalus)* (See: About the Cover, p. 2)

Quandong • Third Quarter 2001 • Vol 27 No 3

NEXT MEETING: Tuesday August 14, 2001: 7.30 pm

At the next general meeting we expect to welcome **Chris Ferreira & Bob Goodale** who will talk about:

Bush Food & Permaculture Gardens & Environmental Education in the Rockingham/ Peel area

Our guests are from the Regional Environment Centre in Rockingham, and have beeninvolved in setting up and developing the Centre over some years. There are many demonstration plantings and items of interest at the Centre, including an established permaculture garden, and a bush food garden currently being set up by Chris. As well as specific projects, we should hear about problems and successes with this Centre, which serves the major Peel region immediately south of metropolitan Perth.

Full details on attached leaflet.

Visitors welcome. Queries to Tree Crops Centre, 9388 1965.

In This Issue

About the Cover

The cover drawing shows the 'Dessert' variety of almond, *Prunus amygdalus*, from V.A. Kolesnikov's book, *Chastnoe Plodovodstvo (Speciality Fruitgrowing)*, Moscow, 1973. See the articles in this issue of *Quandong*, starting on page 11.

[Albany Advertiser / 2000 Dec 12]

Self-sufficiency, nut growing, and lifestyle

About 30 km from Denmark grows a lush orchard of hundreds of different species of plants from around the world. The creation is the work of Denmark farmer Rod Macdougall who, with his wife, Marion, has worked his 200 ha property for more than 20 years.

The family earns an income mainly through brahman-cross cattle and chestnuts. Mr Macdougall also breeds plants, grows exotic fruit and rears trout.

Central to the Macdougall's way of life is a philosophy of self-sufficiency. Their house is solar powered and they grow their own fruit, meat, milk, vegetables and some grains. They use a wood stove for hot water, cooling and heating and they grind their own flour for bread. They even have their own blend of tea.

But this attitude carries through to their farming activities. Mr Macdougall believes in integrating all activities to ensure there is no wastage of resources.

Poultry live under the fruit trees, where each bird has a role to play. Chickens provide fertiliser, guinea fowls control insects, while geese graze on weeds.

Mr Macdougall's son Kai finds a huge custard apple

Integration extends right down to the seemingly unimportant. Household scraps are used to rear worms, while a walk back from the orchard is also used to collect firewood. This approach has helped the fertile ground of the Macdougall's property bear fruit and lots of it.

The property holds some rare plant varieties that are found in few other places. Exotic and diverse plants with names like

Quandong Links to ATCROS

Many of the articles, advertisements, and news items in Quandong refer to organizations and people who are listed in the Directory section of the ATCROS Web Site, which is at:

http://www.AOI.com.au/atcros

In this issue, items underlined in the text have Atcros reference numbers listed at the end of an article or elsewhere close by. This is so that readers can get more contact details.

ATCROS usually lists name, address, and phone numbers, also fax, e-mail, and web page details where available.

Quandong: Atcros ref. <A1466>.

white sapote, Fuyu, Italian stone pine, jujube and Indian fig are all found on the grounds of the Macdougall's farm. You can also look out for custard apples, feijoas, persimmons, tropical cherries, 12 species of oak trees and more than 100 varieties of apples.

There are stories behind many of the plants, such as the Macdougall's solitary specimen of the rare Turkish tree hazel. A friend in Canberra sent Mr Macdougall 10 Turkish tree hazel seedlings but when he addressed the package he forgot to add 'WA' after Denmark. The seedlings were finally tracked down in Copenhagen. By the time they made it to the Macdougall's farm, they were all dead, save one.

Nuts are, at this stage, the most important produce of the orchard. The Macdougalls sell about 2.5 tonnes a year of chestnuts through an agent at the Metro Markets in Perth. They grow a chestnut hybrid of European and Japanese varieties, which is resistant to dieback. The variety was partially developed by Mr Macdougall.

The chestnuts, like all the other produce on the property, are grown organically. Large birds, like parrots and crows, are kept away from the fruit with nets. Insects are controlled with guinea fowl and by allowing small birds through the large-mesh nets.

In addition to chestnuts, Mr Macdougall also grows macadamias, pecans and walnuts. He tried hazelnuts some years ago, planting 500 trees, but had to pull them out because they couldn't grow in the Denmark climate.

Each tree has a chill factor — it needs a certain amount of cold days to bear fruit. As well as hazelnuts, Mr Macdougall can not grow cherries on his property because it doesn't get cold enough. But he's compromised with a tropical cherry that is growing well.

The trees grown on the property are also valuable for their timber. Mr Macdougall has harvested timber from his pecans and chestnuts, and hopes one of his children will use the wood to create works of art in the future.

Mr Macdougall believes there are many plants that could be cultivated in the Denmark area. "The potential down here is incredible for cultivation," he said. But he advises those interested in growing different crops to do their research first.

They need to plan their irrigation and make sure they've found a crop that will suit their climate and soil. He advises about two years worth of soil preparation, all weeds have to be removed, especially kikuyu. Most of all, people have to be realistic.

Depending on soil, rainfall and climate, nut and fruit trees can take years to bear commercial quantities. Mr Macdougall says some people operate under a misconception that they can plant a nut orchard, leave it for 15 years, and return when they have retired to reap the benefits. But this approach doesn't take into account water, rabbits and even neighbour's sheep. "You really can't have an absentee orchard," he said. But Mr Macdougall believes if people do the work, the area could become a thriving horticultural district to replace the disappearing market gardens of Perth.

He is concerned about the amount of land being used for bluegum plantations, and believes diversification is the key to successful farming. In fact, it's essential. "We're putting eggs in all different baskets. It's always been our philosophy," he said. "I couldn't conceive of farming without diversification."

— Ruth Williams

[Weekend Australian / 2001 Feb 10-11]

Aquifer Storage and Recovery may help horticulture

South Australia is leading other states in the management and utilisation of underground water resources.

The driest state on the continent, South Australia is accustomed to managing its water wisely.

Underground water, or aquifers, are vital to many rural producers in the state — the local bore often being the only source of water available.

A new project developed by the South Australian Department of Water Resources aims to provide additional water to vegetable producers on the North Adelaide Plains, 20 km north of Adelaide.

Using a process known as Aquifer Storage and Recovery (ASR), water from the Bolivar wastewater treatment plant would be pumped underground into the local aquifer to be used later by farmers.

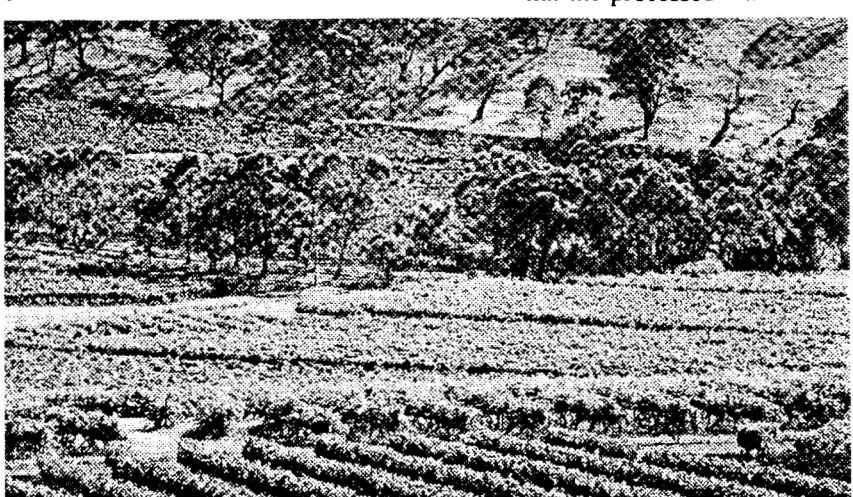
The North Adelaide Plains produces tomatoes, grapes, olives and a variety of green-leaf vegetables for the Adelaide market, using groundwater for irrigation.

Although only about half the available land is under cultivation, the sustainability of the aquifer is under threat.

If found to be viable, the Bolivar ASR project would expand horticulture on the North Adelaide Plains and ensure sustainable water use in the area.

Testing for the scheme will continue for another 12 months to see how the process affects the aquifer.

Department of Water Resources projects manager Russell Martin said tests needed to ensure that the processed wastewater "does



Underground bounty: Irrigation water that has been stored in aquifers has helped improve wine output and quality in South Australia

not detrimentally impact on the aquifer as a whole" through the escape of pathogens.

The department's manager of resource planning, Neil Power, said damage to the aquifer would have serious consequences.

"Once an aquifer is polluted it can be very difficult to clean up, and the cost can be horrendous and timeframe very long," he said.

