Quandong

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West Australian Nut & Tree Crop Association (Inc)
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Jujube relatives *(Ziziphus spp.) from Africa* (See: About the Cover, p. 2)

Don't miss the
Next Event: Friday, March 14, 2003: Full day.

Our next event is the

Pistachio Field Day and Workshop

to be held at the Hayes Pistachio Orchard in Northam. This is a unique chance to see the most advanced pistachio operation in WA, and to hear about the future of the industry from our local experts.

A brief write-up of the event, with contact and booking details, will be found on page 17 of this issue of Quandong. A leaflet will also be included with the current mail-out.

In This Issue

About the Cover

The cover drawing two of the about 80 species of *Ziziphus*, Jujube relatives, found throughout the world, this time from Africa. See the story on page 20.

[West Australian / 2002 Dec 17]

Retirement to a life of nuts

Retirement is for nuts, according to former City of Perth engineer Amos Machlin.

Mr Machlin, who turns 76 on Friday, retired at 59 in 1986 after deciding he was not going to work until he was 65.

He had seen two predecessors, who had been dedicated to their jobs but with no plans for the future, die within months of leaving work. So he bought a 19 ha block at Gingin and established a nut farm.

Now he has 2000 flourishing pecan, macadamia and pistachio trees with the potential to produce nuts worth up to $100,000 a year.

Mr Machlin, of Coolbinia, is a self-taught grower. His research included visits to the United States and Israel, where he was born in 1926. "I found the remains of the house my father built and was surprised to find it was used for storing pecan nuts," he said.

The family migrated to WA in 1928 but were forced to quit their wheat and sheep farm near Pingelly during the Great Depression.

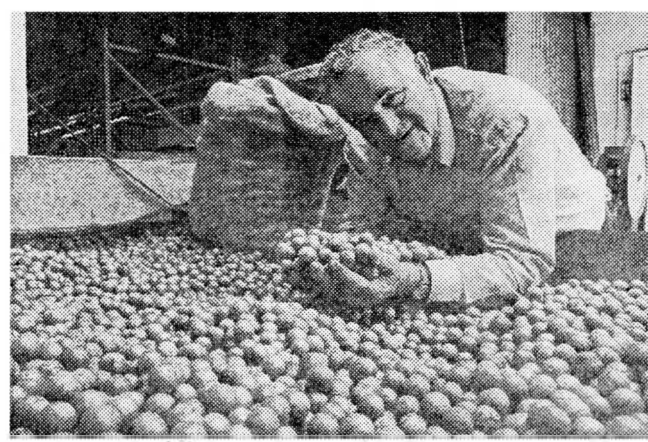
"Retirement had to be mentally and physically motivating," he said. "It would be a disaster to wake up in the morning and wonder what to do that day. Some people do not get out of their pyjamas.

"I decided on nuts because they are a consumable item, are imported and can be stored. As well, I like a challenge."

Mr Machlin found information on nut production in WA was scarce so he joined the Texas Pecan Growers Association. He also grows avocado and citrus trees.

— ***Michael Zekulich***

[Amos was, for many years, WANATCA's Pecan Action Group leader].



Amos Machlin's nut farm on his Gingin property. Mr Machlin, a former Perth City Council engineer, said he needed a challenge when he retired. Picture: Greg Burke

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>.

Fig DNA project gets a boost

The joint WANATCA/ Tree Crops Centre/ Kings Park Board project to set up a facility to analyse fig varieties from their DNA fingerprints has received an encouraging response.

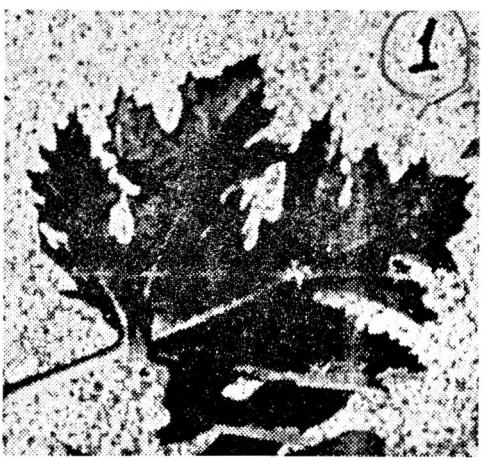
A preliminary application for funding was made to the RIRDC, the Australian Government's Rural Industries Research & Development Corporation, early in 2002. The case was made that lack of certainty on identifying fig varieties was holding back development of a major world fig industry, potentially a new Australian horticultural industry.