Results have been very encouraging and if found to be viable an organisation would be sought for the commercial development of the scheme.

Another aquifer storage scheme was developed in the late 1990s that now provides clean drinking water for a small tourist town in the south of South Australia.

Clayton, on Lake Alexandrina at the mouth of the River Murray, had used a local freshwater lake as its sole water supply. But in the summer months, when the town's population soared with tourists, blue-green algae would threaten the supply.

The ASR scheme in place works by pumping water from the lake on to a catchment on top of the local saltwater aquifer. Gravity drags the freshwater into the aquifer, where it sits on top of the heavier saltwater. The water is pumped into the aquifer in winter, which avoids the algae altogether, and used in summer.

"In the past, water from the lake was cloudy and everybody just put up with it," Mr Martin said. "But now, once the water goes through the aquifer it comes out crystal clear. The town has almost abandoned pumping water from the lake."

Long-term sustainability of groundwater became an issue for South Australia in the 1970s with the introduction of water prescription in 1975 on the North Adelaide Plains, and the state's first Water Resources Act in 1976.

Groundwater prescription limits water allocation to licensed users and is enforced as part of local area water allocation plans.

Trading in water rights is well established. The water can sell for between $200 and $1000 per megalitre per year. Higher value crops like grapes and olives are being raised in prescribed areas where grain crops once dominated.

Watering methods such as drip irrigation have been introduced to get the most value from the water. For winemakers, the price and availability of water affects their choice of grape.

Vic Patrick, director, global vineyards, for Mildara Blass, said: "We try to match our water use to the quality of the wine we want to produce out of the region." Raising large grapes produces higher volumes of wine but quality suffers.

"We're not trying to maximise production per hectare; we're trying to find the ideal balance between quality, volume and price," Mr Patrick said.

— Jeremy Roberts

[Countryman / 2001 Jun 7]

Wheatbelt bush food plan

Bush tucker is the new flavour for a Calingiri family, whose wheat and lupin harvest is about to include quandongs bush tomatoes and desert limes.

After seeding this year's 1700 hectares, Aaron Edmonds, who farms with his parents Marg and Charlie, will plant 16 ha of native or bush foods.

Aaron, 27, is driving the innovative venture . "We are doing a business plan at the moment and plan to install a kitchen and processing facility on farm," Aaron said.

"And we are looking to produce for the gourmet market in Perth, tourists, and if the opportunity presents itself, looking to export" he said.

But it is more than just diversification, rather, a philosophy of working with the environment.

The Edmonds have adopted "clean and green" as an ethos in their farming systems and for use as a marketing tool. It is an image reflected in their brand name Earth Farm.

Aaron believes native foods are a way to tackle a range of environmental problems including salinity, fertiliser run-off, soil and water erosion and declining habitats for native plants and animals.

"In looking at native foods we are trying to find a productive tree crops system that is better able to deal with the problems we have," he said "Hopefully we will use more water with tree groves between the creek lines, and our cropping zones will create a buffer zone to absorb leached nutrients from up the slope.

"The bush food groves also provide habitat for native wildlife. This all adds to the image of our product label."

Aaron Edmonds with a sample of desert lime marmalade

He said he was also hoping to create and industry with more profit per hectare and spin-off benefits for the community.

Aaron's aim is to apply this market focused, environmentally aware approach to the whole farm.

And the Edmonds are involved in things such as placing remnant vegetation under covenant; feral animal control; mapping nesting sites of the endangered Carnaby's cockatoos; and minimum tillage.

It could take several years for some of the native crops to bear fruit, holding back production of Earth Farm's value-added products.

Three hectares of native foods were planted on the farm last year, and the first Earth Farm products — quandong jam and desert lime marmalade — were launched this year.

It could take five years before their own quandong fruit is ready to harvest, and 5-8 years before their desert limes are producing fruit.

"We wanted to create the market and the interest before we got to the stage where we had the fruit and say where do we go now," Aaron said. "In effect the products we produce are determining what native foods we plant."

Both recipes for the jam and marmalade were created by Mrs Edmonds, who whips up batches of the jam and marmalade in between farm and office work.

The fruit for these condiments is being bought in frozen from South Australia, where they have been farming bush foods for about 10 years.

Aaron visited a large quandong farm on the Eyre Peninsula in South Australia during a New Rural Generation Tour, last year.

He said many of the native food farms in South Australia grew their products as monocultures. But Earth Farm aimed to have mixed plantings to increase biodiversity and more closely mimic the natural system.

"We are also keen to encourage other people to grow them in order for the quantity product to be available as markets are developed. We would prefer to support Western Australia than South Australia, and help with information".

"We are working on an orchard design that will, in the future, allow us to position our product favourably against those of other value-adders in the east".

Aaron said this year's planting of native foods would include a trial, funded by the Swan Avon Working Group, of about 30 different arid, tropical, and subtropical species to look at what will grow in the area.

"I realise some probably won't grow but we just want explore. In particular we want to explore species that may be suited to the undeveloped resource of sand plain seeps".

Irrigation is used to establish the arid species and the sub tropical species may need to be permanently irrigated.

Aaron said one of the biggest challenges to producing native foods was a change in thinking, as well as a number of unknowns about the products.

"Basically there are a lot of unknowns in terms of what uses some have, how safe they are — there are some issues relating to anti-nutrition factors in some bush foods such as sandalwood nuts," he said.

"Genetics is a big factor as they are so variable. Identification is also an important issue — making sure that the species you are growing is the species you want and not a different one. This is particularly important with the solanum or bush tomato family. There is also a culture change — a lot of native foods are arid species, they just don't grow in our winter".

"You have to change your thinking to plant as the soil warms up and establish them on the subsoil moisture at the end of winter.

"It all comes down to understanding how they grow in their natural habitat and imitating that system in your orchard".

— Lara Ladyman

Kickstarting the WA Pistachio Industry

Pistachio nuts are one of the most prospective nut industries for inland WA. We have a land availability and technical backup situation not matched elsewhere in the world.

With their liking for burning hot, dry summers, their tolerance towards salt, and their modest demands on irrigation, this is a crop which could change the face of WA's Wheatbelt.

The Pistachio (*Pistacia vera*), which originates from Iran and the arid Central Asian republics, has been trialled in a small way in WA for at least 30 years. I regard it as agronomically proven for some areas. But how can we turn this agronomic potential into a viable industry, how can we kickstart it into commercial reality?

A new publication from the WA Government, *"Pistachios Western Australia: an income-producing, reforestation opportunity for the Wheatbelt"*, by Andrew Quin of the Centre for New Industries Development, Agriculture WA (36 pages, available from *Granny Smith's Bookshop)

will certainly be a help in this regard.

One of the first releases from a commissioned study of five potential nut industries for WA, this publication provides the economic data and SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) needed to put the situation into perspective.

WA's current pistachio production is completely negligible, less than a tonne a year. Even so, California took their pistachio production rating from zero to second-largest in the world over only about 15 years, through investment of capital, expertise, and research. We can do at least as well as this in the future if the social impetus can be found.

Pistachios are a different sort of nut crop. They have the advantages noted above, but most current commercial varieties need a lot of chilling (cold winter weather) to do well, and harvesting and pollination are complex. They have not been extensively bred or selected, but this is actually a plus—a dramatic and exciting program of genetic and technical improvement is possible, and if this was carried out in WA, it could make us the world leader in this crop.

— David Noel

(* Available from Granny Smith's Bookshop as item 1403P at $8.00, plus 10% GST in Australia. See ad on page 31).

Stop Press!

See the announcement of the WANATCA Pistachio Seminar & Workshop on page 14!

[Pistachio Perspective (California Pistachio Commission) / 2001 Apr]

Pistachio nuts lower cholesterol levels

There is good news for the millions of American nut-lovers concerned about their cholesterol levels. Results from a new research study released at the 2001 Experimental Biology annual conference found that eating two one-ounce servings of pistachios a day can help adults significantly lower their cholesterol levels.

The American Society for Nutritional Sciences and several other scientific societies meet annually at Experimental Biology to present science that covers the recent research of the scientists in attendance.

Pistachios join the ranks of other nuts by unveiled clinical data to show that if you have a moderately high total cholesterol level, greater than 250 mg/dl, the substitution of pistachios for other snack foods (20 percent of your caloric intake) can significantly lower your total cholesterol and LDL "bad" cholesterol levels by nearly 10 percent.

This is important news for the approximately 40 million American adults who have total cholesterol levels above 240 mg/dl, because high cholesterol levels are linked to an increased risk of heart disease, the single leading cause of death in America for both men and women.

"This study helps debunk the myth that nuts cannot be a part of a heart-healthy eating plan," says Kathy McMahon, PhD, RD and nutrition consultant to the California Pistachio Commission. "In fact, pistachios can fit well within dietary recommendations for heart-healthy eating, while delivering satisfying, great taste."

The study, conducted at Inova Fairfax Hospital in Virginia, adds to the mounting body of scientific evidence that demonstrates switching to monounsaturated fat, without lowering total fat, can have positive health benefits. Monounsaturated fats are found in food sources such as pistachios, avocados and olive oil.

The current USDA Dietary Guidelines for Americans stress consuming a diet that is low in saturated fat and cholesterol, but moderate, not low, in total fat. In addition; the American Heart Association's most recent dietary recommendations stress making wise food choices and highlight nuts as part of a diet aimed at lowering cholesterol levels.

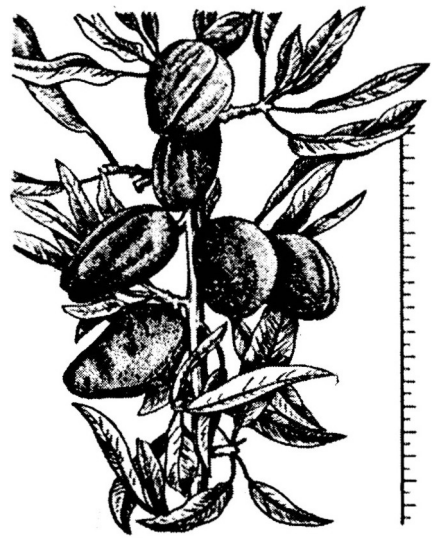
"California pistachios are 'nutrition in a nutshell' and an excellent snack choice because they contain valuable nutrients," adds McMahon. "So, when you are faced with the problem of how to easily change your diet to keep your cholesterol in check, don't shy away from a handful of pistachios."

A 30 gm serving of pistachios (48 nuts, according to the USDA) is full of nutrients, containing more than 10 percent of the Daily Value for key nutrients like dietary fibre, vitamin B-6, thiamine, magnesium, phosphorus and copper. Pistachios are also low in saturated fat and are cholesterol-free.

¥

Almonds in Western Australia — The 'new olives'?

It's sometimes a mystery why things happen, or why things don't happen. The last ten years or so has seen the emergence of what is expected to become a major world olive oil production industry in Western Australia.



I don't have any personal doubts about the success of this industry. The question is, why has it happened now? Twenty years ago, a few enthusiasts were talking about the great possibilities for olives in WA, and they got nowhere. What changed?

The answer certainly doesn't lie in advances in horticultural techniques, in climate changes, in availability of new land or anything like that. A philosophical person might just conclude that olives were 'a crop whose time had come'. Conditions were 'right'.

Now we may stand on the threshold of another really major tree crop for WA - ALMONDS. Wine is Big; Olives will be Big; Almonds may be HUGE.

If you want to talk about Huge and Almonds in the same breath, today you have to look at the Central Valley of California. This area is the powerhouse of tree crop production in the United States, producing well over half the world's almonds, and more tree crop produce every year than the rest of the United States put together.

The Central Valley is about the same size, and with a similar climate, to the WA coast and 150 km wide hinterlands from Busselton in the south up to Northampton in the north. If California were a nation, it would be the fifth largest in the world in terms of its economic production, and almonds are its economically biggest crop.

Back to olives. With the thousands of years of experience of olive production in the Mediterranean, how could WA hope to compete against the knowledge and capital investment of Spain, Italy, and Greece? the fact is that these and other Mediterranean countries continue to improve in wealth, living standards, sophistication, culture, and personal expectations from life.

If a family in Australia or New Zealand might set their goal as acquiring a 'lifestyle block' to live on at weekends or in retirement, with all modern home amenities but worked in sympathy with nature and the environment, then European nations may have lifestyle ambitions too. Their old days of peasant workers living simply in meagre conditions are increasingly vanishing into history. Everybody wants nice houses with all modern amenities and access to all the things which make life worth living, and good luck to them.

What this has meant in practice is ever-

increasing urbanization and development, with more and more capital input into every square kilometre of the land. But the land is not elastic, there is only so much of it in each country, and everywhere farmland is being gradually consumed by houses, factories, roads, sports grounds, and entertainment areas of every sort. Increasingly, Europe lacks the room to produce the food it needs, it lacks the underclasses willing to labour in the fields for minimum wages, and increasingly it expects to buy in whatever it needs from other areas of the world keen to sell.

In the Central Valley, the same trend to urbanization is apparent, and is accelerated by the huge rate of immigration into California from elsewhere in the US and from the hispanic countries to the south. This must impact on the future of tree crops in the Central Valley, and the US has no comparable land areas with which to replace it.

So here's the big almond opportunity for WA. It's an opportunity with potential measured in billions of dollars each year, comparable to our current major exports like wheat, iron ore, and natural gas. And nowhere else in the world is there any serious competition, with the same availability of land, suitable climate, and a skilled and educated population as in WA.

All the things making olives a success here will apply — plantings will need to be large enough to make all the processing and marketing paraphernalia worthwhile, investment money will have to pour in, research backing will be needed. Other areas of Australia are already working hard to expand big almond plantings, but we have the conditions to roar ahead and leave them well behind, if we can get it right now.

— David Noel

[Countryman / 2001 May 10]

SA almonds sweet opportunity for WA

WA beekeepers on the Swan coastal plain could be sitting on a honey pot of opportunity.

At the WA Beekeepers Association annual conference in Perth last month, visiting speaker Chris Bennett, of the South Australian Almond Growers Association, told beekeepers a boom in almond plantings in SA was likely to lead to a need for more than 100,000 hives for pollination purposes in five years.

He said Timber Corp, among other companies, was planting substantial almond plantations in SA and Victoria that would require pollination within five years.

WA Beekeeper Association president Afon Edwards, of Albany, said the industry was excited about the potential and would send trial disposable hives this year or next to SA. "We could send older frames that are not suitable for honey production but would be ideal for their pollination requirements," Mr Edwards said.

He said only WA and New South Wales would be able to supply the SA almond growers with the bees because only those States would have hives strong enough in late July and early August when the hives were needed.

Present prices for hives in the eastern States are $30 to $35 each.

Mr Edwards said the price for WA hives would have to be substantially higher before

the arrangement would be economically viable for WA bee-keepers.

"I believe we will be able to work things out so it is viable for both parties," he said.

The WA honey industry is worth about $7 million annually and if calculated to include the benefits of bee pollination would be closer to $97 million Mr Edwards said.

Agriculture WA bee specialist Rob Manning displays an example of a bee tube pollination system that WA bee-keepers hope will earn them extra income from South Australia's rapidly expanding almond plantations

Prominent Gingin-based beekeeper Peter Detchon said WA bee-keepers would be following in the foot-steps of colleagues in the US if the pollination service was successful.

"In the US, bee-keepers earn 50 per cent of their income from providing pollination services, he said.

Mr Detchon said the difficulty WA bee-keepers faced in making a profit from pollination services in SA was the quarantine regulations which prevented bees from being returned to WA.

"A way around the problem would be to line up a three-fold contract so WA bee-keepers leased their bee-tubes to almond growers and then on to stonefruit growers and finally sold them to eastern States beekeepers," he said.

"Unless the bees are marketed like this, the economics will beat us."

Other issues of concern to the State's bee-keepers include the fear they could be squeezed out of their traditional apiary sites in the new national parks announced recently by Environment Minister Judy Edwards.

The new parks link the existing Shannon, Walpole-Nornalup, Mt Frankland and D'Entrecasteaux national parks to create the 360,000 ha Walpole Wilderness Area.

Mr Edwards said it was ironic that bee-keepers were now concerned about losing part of their livelihood to national parks because they had campaigned strongly with the previous Liberal government to stop clear-felling of valuable karri forests.

"We are fighting on all sides" he said.

¥

WANATCA Pistachio Seminar & Workshop

We are currently putting together details for a comprehensive seminar and workshop on pistachios for WA. This is expected to take place on Friday March 8, 2002**, in the Northam area, 100 km east of Perth.**

Participants will have the opportunity to see the farm of Bert Hayes, WA's leading pistachio grower. Lecture sessions will take place at Muresk Agricultural College nearby, with input from Bert and John Duff from WA. Chris Joyce of Kyalite Pistachios, Australia's leading producer from the Murray Valley in New South Wales, will give us the benefit of his expertise in all aspects of pistachio production and trade.

A skeleton website is now available at www.AOI.com.au/pistachioseminar, and this will be continually upgraded as detail is available in the months to come. The Seminar Committee can also be contacted at pistachioseminar@AOI.com.au.