The situation with Figs is particularly chaotic, as they propagate easily from both cuttings (clonally) and seeds (sexually, not clonal). More detail on the project and its potential was given in the article "Sorting out Fig chaos with DNA research" in the 2nd Quarter 2002 *Quandong*.

The RIRDC have now asked us to forward a full application for the project, and indicated a likely level of support from them. Compared to a crop like olives, figs have suffered from a major world lack of R & D investment in the past, and this may be an opportunity for Australia to remedy this lack and become a significant producer.

Search for unusual fig leaf variety

Alex Hart, WANATCA's Fig Action Group leader, has been working on a scheme to classify figs according to their leaf shapes. He has come across a reference to a variety with an intensely-divided leaf edge, as in the image below, and would like to know if anyone has spotted a fig with a similar leaf shape locally. Alex's reference described the variety as 'Afgan Caprifig'.



'Afgan Caprifig'

Please contact Alex on 08-9490 1324 (or 71 Terence Street, Gosnells WA 6110) if you have any information on such a fig.

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[West Australian / 1999 Nov 6]

Truffles add flavour to our Southwest

They are black, they smell, and they could become the South-West's next cash crop.

Adjunct Professor Nick Malajczuk, of Murdoch University, and colleague Professor Bernie Dell have received a $63,000 grant to continue their research into growing truffles.

The pair have planted a truffiere or truffle orchard, near Manjimup and are trying to find the best conditions for producing the fungi, which can weigh up to 500 g.

The black truffle (*Tuber melanosporum*) is a fungus that grows on the roots of hazel and oak trees in France during summer.

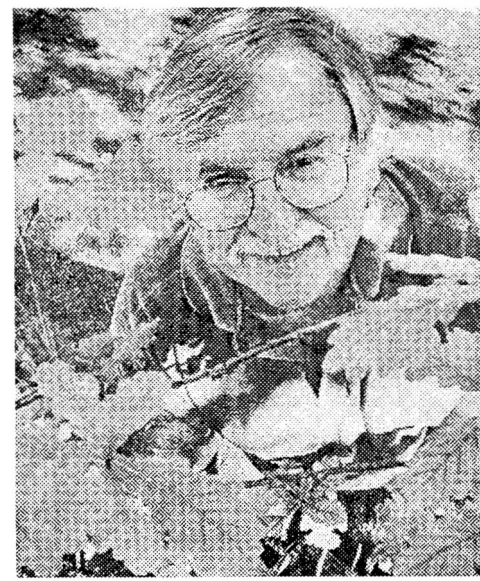
It is worshipped by gourmets and is one of the most expensive foodstuffs in the world, selling at up to $3000 per kg. "Truffle hunting is a part of rural culture in Europe," Professor Malajczuk said. "In France and Italy towns have truffle festivals where truffles are cooked and eaten in every possible way."

The fungi appear only on the roots of trees which are between four and five years old. The Manjimup venture is two to three years from fruition. Truffles are seasonal, which means that WA will be able to supply Europe during the northern hemisphere winter when demand is strong.

"The conditions here are right and I have faith it will become a viable export industry," Professor Malajczuk said. "In the future logging is going to be less important so we need to establish alternative exports in the area."

Professor Malajczuk has already helped to establish the truffle industry in Tasmania, which exported its first crop this year. Truffles require plenty of moisture and a certain range of temperatures to mature and Professor Malajczuk said WA's South-West had a perfect climate.

Another advantage was the lack of competing fungi which could push out the valuable truffles. "In Europe there are 70 fungi that grow on oak trees and most of them are worthless, but here we have only introduced the black truffle," he said.



Fungi potential: Nick Malajczuk hopes to grow truffles on oak trees in Manjimup to create a new cash crop in the South-West. Truffles sell for up to $3000 a kilogram in Europe. Picture: Sandra Jackso

In France and Italy the truffles grew wild and were traditionally hunted by sows because the mature truffle gave off a scent similar to boar pheromones.

"But the sows tend to get angry when they find out they're not going to eat them," he said. "Most of the old truffle hunters are missing a couple of fingers."

The grant from the Australian Research Council's 'Strategic Partnership with Industry'

scheme will be used to employ a student to assist the study. The council has awarded Murdoch University $880,000 in grants this year.

— Ben Ruse

New office, credit card arrangements

WANATCA has negotiated arrangements with the Permaculture Association of WA to share their office at the Earthwise Centre, 317 Bagot Road, Subiaco. Earthwise house a number of environmentally-friendly facilities, with a permaculture garden, some plant sales, a recycling centre, and other useful services.

Telephone facilities are still being worked out. In the interim, Exec Member Wayne Geddes has kindly offered to field enquiries relating to the Association, on his phone 0412-075 043. Stanley Parkinson and David Noel will also help where they can, but David will be overseas between January 22 and March 1.

Credit card transactions for the Association are now being processed through Wayne Geddes' bookshop in Bayswater, Riteprice Books & Bits, and this name will appear on members' monthly credit card statements if they pay subscriptions etc by credit card.

Letter on tissue culture propagation and pollination of walnuts

In the Quandong 4th Quarter 2002 issue, I learned that an Australian nursery had succeeded in propagating walnut trees by tissue culture.

About 15-20 years ago, the famous Max Planck Institut fur Obstzuchtung und Ermehrung at York (near Hamburg in the so-called "Altes Land"), developed the walnut propagation by this method. One or two commercial institutes in this area used this method for commercial multiplication.

The problem was not, that they failed, but that nobody was willing to order a minimum quantity of 100,000 at a price of DM 1 each (about A$0.25). All the nurseries together in Germany cannot sell this quantity.

Although the walnut is widespread in our country, we have no plantations for commercial supply. The main reason is not the climate, but the high costs for farm workers and the extremely low prices for foreign walnuts, though the domestic nuts are very superior in taste and quality, according to American experts.

An essential factor for the quality of walnuts is the right pollination. All over the world is this neglected, but in my experience decisive for good nuts. I have a mixture of about one dozen of different walnut trees, and in our climate, very often the flowers of early flowering trees will be killed by frost, so that only pollination is possible by late flowering cultivars. This fact makes great differences in taste and quality.

I am able to say from each of my walnuts, which was the pollinator. As far as I know, in no country all over the world, is walnut research done in view on the influence of the pollinator. This can be perhaps of some interest to the members of WANATCA.

*— **Walter Griesmeir,*** Carron du Val Strasse 11, D-86161 Augsburg, Germany

[Walter has been a member of WANATCA for many years].

[West Australian / 2002 Dec 14]

Sandalwood trial scents success

Dwindling stocks of sandalwood worldwide have lifted hopes for a timber plantation trial of sandalwood, rosewood, sheoak, and teak at the remote Beagle Bay Aboriginal community.

The community, 117 km north of Broome, was chosen by Capricorn Timber managing director Naresh Patel as the perfect site for the 6 ha trial which kicked off 18 months ago.

The rarity of sandalwood has lifted prices up to $48,000 a tonne, Mr Patel said.

State Development Minister Clive Brown visited the trial plantation this week and said the export potential was huge.

"I was told the price of the oil increased just the other day, increased by another 150 per cent from the already high price," he said. "All the hallmarks for the future look very good indeed and this is going to increase in the future."

He said the plantation would bring in $1.5 billion over 20 years to the community and Capricorn Timber.

Mr Patel was hopeful another 1000 ha would be planted within a year and was waiting for environmental approval. The sandalwood would not be harvested for 12 years and it was expected more than 80 local indigenous workers would be employed throughout that time.

Sandalwood is used in medicines, cosmetics, perfume and was traditionally used for artifacts and furniture.

Looking good: State Development Minister Clive Brown and Capricorn Timber project manager John Brennan discuss sandalwood at the Beagle Bay plantation. Picture: Flur-Elise Mason

Despite temperatures hitting the high 30s at the plantation daily, water is not an issue because of bores feeding the drip reticulation system.

Beagle Bay administrator Philip Matsumoto said the plantation was a boost for the younger generation within the community and would reduce the number of youths leaving the community.

"People are struggling on Commonwealth development employment programs or social security of just $211 a week. It will be

great if they can get more training and get real jobs," he said.

"These kids work too hard on the dole and it doesn't take them anywhere."

Mr Brown said the project provided sustainable economic opportunities for the community.

"A potential benefit for the Aboriginal community is employment and when this project gets up to full steam it will require a work force which will be constantly harvesting and planting and constant maintenance which will provide opportunities for continued employment," he said.

"The CDEP programs have had a role to play in the past when there hasn't been any employment opportunities but what we are seeing increasingly ... is some real opportunities being opened up for Aboriginal business enterprise and also employment and skilling for the indigenous population.

"The corporate sector has moved beyond government in these ways.

"It is not just an income, it is also a way of life, and ensuring there is an income which is above that which has been made available through the social security system."

Other Aboriginal communities also were showing interest.

*— **Flur-Elise Mason***

[Market City Newsletter (Perth) / 2002 Dec]

Bullfrog International: source of exotic fruit

A visit to Market City agent Bullfrog International at any time of the year is guaranteed to bring the reward of seeing something a little out of the ordinary.