Pistachio Seminar & Workshop

Northam (Muresk and Hayes Plantation & Nursery)
Friday March 8, 2002. Full Day Seminar.

Wheatbelt Landholders & Communities:

- *Are you thinking of diversifying?*
- *Considering trees which have useful products?*
- *Are Pistachios for you?*
- *Will they fit your water situation?*

Come to this Event:

- *To see an established plantation & nursery.*
- *To hear how pistachio farming, processing, and marketing is already happening in Australia.*
- *To hear from the people who are doing it.*

Major speakers:

- *Christopher Joyce of Australian Pioneer Pistachios — the Australian and International Scene.*
- *Bert Hayes — a leading WA pistachio grower.*
- *John Duff — Agricultural and Natural Resource Management consultant.*

Register your interest now to ensure you are kept informed:

- Fax to WANATCA on 08-9388 1852
- Email to: pistachioseminar@AOI.com.au
- Mail to WANATCA, PO Box 565 Subiaco WA 6008
- Phone to Tree Crops Centre on 08-9388 1965
- Call in to Tree Crops Centre, 208 Nicholson Road, Subiaco
- Website: www.AOI.com.au/pistachioseminar

[Palm & Cycad Society of WA: Newsletter / 2001 Jun]

Where are the women?

Well, I've got your attention now, anyway. No, I'm not suffering some mid-life crisis (none that I'm going to tell you about, at least).

Actually, the question was asked by Geoff Stein in a very interesting article in a recent edition of the Palm Journal, in which he observed that in southern California, and seemingly also in the rest of the world, palm societies and palm sales are dominated by men, although there are always some women they are vastly outnumbered. It is quite obvious, of course, that we have exactly the same situation here in Perth.

Palm spotting in Perth

Why is this? If you went to a meeting of a cottage garden society, or one for begonias or gerberas, I think you would find that at least half, and probably more, of those present would be female. Palm enthusiasts, however, seem to be about 90% male. Thank goodness some women like palms and cycads, we would like to see far more of these lovely plants grown, difficult to achieve when nearly half the population would rather grow a nice little bed of roses.

Geoff puts forward several theories for the feminine lack lack of enthusiam for what we think are the world's most beautiful plants (I can say that with confidence, if you didn't feel the same as me you wouldn't be reading this article). One theory is that men are impressed by size, we get excited by finding a huge specimen of something. I'm certainly guilty of this, as anyone who reads my articles would be aware, I'm always going on about some palm that's 10 m tall. I'm not criticising myself, or all the other men who think like me, but women don't usually think along the same lines, they might like something to be beautiful, but it doesn't have to be BIG and beautiful, in fact as far as plants are concerned they mostly seem to like them small and compact

Another of Geoff's theories involves colour. A common female criticism of palms is that they are all the same colour and therefore BORING. I would imagine that most of those of us who are married men are constantly under pressure to plant something colourful in the garden, or at least leave a bit of room

somewhere so that our wives can do so. Speaking for myself, I can't imagine a much better view out of the window than a glossy, verdant, swaying jungle of innumerable shades of green. Of course, colour can always be introduced to a palm garden without losing the tropical theme, for instance with many species of draceanas, bromeliads, cordylines, gingers, carmas, camellias, azaleas, hibiscus, etc, etc.

Quite possibly the best of Geoff's theories on why palm societies and palm sales are dominated by men concerns the male love of collecting. A great many men (myself included) love collecting things and with so many species, not to mention varieties, of palms and cycads available, we can soon build up a huge collection, not just one of each, of course, but two or three to be on the safe side. This is a lot cheaper than collecting works of art, or sculptures, or trophy wives (who would be long gone when the money ran low). Also, as opposed to works of art and sculptures, but not perhaps to trophy wives, palms get bigger if you look after them. This gets us back to the first theory, size.

Okay, so men love collecting big, impressive, live things (plants, I mean of course). Then why don't they collect eucalypts or plane trees? Why this particular enthusiasm for palm trees? I may be shot down in flames, but I think that sensuality has something to do with it. Languid warm curves. What rubbish, you may be saying. You just like the look of them, it's got absolutely nothing to do with sensuality. Maybe so, after all this is just a theory, but ask yourself what it is that makes palm trees stand out from conventional type trees. Most trees are a fairly random jumble of branches and leaves, with only a vaguely predictable shape. Conifers have a predictable and symmetrical shape, but it's a fairly harsh angular one, a good example being the Norfolk Island Pine, which I recently saw described as a lavatory brush on steroids.

Palm trees on the other hand have this extrovert, flamboyant head of huge arching curved leaves, shining in the sun and gently swaying in the breeze, dernanding your attention. All very true, you may say, but you still don't see what this has to do with sensuality. Well, it's curves. Think about it, very few people who like palms plant them in straight rows, all the garden paths will be curving out of view, if possible. None of this proves anything, of course, we may just be more stylish landscapers.

What would be interesting would be to find out just what got us all into palrns in the first place, to hear people's explanations of why they find palms more attractive than other plants. For me it was an immediate attraction long before I had ever seen one in the flesh, so to speak. I was brought up in the

English countryside, a decidedly palm-free zone. (palms now abound in UK shopping centres, aquatic centres, etc. but they didn't then). I was introduced to them via photos in National Geographic magazine, and was irnmediately fascinated, I didn't see a real one until much later in Spain, mostly Date Palms, and they were breathtaking to me. I wasn't viewing them from a gardening point of view, just from an aesthetic or artistic one.

I never even considered growing them, I spent the next 20 years on the move, not continuously but not far off it, much of this travelling was in warmer parts of the world and I was always drawn to palms, taking photos of tnem or lying about underneath them. It was only when my wife and I eventually settled here in Perth that I became a gardener and started actually growing them instead of admiring other people's. I could not now imagine living anywhere without a garden full of palms.

The point I hope I'm making here is that a love of palms is more than just one of the many different avenues of gardening, they are so visually dramatic that very many people who don't vaguely see themselves as gardeners are strongly drawn to them. Photographers know this, if there is a palm about then the actor, politician, new car, apartment block or whatever will be photographed from an angle that enables the palm to become a backdrop, clearly intended to enhance the picture for the public, who obviously aren't expected to all be keen gardeners.

This last theory was mine, not Geoff's, but there's one more of his, and it is far more basic and down to earth. This is that women just haven't got the time for all this nonsense, hanging about in shadehouses trimming and repotting, or standing around in the garden in the late afternoon with a hose and a dreamy expression. Many wives, in the meantime, are in the house preparing the evening meal, trying to control small children or arguing with teenage ones, and wishing that somehow this could all be miraculously sorted out and they could settle down for the evening in front of the television. They tend to think that the man uses the garden as an escape from all this, a cop-out. Maybe they're right, though please don't quote me.

— Barry Shelton

[Australian Walnut Industry Association Newsletter / 2001 Feb]

What's happening with Walnuts in WA?

Graham Fellows, AWIA [and WANATCA!] member in Manjimup, Western Australia, reports.

The walnut industry in WA is starting to take shape. After 6 years of research and trials, Graham and Yen Fellows have launched Warren Valley Walnuts to spearhead the new look industry. There are now more than 10 commercial walnut projects in WA, ranging from fully productive units, to new developing projects, two of which Warren Valley Walnuts are proud to be associated with.

One is a tourist based venture, which includes a mixed orchard planting, based on walnuts, but also with chestnuts, macadamia, cherries and olives. The development is being managed by Warren Valley Walnuts for a prominent Perth business family.

AWIA members David and Noelene Williams have engaged Warren Valley Walnuts to advise and assist with establishing their 1500-tree walnut project at Nannup, the basis of a research and development project into walnut production in the higher rainfall coastal area of southwestern Australia.

Varieties currently grown in WA include Chandler, Howard, Vina, Franquette and Hartley.

Schizophrenia and press power

Currently the contents of *Quandong* and other WANATCA publications are overseen by an Editorial Committee consisting of David Noel, David Noel, David Noel, and David Noel,

Volunteers to help stamp out schizophrenia and experience the raw power of the Press Baron are invited to substitute for one or more of the current committee members, any of whom can be contacted on 9388 1965 or through davidn@aoi.com.au.

[Ecos (CSIRO) / 2001 Apr-Jun]

Hosting the quandong

The quandong is an unusual plant in more than one respect. Apart from being one of the few native trees that is now grown commercially for its edible fruit, it has the rare distinction of being a semi-parasitic tree that grows best when its root system has tapped into the roots of a host plant. So growers always plant host plants and quandong seedlings together in their orchards, and they need to know as much as possible about the host-parasite relationships.

This was the challenge facing Dr Beth Loveys and Associate Professor Steve Tyerman, then both with Flinders University in South Australia, and Dr Brian Loveys, of CSIRO Plant Industry. They ran a series of experiments investigating the transfer of compounds from two host species, white cedar (*Melia azedarach*) and creeping boobialla (*Myoporum parviflorum*), to quandongs.

By using radioactive carbon, the researchers found that glucose moves from the myoporum host plant to the quandong trees, no doubt benefitting the quandongs, even though these can photosynthesise in their own right. It is also likely that the quandong obtains some water from its host plant.

White cedar host reduces insect damage

Quandong growers in New South Wales also say that fruit grown near white cedars, also a native species, sustain less insect damage, particularly from quandong moth. This observation lead Loveys and her colleagues to investigate the matter. Mass spectrometry analysis showed that quandong fruit from trees growing near white cedar trees contain an unidentified insecticidal compound. This was also found in the host species. So it seems that quandongs can obtain a chemical from particular hosts that may help to ward off damaging insects. A bioassay using moth larvae reinforced this. There is evidence to suggest that toxins in white cedar may also be highly toxic to mammals, including humans. Loveys says further research is needed before the toxic compounds could be recommended as host-acquired organic insecticides in quandongs.

— Steve Davidson

Reference: Loveys B R, Tyerman S D, and Loveys B R (2001): *Transfer of photosynthate and naturally occurring insecticidal compounds from host plants to the root hemiparasite Santalum acuminatum (Santalaceae).* Australian Journal of Botany, 49:9-*16.*

Australian Quandong Industry Association Conference

Loxton, South Australia

August 25-26, 2001

Enquiries to: Robin Schaefer 0417-877 578, 08-8584 7781. Fax 08-8584 6350. Email: rmschaef@riverland.net.au. Mail: AQIA 2001 Conference, PO Box 434, Port Augusta SA 5700

Wanatca Forum

New: WANATCA Forum Topic 1

This is the first appearance in *Quandong* of WANATCA FORUM, a column where subjects which are controversial or demanding of wider exposure are welcomed from anyone. We print them mostly without taking sides, and emphasize that the views expressed are those of the authors, and not of WANATCA or the Editor (unless stated). Your responses or comments are also very welcome - mail to Wanatca Forum at PO Box 565, Subiaco WA 6008 or email to wanatcaforum@AOI.com.au.

Forum Topic 1: Who owns Australia's plant heritage?

[Bushfood email discussion group <bushfoods@listbot.com>]

Australian Native Citrus: Are we giving away our natural heritage?

The Australian native citrus industry is still in its early stages of infancy here in Australia. Although colonial botanists advised in the 1880's that our native citrus species had commercial potential, it is only in the last few years that native citrus varieties have been bred as scion in their own right, for commercialisation.

The Commonwealth Scientific Research Organisation (CSIRO) has been crossing Australian native citrus species with exotic Citrus since the early 1980's, for breeding new rootstocks for Australian conditions. It was not until 1989, when Dr Steve Sykes of CSIRO began to experiment with hybrid varieties, that he recognised the potential of fruit such as the Australian Blood lime, as "a creative addition to the citrus world" and put forward these varieties for commercial experimentation and development.

Seeds of four species of Australian native citrus were collected by an American scientist in 1976, with the aid of Queensland Department of Primary Industries and the NSW Department of Agriculture. These were exported to the United States of America, where they were planted in arboretums. The QDPI also exported native citrus seed into Europe as recently as 1980 and trees remain there in arboretums. Byron Bay Native Produce has been approached on many occasions by both Australian government institutes and international plant breeders, requesting a supply of Citrus australasica seed for export. On each occasion, the offer was declined.

As bushfood growers in Australia, we have the opportunity to commercialise some of our unique Australian native foods for the first time. In doing so, we are creating the basis of an ecologically sustainable industry, which has a uniquely Australian image and an enormous future potential for export. However, countries such as Israel and the USA are only too keen to develop our native citrus species overseas. Are we going to "throw out the baby with the bath water"?

We have a valuable genetic resource in Australian of six native citrus species in the wild. Some of these species are

now the subject of commercial research and development, while other species remain virtually unknown. The Humpty Doo, or Kakadu lime (Citrus gracilis) was only described as recently as 1998 by Prof. D.J. Mabberley.

However, there is still an vast need for our own native citrus industry to be developed here, in Australia. The Rural Industries Research and Development Corporation have been slow to fund Australian native foods research, with past funding focusing mainly on feasibility studies and marketing plans for the industry. The R&D of native citrus species per se for the Australian native foods industry has yet to receive funding. We need to act now and lobby funding bodies to prioritise R&D of this unique genetic resource before it is too late and we lose this industry offshore. (1)

Let's look briefly at the history of exporting Australian industries off shore: the Australian Wildflower Industry has long been established in Israel. The Macadamia Industry was established in Hawaii in the 1880's, when we exported our own native "bush nut" to the USA. The American varieties were bred from a limited genetic base and exported back to Australia, but were unsuited to our own conditions. The Macadamia tetraphylla is now classified as endangered under the NSW NPWS Threatened Species Act 1995 and an extremely limited genetic resource remains in the wild for future breeding purposes.

Are we going to allow the same thing to happen to our native citrus industry? Two species of Australian native citrus (Citrus inodora and Citrus garrawayae) are now classified as rare in the wild and are protected under the Queensland Nature Conservation Act 1992. Plant recovery programs for these species should be prioritised to protect further loss of biodiversity of these species in the wild. Otherwise, we will lose this valuable resource for future breeding purposes.

As Bushfood growers, we have not only the opportunity to pioneer our own native citrus industry here in Australia, but also the ability to protect our biodiversity. The only native citrus varieties which have currently been protected by Plant Breeders Rights in Australia, are hybrid native citrus varieties (ie. those which have been crossed with exotic citrus varieties) such as the Australian Blood lime and Australian Sunrise lime and a true

variety of pigmented Finger lime, 'Rainforest Pearl'. Native citrus seed should be collected from throughout the natural distribution of all species, for ex situ conservation here in Australia, for future breeding purposes. With this wide genetic resource base available to us, we could have endless possibilities to develop a profitable and ethical native citrus industry within Australia. Native citrus varieties (not seed) could then be exported overseas for long term financial gain, as opposed to the short term gain to be made from the sale of a few seed. (2)

The development of the native citrus industry within Australia has huge potential to create not only a viable new horticultural industry, but also employment. If we continue the trend of exporting our native citrus species (as well as other Australian native foods) overseas to plant breeders/enthusiasts for short term gain, before we have developed our own industry here in Australia, aren't we our giving away our natural heritage?

(1) See RIRDC web site for information on the current RIRDC draft revision of the Native Foods R&D Plan: http://www.rirdc.gov.au/pub/nativefoods.html

(2) See web site for Australian Quarantine and Inspection Service, for strict guidelines regarding the export of Australian plants and plant products: http://www.affa.gov.au/outputs/quarantine.html

— ***Erika Birmingham***, Byron Bay Native Produce PO Box 232 Bangalow NSW 2479 Ph/Fax: 02-6687 1087 <erikab@nor.com.au>.

[Bushfoods <bushfood@hotkey.net.au>]

I have read with interest the recent discussion regarding the distribution of seeds of the Australian native citrus varieties.

I have in the past corresponded with Erika Birmingham, and while I greatly respect her knowledge of the species and the work she has done to improve and promote them, I do feel she is displaying a degree of paranoia and insularity in this matter.

These varieties have been studied outside Australia for much longer than she suggests. Several examples were certainly growing in USA around 1920 (see The Citrus Industry, Vol.1). By now they are freely available from a selection of nurseries in the USA and

from at least two nurseries that I know in continental Europe. As Erika states, they are growing in botanic gardens and arboreta. They are also in several specialist citrus germplasm collections, such as those in Corsica (INRA, France), Valencia (IVIA, Spain) and Riverside, California (USDA, USA). Thus, any foreign commercial citrus company already has access to these sources should they wish to grow them.

In the UK, and no doubt other countries, they are many groups of private growers who have become specialists in certain groups of plants. For example, there are active groups of Australian Native Plant growers and of citrus fruits. (I myself have a thriving collection of the Australian citrus.) Now, some might consider these people to be the 'stamp collectors' of the plant world - they like to collect the most unusual varieties. On the other hand, similar people have been the only ones to preserve certain rare plant varieties that would otherwise have been lost to cultivation forever.

The problem for any private grower wanting examples of the Australian citrus is the difficulty of importing plants from other countries. There are now strict regulations in place between and within the EEC, USA and Australia, which prevent the importation of plants in case they harbour pests and diseases which might damage commercial citrus-growing interests. This blanket prohibition even applies to countries such as the UK and Germany, where the climate ensures that commercial citrus growing would be impossible. The citrus germplasm organisations do have seed which can be freely exported, but they are reluctant to deal with individuals rather than research organisations.