Bullfrog International, although specialising in fruit, is a recognised supplier of the unusual and exotic, including horseradish, galangal, taro and, most recently, boab shoots from Kununurra.

Managing Director Graham Morgan says that, although Bullfrog International is best known for its tropical fruit, lines like apples, pears and citrus receive the same care and attention as the exotics. With a staff of ten including a sales team of four, Bullfrog offers personal service to buyers for all retail stores, from owneroperated to the supermarket chains.

Right now, the Bullfrog floor is dominated by mangoes, which are experiencing an excellent season, in WA at least. With fruit from the Ord to be followed by Broome, Carnarvon, Gingin and, finally, from just north of the Perth metropolitan area, there's a steady supply of mangoes for more than six months

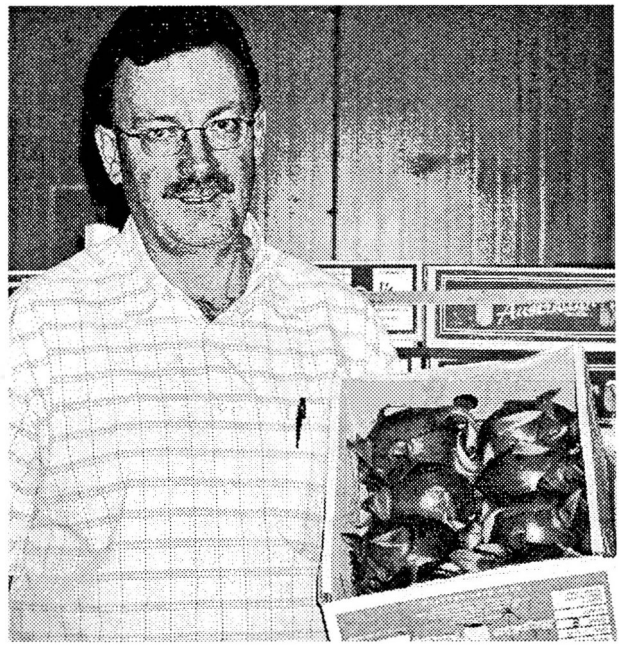
The demand for limes has increased recently. Graham Morgan attributes this to retailer response to consumers' increased interest in the home preparation of foods eaten while travelling through Asian countries. Graham says most people now realise the stunning difference the flavour of limes makes, particularly to Thai cooking, and will seek out the fresh product to give their meals authenticity. Year-round supply is guaranteed with local limes being augmented by supplies from the Ord River, Northern Territory and Queensland.

Rambutans, lychees and longans from the Northern Territory and Queensland are in demand when available. One of Graham's favourites is dragon fruit, which is now in season and comes from Darwin. The plant, which grows on poles, is like a giant cactus and produces attractive hot pink fruit with

sweet white flesh speckled with tiny edible seeds. It should be picked ripe and chilled before eating.

Graham Morgan points out that, although tropical fruit has the limelight at this time of the year, growers of apples, pears and citrus will always receive excellent attention at Bullfrog.

All suppliers to Bullfrog benefit from the company's policy of full transparency. On the Bullfrog website, at any time, growers can access secure information including current status of unsold produce and a record of all completed transactions, price paid by the buyer and, very important, the agent's commission.



Graham Morgan displays some superb dragon fruit

Bullfrog International: A3049.

[http://www.ars.usda.gov/is/AR/archive/may01/fungi0501.htm]

Soil Fungi Critical to Organic Success

One casualty of America's agricultural revolution were valuable native soil fungi that enabled crops to grow well with less water, nutrients, and pesticides.

Increased agricultural productivity has been largely dependent on high levels of chemical fertilizers and synthetic pesticides. There is a growing interest in reducing this dependency by encouraging biologically based systems to enhance productivity and product quality on farms.

That's exactly what ARS chemist Philip E. Pfeffer and his co-workers hope to accomplish by helping farmers reestablish the beneficial soil organisms called mycorrhizal fungi. Pfeffer is at the Agricultural Research Service's Eastern Regional Research Center (ERRC) in Wyndmoor, Pennsylvania.

Mycorrhizal fungi live within the roots of most plants in a mutually beneficial relationship (symbiosis). They help roots scavenge more nutrients and water from the soil in exchange for sugar to make the molecules they need to live and grow. These fungi extend long threads, called hyphae, outside the roots. The hyphae transport phosphorus and other nutrients into plant roots. Mycorrhizae also enable plants to use water more efficiently and resist pests.

Pfeffer and co-workers study the most common type of mycorrhizae, which are called endomycorrhizae because the fungi live inside

— rather than between — root cells. They are also called arbuscular mycorrhizae because of the treelike structures (see photo above), or arbuscules, they build within the cells. The branches transfer nutrients to the plant cells in exchange for sugar for the fungi. The trunks of the arbuscules attach to the hyphae.

Fungal arbuscules and hyphae

Today, farmers who grow row crops, like corn and soybeans, must rely on whatever soil fungi survived the decades of high chemical application that began when American agricultural production intensified in the 1950s.

Horticultural crop producers fare better because they can buy potting mixes with beneficial fungi added. Home gardeners can buy the fungi as soil inoculants from seed catalogues. But it's impractical for farmers to buy and apply the large quantities of fungi they'd need for farm fields.

On-Farm Fungi Production

One member of the ARS team, David D. Douds, is supervising experiments to find practical ways for farmers to grow and apply their own mycorrhizal fungi. At the Rodale Institute Experimental Farm in Kutztown, Pennsylvania — a long-time proponent of organic farming — and at nearby Stoneleigh Estate, Douds has tried growing the fungi in compost. That would enable farmers to apply the fungi along with compost with no extra effort or cost.

Douds planted a tropical grass in the compost after inoculating its roots with arbuscular mycorrhizal fungi. He hoped the roots would harbour the fungi and spread them throughout the compost, but the fungi didn't spread well enough.

"We think the compost was so rich in nutrients that the grass roots didn't encourage the fungi to proliferate, because their help wasn't needed for getting nutrients," he says. This spring, Douds and his colleagues will try mixing the compost with a less nutrient-rich soil to see if that promotes fungal proliferation.

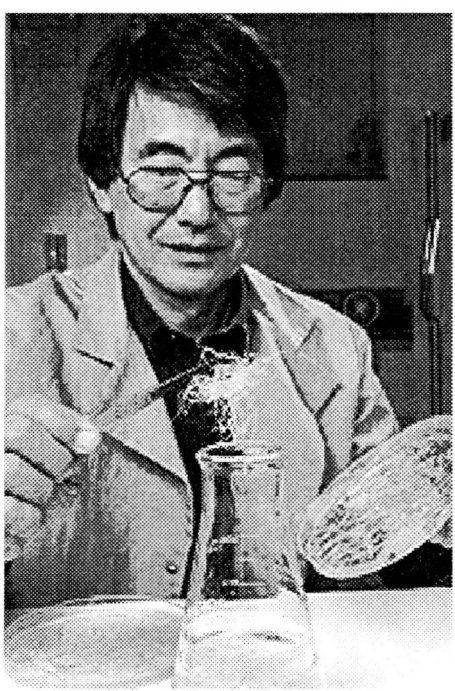
The researchers' goal is to have suppliers sell farmers colonized host plants for planting — not as a crop, but to start colonies of the fungi in soil, compost, or a compost/soil mix. Then, after the fungi have had time to multiply,

farmers would apply the colonized soil in manure spreaders along with their compost.

"Instead of farmers having to buy and transport a whole field's worth of inoculum, they could buy a small fraction packed in with host seedlings. Then, they'd plant the mycorrhizal seedlings and increase the inoculum on their own," Douds explains. Farmers would eventually have crop fields with colonies of beneficial microbes rivalling those of yesteryear.

Philip E Pfeffer and ARS colleague in the field

How Host Roots Communicate With Mycorrhizal Fungi



Gerald Nagahashi

Another member of the ARS team, chemist Gerald Nagahashi, has found that plant roots release signals to encourage or discourage proliferation during at least two of the fungi's seven life stages. He found that in the first stage, when the fungal spores start growing hyphae in the soil, roots exude compounds that encourage prolific hyphal growth. This helps the fungus find the root, colonize it, and produce the arbuscules.

"We used carrot roots for these studies because they're a good model and can be grown easily in liquid culture," Nagahashi says. The scientists have improved techniques for growing the fungi with carrot roots in petri

dishes and hope to do this someday without the roots.

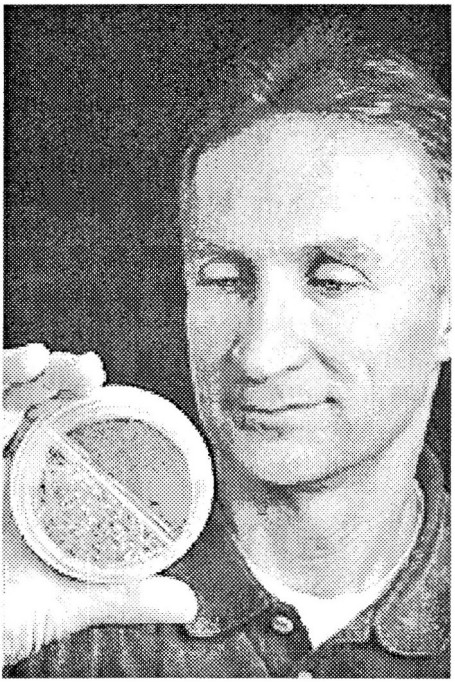
Nagahashi also did an experiment using light and found it triggered more fungal hyphal branching. "We predicted that exposing inoculum to light would increase colonization of corn seedlings by the fungi, and that's exactly what happened," he says.