So, we come to the requests of people like Jan from Germany, who contact the bushfoods newsgroup or growers like Erika Birmingham. What harm would it do to send them a few seeds of the Australian citrus? They are not the people who are going to exploit the plants commercial potential. Indeed, is it not in the interests of the preservation of biodiversity to send them seed so that some plants are grown in remote places? Erika herself states that some types are threatened in their native habitat. Moreover, perhaps sending these individuals a few seeds would in a way 'shut them up' so reducing the likelihood of commercial growers being alerted to these plants possible potential.

Finally, I think the successful Australian commercialisation of native bushfoods is in your own hands. But in the long run you can't stop overseas growers also exploiting these plants if they wish to do so. Indeed, I don't think you have the moral right to try and prevent this happening. Plants belong to the World not one country. If you think otherwise, please never eat any more Australian-grown oranges, apples, grapes, potatoes, corn..... and so on. Nothing for you from now on but imported foreign foods from their original habitat please! Plus, of-course, plenty of native bushfoods!

Best wishes to all growers of Australian plants - wherever they live.

— Mike Saalfeld
‹mike@saalfelds.freeserve.co.uk›

Macadamia grower beats frost using Antistress

Mr Ian Mulligan has one of the largest macadamia orchards in NSW, managing 75,000 trees on the north coast of NSW, spread over six properties with a gross area of about 400 hectares.

Ian's largest plantings are at his property called "Kyntyre" which is located 25 kilometres north of Lismore. This property has 45,000 trees over a gross area of 200 hectares.

"Kyntyre" has an altitude of 183 metres above sea level and an average rainfall of 2000 millimetres per annum. Thus Ian has no need to irrigate his macadamias on the property, however, frost is harder to control.

In the past Mr Mulligan has wrapped the young susceptible trees with newspaper, but he found that this method was not always reliable as heavy frosts could cut the leaves and the trees still suffered. After a costly exercise of replanting them, and with replacement stock costing $7.50-12.00 each from the nursery and approximately $25 per tree planted (including nursery purchase), he was anxious not to lose them again.

In 1998 Ian came across a new product called **Antistress** at the Primex field days in Casino when the product was first released. The product works when sprayed on the leaves and trunk of the macadamia and allowed to dry for 2-3 hours, providing frost and wind protection for 30-50 days. The product, being a liquid, is diluted in tank water and sprayed on during the day. Once dry the product is resistant to rain washoff.

From Friendly Ag Products in Toowoomba, Ian purchased 40 litres of Antistress and decided to use the foliar spray on 8000 young macadamias which were planted in 1997 between September and December. The trees were one metre tall and the application was made with a handgun using a 200 litre tank on the back of a 40 horsepower tractor. The application was made in mid July of 1998. Ian said he used a ratio of 20:1 (or 20 litres of water to one litre of Antistress) which made enough mixture for 800 litres.

With a 20 litre drum costing $420, spraying 8000 trees with 800 litres of water and 40 litres of Antistress worked out at just over 10 cents per tree. Mr Mulligan said that he lost no macadamia trees due to frost, and believed that Antistress played big part in protecting the trees.

Even though temperatures were not monitored at the property Mr Mulligan said

the trees experienced several heavy frosts. The trees located near the gullies would have been most exposed to frost as cooler air falls down to the lower areas of a property. All these trees survived the frosts, as shown in the photograph.

The coldest temperature ever recorded by the Bureau of Meteorology at Lismore is -3.5°C and Casino has recorded –4.6°C.

Peter Newbury from Friendly Ag Products said the product has also been used successfully in a number of horticultural industries such as coffee, olives, citrus, nurseries, potatoes, fruit trees, and grapes. He said that growers are also using Antistress for other purposes such as heat, wind, and water stress. He said that Antistress was available in 5, 10, 20 and 208 litre drums.

[Friendly Ag Products contact: 07-4630 0622. In WA, Antistress can be bought through Wesfarmers Landmark/ IAMA Agribusiness Pty Ltd at 32 Farrall Road, Midvale Perth. Phone 08-9274 6911]

Friendly Ag Products: <A3422>

[Fruit Loops (Brisbane / Southeast Queensland Rare Fruit Growers) / 2001 Jun-Jul]

Whitewashing your fruit

The Agricultural Research magazine in November 2000 reported the findings of some interesting research in the USA, where a special type of kaolin clay (marketed as the product "Surround"), sprayed over apples and pears protected them from sunburn and increased yield dramatically, as well as keeping insect pests away. The research was carried out by D Michael Glenn, Gary J Puterka and Michael E Wisniewski*.

Kaolin is safe to ingest (in fact, it is often taken as an anti-nausea medication). The idea of spraying trees with kaolin was originally conceived as an organic method that would repel insects and prevent disease organisms from entering fruit by putting a physical barrier over the fruit. However the research revealed another advantage. Apples harvested from treated trees were an average of 17 percent larger than fruit from trees left untreated. Some types of pear trees yielded twice as many pears with no decrease in fruit size. Other trials revealed that using the kaolin improved the colour and raised the sugar content of Arizona-grown lemons, while grapes reached the desirable sugar content sooner than those left bare.

It seems that the specially processed kaolin coating reflects the heat-producing infrared wavelengths of the sun, as well as the burning ultraviolet rays. Keeping the tree cooler increases fruit yield and helps prevent fungus. Some of the research has also shown that kaolin-coated trees photosynthesized up to 30 percent faster than uncoated trees.

Kaolin also seems to be proving very successful against insects, as it seems they don't like biting or crawling on a plant or tree

covered with the kaolin dust. The researchers reported in their article that the kaolin seems to sticks to insects' wings, legs, and mouth parts, causing them to leave to find a more favourable place to feed and lay eggs. They state that "In studies around the country, codling moths, apple maggots, plum curculio, leafhoppers, Japanese beetles, rose chafer, thrips, and rust mites — not to mention pear psylla — have fled whitewashed crops in search of greener pastures." The white leaves also seem to make it harder for insects to recognise their favourite hosts. After several years of research trials, the product is proving effective against many types of insects.

The researchers reported that it is important to get good coverage of the crop with the kaolin product. They have investigated ways to improve kaolin's ability to mix with water, so that it sticks better. Areas of low rainfall are particularly adaptable to this new technique, because in rainy areas the kaolin will eventually get washed off by rain.

Finally, another feature of the new product is its ability to reduce frost damage, because of the water repelling qualities of the kaolin coating. Leaves that are have less water droplets on them will not suffer as must tissue damage from freezing. In summary, although the kaolin spray is still in the early days of testing, it appears that it can:

- *control fungal diseases*
- *control insect pests*
- *prevent sunburn on fruit and nuts*
- *prevent heat stress*
- *increase yields*
- *increase photosynthesis*
- *prevent frost damage*

No doubt we will hear more of this product before too long.

— Jenny Awbery

*Reference: http://www.ars.usda.gov/is/AR/archive

WANATCA aims to boost tree crop educational role

In moves to improve the relevance and usefulness of the Association, the WANATCA Executive is looking at providing more educational functions.

The Acotanc-2001 Conference which we hosted showed that the public will respond favourably to tree-crop seminars and conferences.

Education and training on tree crop business enterprises is hardly ever on offer in WA, even though this is vital for better development of activities likely to be of increasing economic importance in WA.

The first event being planned in this new direction is the **WANATCA Pistachio Seminar & Workshop** being put together for **Friday March 8, 2002**, and mentioned elsewhere in this issue of *Quandong*.

State Tree Crops Conference

Other events being considered in the future are a **State Tree Crops Conference** to be held every two years, and a **Quandong/ Sandalwood Seminar & Workshop**, possibly in 2003.

These events are quite costly to put on, and fees and other financial inputs will have to match up if these educational initiatives are to bear fruit.

Some current events, such as the **Bring & Buy Meeting**, may have less emphasis, and this event will not be held in 2001.

Comments to the Tree Crops Centre (treecrop@aoi.com.au) would be very welcome.

¥

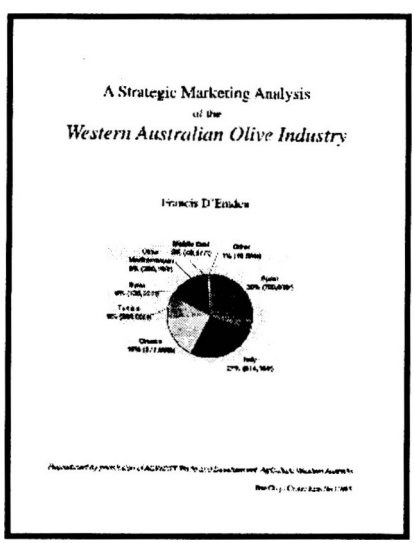
From strength to strength — Major WA olive report released

One of the most socially interesting aspects of the vibrant growth of the WA Olive Industry has been its speed and momentum, growing from a tiny basis to what looks to be a major production asset in little more than a decade.