The team is studying the basic physiology of the mycorrhizal fungi and their interactions with plants so they can find a way to grow fungal colonies without host plants. This would permit large-scale production of inoculum for field application.

"We also need to find out what nutrients and other conditions have to be met so the fungi grow through all seven life stages and multiply," Pfeffer says. "Using specially marked molecules and nuclear magnetic resonance spectroscopy to analyze a mycorrhizal system in a petri dish, we've learned a great deal about how carbon — in the form of carbohydrates — flows from the plant to the fungi. We've also learned that at certain stages of the life cycle — such as during spore germination — the fungi can take carbon directly from the soil without getting it from plants, which encourages us.

"However, we need to find out why the spores are unable to utilize this carbon to replenish their lipid stores, which are needed for completion of their life cycle," says Pfeffer. "We'd like to be able to feed the fungi glucose in the laboratory and have them reproduce in mass quantities in fermentation vats, as we do with bacteria and other fungi."

In collaboration with Yair Shachar-Hill and Peter Lammers at New Mexico State University, the ERRC team is also examining gene expression of these fungi at each life-cycle stage. With this information the researchers hope to turn on the mechanisms necessary for the fungi to complete their life cycle in the absence of the host plant.



David D. Douds

— ***Don Comis***, Agricultural Research Service Information Staff.

This research is part of Soil Resource Management (#202) and Plant Biological and Molecular Processes (#302), two ARS National Programs described on the World Wide Web at http://www.nps.ars.usda.gov.

The ARS scientists mentioned in this article are at the ARS Eastern Regional Research Center, 600 East Mermaid Lane, Wyndmoor, PA 19038; phone (215) 233-6400, fax (215) 233-6581, e-mail ppfeffer@arserrc.gov, ddouds@arserrc.gov, gnagahashi@arserrc.gov.

"Soil Fungi Critical to Organic Success" was published in the May 2001 issue of Agricultural Research magazine.

[Countryman Horticulture / 2003 Jan 9]

Mango farm tastes success

Brian Middleton was told he could never grow a commercial crop of mangos as far South as Neerabup, 40 km north of Perth.

But last year he sold $50,000 worth of mangos direct from his 4 ha farm, and this year — when his harvest starts in mid-March — he will sell even more.

Mr Middleton started experimenting with mangos at Neerabup in 1983. At that time the Department of Agriculture's advice was to not bother with the tropical crop that far south.

But after years as a greengrocer he had a self-confessed passion for mangos and was determined to grow them.

He developed a method of protecting young, vulnerable plants from the winter cold by placing specially-made plastic guards from Singapore around them until they were about two metres in height.

The artificial hot-house environment he creates for the plants on his Mango Farm property does not come cheap.

Each imported bag costs $7.40 and he now has 1250 trees.

Mangos grown at Neerabup also require more sprays for anthracnose and black spot than those grown in the tropical north.

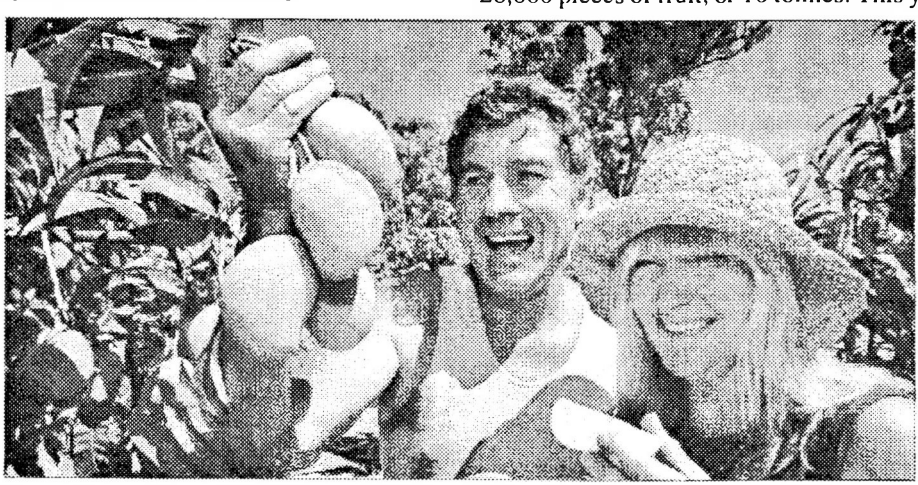
But Mr Middleton is careful to only spray the tree and not the fruit.