Also interesting is that it has done this after surviving stringent economic analysis and prodding by an army of strategists, accountants, and business analysts who have no doubt complained of the lack of hard data on what is still undeniably a very young agricultural activity, and one which perhaps was brought to fruition by faith and optimism as well as bottom-line surveys.

They need complain no longer. The recently released AgWest Trade and Development report, *A Strategic Marketing Analysis of the Western Australian Olive Industry*, by Francis D'Emden, gives everything needed to satisfy the accountants.

This first-class publication (50 pages, available from *Granny Smith's Bookshop) reviews the past, current, and projected position of the WA industry and how it sits in the world olive trade. All the tables and data expected are present, together with realistic assessments of trade factors.



As an example, subsidies on olive oil production provided by European governments (eg Italy, about $2 Australian per litre) are noted, as is the fact that these subsidies may be reduced through international trade regulations.

Just look out the window

Not everything in the world is economically rational and price-driven. Olive oil (admittedly a very cheap grade) is available in 4-litre cans in Perth at about $4 Australian per litre, whereas prize-winning WA oils have fetched $100 per litre.

I asked Rob Moltoni, principal of the huge Koorian Olives project at Gingin, north of Perth, whether the European olive oil subsidies were likely to be withdrawn in the future. Rob had recently been to Tuscany and had asked the same question.

He had been asked to look out of the window, and say what he saw. There lay the groves of neatly tended olive trees, stretching over the hillsides. These were not just agricultural producing units, but part of the attractive background expected by the millions of tourists, tourists who were in fact a far more important part of the Italian economy than any olive trade. So the government would do whatever was necessary to maintain this tourist amenity in the future.

Even in WA, tourism can be a major part of horticultural balance sheets. Growing and selling something new, something interesting, can help be economically viable when people will pay to see it done.

In Britain, the government recently announced that it will cease to pay subsidies to farmers to produce crops ('subsidy farming') which were creating embarrassing gluts (the 'Butter Mountain', the 'Milk Lake', etc). Instead, it will pay farmers to keep the countryside nice for tourists — a much better idea all round.

— David Noel

* Item 1398S at Granny Smith's Bookshop, $27.00 (plus 10% GST in Australia). See ad p. 31.

[Australian Olive Grower / 2001 Apr]

What table olives are in demand?

The largest table olive processor in Australia has provided a list of 'premium' and 'preferred' varieties as a useful guide to table olive growers.

The South Australian Olive Corporation, producer of the Viva brand of olive oil and table olives, has listed varieties that make excellent green or black table olives.

Jim Smyth, General Manager of the SAOC, commented that table olives which currently attract a 25% premium are Kalamata (black), Sevillano (green) and UC I 3A6 (green).

Table olives listed as 'preferred' are: Manzanillo (dual purpose), Barouni, Hardy's Mammoth, Azapa, Volos and Hojiblanca (dual purpose).

Growers can earn more for table olives

"Growers should understand that by planting Manzanillo and Hojiblanca they can

Barouni olives

earn significantly more for that proportion of their crop which is selected for table olives, " Mr Smyth said.

"Indeed, all table olives of acceptable quality can be expected to attract prices in excess of 50% above base prices paid for oil olives. Our oil olive pricing is negotiated on a sliding scale tied to oil yield from the delivered olives."

"The above listing does not imply that the SAOC in any way warrants the performance of any variety. Growers must satisfy themselves that the trees will grow and crop satisfactorily in their region, and whether they may be readily harvested mechanically."

Regarding the processing of green table olives, Mr Smyth said that "under commercial conditions, green olives must be processed with caustic soda (lye) as it is simply not environmentally possible to use the vast quantities of fresh water and salt to process them by folk methods."

"Olive varieties that make excellent green olives are: Sevillano (Spanish Queen), UC I 3A6, Barouni, Hojiblanca, Manzanillo and Azapa."

"Black olives undergo a natural fermentation without lye treatment. They take longer to be ready for consumption than green

olives, but involve far less work. Varieties that make excellent black olives are: Kalamata, Manzanillo, Hardy's Mammoth, Volos and UC I 3A6."

When to harvest your table olives

Generally, olives that are to be pickled green are harvested when the fruit has reached a yellow-green colour. Pick a sample olive and cut it through to the pit. Continue the cut around the diameter of the olive until you can remove one half of the olive, leaving the pit embedded in the other half. You should be able to easily free the pit from the flesh with your fingers. Another guide to determine whether the fruit is ready for harvesting is to simply squeeze a yellow-green olive with your fingers. If the juice is a milky white rather than clear, then the olive is ready for picking.

Fruit to be pickled as 'naturally black' olives must be completely ripe (but not over ripe). Cut through a black/purple olive and observe the flesh colour. If the dark colour penetrates the flesh to within 2 mm of the pit (on a medium size olive), then the olive is ripe. If the flesh has become completely dark, that is, right to the pit, then many would consider that the olive is over ripe whilst others find that this suits their processing methods.

---

*There are some excellent publications on table olive processing in Australia, including Table Olive Processing (IOOC), and *Table Olives, Production and Processing by A. Garrido and others (* Granny Smith's Bookshop, $427.60 + GST).*

A treasure-house of plant knowledge

Anyone working in the area of useful perennial plants should at least know about, and preferably own, a copy of D J Mabberly's *The Plant-Book* (item 428P, $92.00 at GSB).

This book lists and describes every plant genus known, but also includes an amazing amount of information about plants and their uses. Following is the entry on *Olea*, the olive family.

Hands up the olive expert who knew all these facts — true olives native to Atlantic islands, a million-tonne crop, green oil extracted from olive pits and used to prevent drunkenness, manna (edible plant exudate) source, densest wood (sg 1.49) known ....

Olea L. Oleaceae. 30 OW trop. & warm temp. Olives. Evergreen trees & shrubs with extrafl. nectaries. *0. europaea* L. (olive, complex from Macaronesia (subsp. *cerasiformis* (Batt. & Trabaut) Ciferri) to Sind, Himal. & S Afr.) - subsp. *europaea* (incl. var. *sylvestris*, oleaster, spontaneous from seeds of cvs in Med.) cultigen of Medit. with large drupe with oily mesocarp, prob. derived from subsp. *cuspidata* (DC) Ciferri (subsp. *africana, 0. cuspidata*, Indian 0., Arabia, As.) with small drupes with thin mesocarp, certainly in cult. N of Dead Sea since 3700-3600 BC for oil & fresh or preserved drupes; expressed oil used as salad oil (best = virgin oil) & for preserving tinned sardines, the fr. used in cooking or preserved in brine & eaten as appetiser sometimes stuffed with red pepper etc., black or green, many cvs (large or small etc.); 1m t oil per annum used in cooking, lubrication, lighting & soap, a green form in Greece being made of pyrene oil from the 'stones', also medic. (bowel regulation & poss. insulin subs., a spoonful before an evening's drinking helping to prevent drunkenness), twigs used as toothbrushes to promote healthy gums in Saudi Arabia, source of manna in Dhofar; foliage an ancient sign of good will – 'olive branch'. Good timber esp. *0. europaea* subsp. *cuspidata* & *0. capensis* L. (*0. laurifolia*, trop. & S Afr.) incl. subsp. *welwitschii* (Knobloch) Friis & P.S. Green (Elgon olive, loliondo, S & E crop. Afr.) & other spp. (ironwood) - heaviest wood known with specific gravity 1.49.

[Countryman Horticulture / 2001 Apr 5]

Medfly cost assessed

Agriculture WA is helping to weigh up the costs and benefits of eradicating or suppressing Mediterranean fruit fly in Australia.

The independent Benefit Cost Analysis is being coordinated by international expert Dr John Mumford, based at London's Imperial College of Science, Technology and Medicine.

Dr Mumford has conducted benefit cost analyses of large-scale medfly eradication programs in the Middle East and Africa.

WA growers met Dr Mumford and Agriculture WA entomologist Bill Woods to discuss the situation in WA, including the effectiveness and cost of current control programs.

"The Benefit Cost Analysis is taking into account the current practice of growers using bait and cover sprays to control fruit fly and the potential future use of the sterile fly technique," Mr Woods said.

"The project will investigate two scenarios for WA — eradication as the preferred option and suppression using the sterile insect technique."