Fruit fly and other pest control is achieved through selected bait spraying on non-fruiting trees.

His one-of-a-kind marketing technique relies on his fruit being an excellent flavour, with no insecticides or pesticides.

He sells all his fruit from his farm during a frantic season of 42 days, during which his farm-gate store is open from 9 am to 5 pm, seven days a week.

Last year during his first season he sold 26,000 pieces of fruit, or 10 tonnes. This year



Mango farmer Brian Middleton and Melisa Tipton. In February last year Brian was told he could never grow mangos as far south as his Neerabup property, but his trees are thriving

he expects to sell 15 t.

By 2007, when his trees are in full production, he expects to be producing 50 t of fruit.

He said mangos grown in the temperate region had a superior flavour and were sweeter than fruit grown farther north. Sales of his tree-ripened Kensington mangos rely mostly on word of mouth and some advertising.

"People are very passionate about mangos. They will drive for miles to buy my mangos when they see their size and taste their flavour," Mr Middleton said.

"We just about had to put traffic lights in earlier in the year," he said.

He sells the fruit for a flat $6 a kilogram throughout the six-week season, despite fluctuating retail prices.

"People spend from $20 to $100 buying mangos," he said.

Selling direct from his farm means he does not grade his fruit, nor travel to market. He does not have an agent taking commission on sales and he has a relationship with the people he sells the fruit to.

But he does have to pick his crop when it is mature and that is laborious and costly.

Mango Fact Box

Mangos are grown in WA from Kununurra in the far north to Wanneroo, near Perth.

• Some trees are being planted as far south as Dunsborough.

• Mangos from Kununurra are harvested from September to early December with Broome mangos following on in a similar harvest timeframe.

• The bulk of the Carnarvon mangos are harvested from New Year's Day through to early March and the growing number of mango trees in the Gingin, Baldivis and Neerabup region just north of Perth harvest from mid-March to the end of April.

[west Australian / 2000 Jan 21]

Grow the apple of the gods

If you like the taste of the fruit, the pomegranate is almost the perfect tree for the West Australian garden. It's really good looking, needs very little care, and suffers few problems. What more could you ask?

The name pomegranate comes from the Latin 'pomum', an apple, and 'granatum', having many seeds. Botanically it is *Punica granatum*, one of only two members of the genus. There seems to be some confusion about the plant's origins. Various sources quote the Middle East, Asia, or southern Europe.

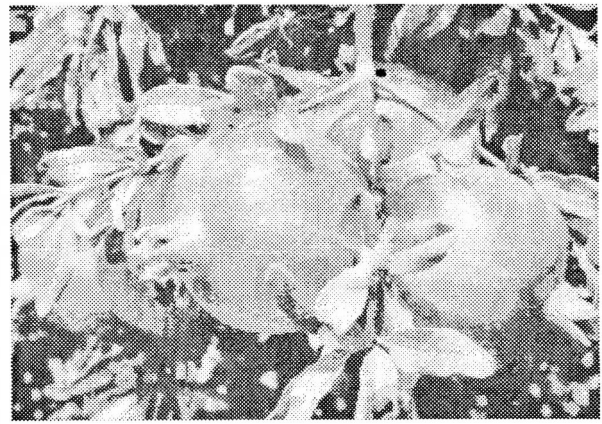
The fact that it has been in cultivation for thousands of years has obscured its natural beginnings. The other member of the genus is found only on an island in the Indian Ocean near the north African coast.

The cultivated pomegranate is found just about everywhere, especially in old gardens. It's not because everybody used to love the fruit. It's more because the plant is easy to propagate and give away to friends or neighbours.

It can be grown from the seeds but there is a fair amount of genetic variation from that method. It's much easier to dig up and

transplant a sucker, which gives a plant identical to its parent.

The pomegranate is a small deciduous tree growing to four or five metres high, with an almost equal spread and a slight weeping habit. Most gardeners keep them below this size by regular pruning, to which they respond well. They can be trained as espalier plants and also make good bonsai specimens.