Dr Mumford said a decision to aim for complete eradication using the sterile fly technique involved a long-term commitment and would be likely to take at least 10 years to achieve eradication. He said building the infrastructure, maintaining supply of sterile flies and monitoring progress of the eradication called for a major investment.

Therefore it was essential the benefits of eradication would justify the expenditure, and that the probability of success was high.

Dr Mumford said a suppression program would be much cheaper but did not have the same market benefits as eradication, which if successful may permit fruit to access medfly-free markets, such as the US and Japan.

He said suppression would only be cost effective where there were high concentrations of orchards that could be treated on an area wide basis.

Agriculture WA entomologist Bill Woods shows Dr John Mumford and quarantine consultant Megan Quinlan the trapping grid used in the Broome medfly eradication trial

Mr Woods said a move away from the traditional control methods would require building trust with growers about the effectiveness of the sterile fly technique through field trials and grower involvement.

Federation Lavender Conference
November 24-25 2001
Bowral NSW Australia.
Contact: R Hawkey
admin@lavenderaustralia.com
or: http://www.lavenderaustralia.com/conference.htm

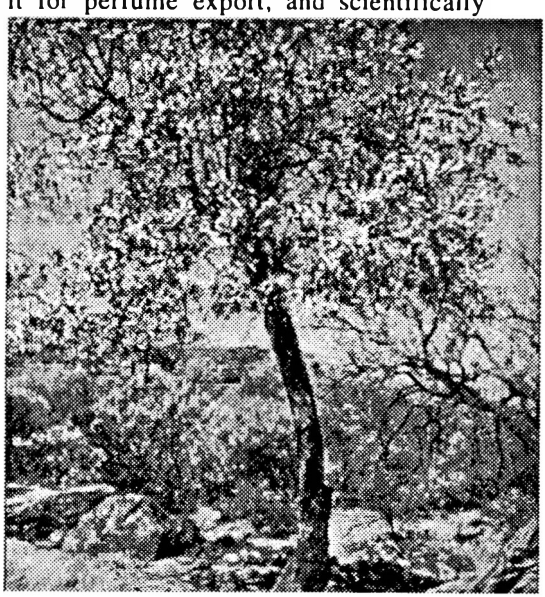
[Business News / 2001 Jun 28]

Mt Romance sandalwood gets surprise tourist bonus

A sandalwood oil refinery and cosmetic product factory located in the State's south has become an unexpected tourism success story.

The success of Mt Romance is unexpected because the operation was never meant to be a tourism destination, and yet last year the Albany factory attracted almost 40,000 visitors, while turnover is expected to top $4.5 million this financial year. When Mt Romance (the company) was established in 1990, the factory was on a country property near Denmark, where cosmetic and therapeutic products were made from emu oil.

A decade later, Mt Romance is the proud parent of a $10 million factory in Albany, which extracts the precious gold oil of the sandalwood tree for use in cosmetics; barrels it for perfume export; and scientifically analyses it to determine its possible pharmaceutical benefits.



Tourism is often seen as the offspring of established success or fame but, for Mt Romance, the opposite was true. According to managing director Stephen Birbeck, the company was on the sharp edge of the financial sword in 1996-7 after the Asian financial crisis slowed export of emu oil products by 40 per cent. At the same time, links with the French company assisting with exports to Europe were strained and the small Denmark factory was working to capacity. Mr Birbeck and his wife, Karen, reacted by severing ties with the French export company, along with their rights to an emu oil sunscreen, in return for just enough cash to purchase the Albany factory.

The Albany site included a showroom for tourists and it was this last-minute thought that saved Mt Romance. While the business experienced other difficulties and had to make tough decisions, the showroom and factory quickly blossomed into a popular tourist destination. The Mt Romance cosmetic product showroom is enough to give any French house a run for its money. Shelves are lined with every conceivable sandalwood oil product, from the traditional joss sticks to sensational smelling and super soft sandalwood talc, to make-up and skin care. Then there are the stills and distillery process, where the scientific journey of the sandalwood oil is explained. There's also the lipstick room, with a vast array of products under the now-famous Santalia label.

In the same way that tourism funded the initial research into the cosmetic application of sandalwood back in the 1990s, sandalwood cosmetics are now set to support research into the pharmaceutical application of the oil.

The oil was recently recognised by the Therapeutic Goods Administration (TGA) and was entered on the Australian Approved Names list, effectively endorsing the product's safety as a therapeutic substance.

Various compound within the oil (not all isolated yet) may have medical applications for everything from cancer to acne. "The various projects include applications for cystitis, acne, thrush, athlete's foot and upper respiratory infections, and have already led to confidentiality agreements with several international pharmaceutical companies interested in pursuing potential research partnerships," Mr Birkbeck said.

Pharmaceutical applications of the oil currently generate no income for Mt Romance. In fact, research into applications is creating a multi-million dollar drain. In years to come, income from the cosmetic application of sandalwood would represent only 10 per cent of Mt Romance's income, with pharmaceutical applications expected to make up the remaining 90 per cent.

The maximum harvest of sandalwood in WA is 2000 tonnes a year, Mt Romance is currently using just 500 tonnes a year, with plans to maximise production at 900 tonnes.

The environmental sustainability and supply stability of sandalwood in WA should go a long way to help secure investment in research into the varied applications of the oil.

Already Mt Romance has managed to attract an $800,000 Federal Government research and development grant through Ausindusty. The company has a strong track record in attracting venture-capital investment, pulling in a combined total of $4 million in 1997 — $2 million from Foundation Capital, $1 million from local Guy Leath, and a further $1 million from a European pharmaceutical executive.

— Kellie McCourt

West Australian Nut & Tree Crop Association (Inc)

PO Box 565 Subiaco WA 6008 Australia

EXECUTIVE COMMITTEE 2001

Stanley Parkinson (President)	**9386 2518**	**Wayne Geddes**	**0412-075 043 9382 2437**
John Foote (Vice-President)	**9682 1060**	**Bill Napier**	**0417-176 458 9397 6799**
Trevor Best (Treasurer)	**9397 5920**	**David Noël (Publications)**	**9388 1965/w 9381 7341/h**
George Ainsley	**9390 5338**	**Charles Peaty**	**9335 1170**
Bob Cook (Events)	**9574 7103/h**		

ACTION GROUP LEADERS

CHERRY: Neville Shorter, 9450 5606 (2/9 Clydesdale St Como 6152)
FIG: Alex Hart, 9490 1324 (71 Terence St Gosnells 6110)
JUJUBE: Phil Ciminata, 9328 5718 (36 View St North Perth 6006)
LYCHEE/MANGO: Sujit Dey, 9386 7357 (8 Curlew Rd Dalkeith 6009)
MACADAMIA: John Cory, 9574 6163 (Toodyay Rd Gidgegannup 6083)
PECAN: Bernie Rochester, 9734 1309 (90 Bucktin St Collie 6225)
PISTACHIO: Bert Hayes, 9622 9513 (PO Box 429 Northam 6401)
PITAYA: Bob Nederpelt, 9375 9435 (PO Box 56 Morley 6943)
POMEGRANATE: Julie Firth, 99381628 (Lot 12 David Rd Waggrakine 6530)
WALNUT: Graham Fellows, 97731346 (PO Box 217 Manjimup WA 6258)

CALENDAR OF FORTHCOMING EVENTS

Deadline for next issue: Oct 20

2001

Aug 14	Tue	* **WANATCA General Meeting** (Chris Ferreira & ?Bob Goodale: *Bush Food & Permaculture Gardens & Environmental Education in the Rockingham/ Peel area*)
Aug 28-30		• **Dowerin Field Day, Dowerin**
Sep 21	Fri	• **Karragullen Horticulture Field Day**
Oct 9	Tue	Wanatca Executive Committee Meeting
Nov 13	Tue	* **Annual General Meeting**

2002

Mar 8	Fri	**Wanatca Pistachio Seminar/ Workshop, Northam**

*General Meetings are held starting at 7.30pm. ***Venue: Theatre Room, Kings Park HQ, West Perth.***
These meetings usually include a current magazine display.
• Event with WANATCA participation; § For contact details refer to the Tree Crops Centre.
Material originating in Quandong may be reprinted; acknowledgement of author and source requested.

Current Subscription Rate: $54.00 per year
(includes all publications for four consecutive quarters). Student Rate: $27.00

Quandong is produced by the Tree Crops Centre, PO Box 27, Subiaco, WA 6008.
Phone: 08-9388 1965. Fax: 08-9388 1852. E-mail: <treecrop@AOL.com.au>. Website: <www.AOL.com.au>. Quandong Advertising Rates: Whole page, $80; Half page, $45; Quarter page, $25; Eighth page, $15. 20% discount for 4 insertions