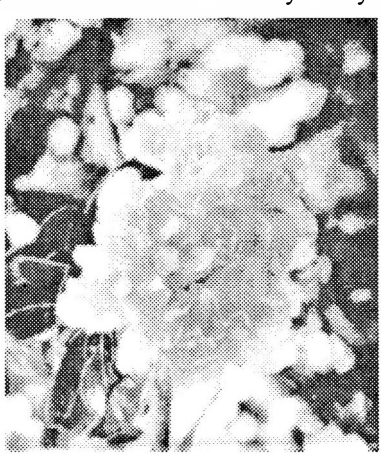
Fruit at maturity

The leaves are a bright glossy green. Flowers are produced in spring and summer at the ends of the branches. The commonly grown fruiting form, 'Wonderful', has brilliant orange-red blooms, either singly or in small clusters.

There are also dwarf and yellow, white, and multicoloured flowering forms. To my knowledge the latter are not available in WA.

The fruits are almost orange-size, reddish yellow when ripe. with a pronounced crown on the flower end. They are best left to ripen on the tree and keep for several weeks.

The plants grow well in alkaline, sandy soils and tolerate some salinity. They need watering for the first few years but after that they are drought tolerant. If you want good fruit, though, they need regular watering over summer to avoid fruit split.



The double flower of a dwarf pomegranate

Apart from bird damage and fruit split they have few problems.As with any fruit which has been in cultivation for a long time, the pomegranate has some mythical powers. In ancient Greece it was associated with fertility. It was the fruit eaten by Persephone which trapped her in the underworld.

It was said that she ate four seeds which gave rise to four barren months in the year. Parts of the fruit were used by the ancient Greeks in fertility potions. In modern times it has been discovered that the fruit is rich in sterol oestrogens, the female sex hormone. Rather than increasing fertility it actually suppresses it.

I'm not suggesting a modern use for it with humans, but I can tell you that if you feed a guinea pig just 10 gm a day, it will not breed.

David Noel comment: Dr Marcus Loeffler, who once was WANATCA's Pomegranate Action Group leader, said that from his observations over many years, pomegranates would never fruit unless they were pruned.

[The Orchardist (New Zealand) / 2002 Nov]

As others see us . . .

Australian exporters may feel very aggrieved when their target markets appear to be keeping out Australian products through misuse of non-trade considerations, such as unfair use of local quarantine or tariff regulations. Instances are regularly reported in the Australian press. The following item is a case where the boot is on the other foot, and would be quite unlikely to be reported here.

WTO heat on Aussies

Australia's tough health rules on food imports, the source of many rows with trading partners, came under heavy fire at the World Trade Organisation during September, according to a report from Reuters carried in the New Zealand Herald.

"Just about every country who spoke had some hard words for the Australians on the food import front," said one trade source. "Feelings are clearly very strong on the quarantine issue which affects a wide range of products".

In recent months the Philippines has moved towards filing a complaint against Australia over the rejection of its pineapples. Other Asian and Latin American countries complained that their exports of tropical and temperate fruit as well as meat are delayed at Australian ports for health inspections so long as to be unmarketable,

An Australian official stated that the stringent policies were vital to ensure foreign pests and diseases carried by imported food products and which could devastate its agricultural sector are kept out. He added that the measures were in line with WTO rules.

The two day WTO session was called to review Australia's trade policies, part of a series in which every member is regularly put under the microscope in discussion of a report by WTO economists.

There was a strong sense that double standards are being applied that Australians lecture a lot about free trade but are not so good at practising it themselves, one diplomat said at the meeting.

These comments certainly don't come as a surprise to many of us in the New Zealand horticulture industry.

¥

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[Pacific Nut Producer / 1999 May]

Pecans Stay Fresh Longer

An edible coating that keeps pecans fresh up to 10 months in storage at room temperature could bring an end to the rancid, off-taste that sometimes spoils the nuts.

Scientists with USDA's Agricultural Research Service developed the coatings, which are made from cellulose, an all-natural product that is the most abundant polysaccharide found in nature. Commercially available and relatively inexpensive, cellulose could easily be sprayed on pecan nutmeats by processors.

Of the three cellulose derivatives tested, carboxymethyl turned out to best preserve flavour. It imparted a high gloss without causing the nuts to look or feel oily, boosting consumer appeal. The coating also delayed undesirable colour changes, a potentially important feature since consumers associate dark-coloured pecans with rancidity. Rancidity occurs when oxygen enters the nut and breaks down, or oxidizes, some of its fat.

Recognized as safe by the U.S. Food and Drug Administration, the coatings would need to be listed on the label as an ingredient. The pecan industry is interested in further developing the coatings, which could promote year-round consumption.

[Countryman Horticulture / 2002 Dec 5]

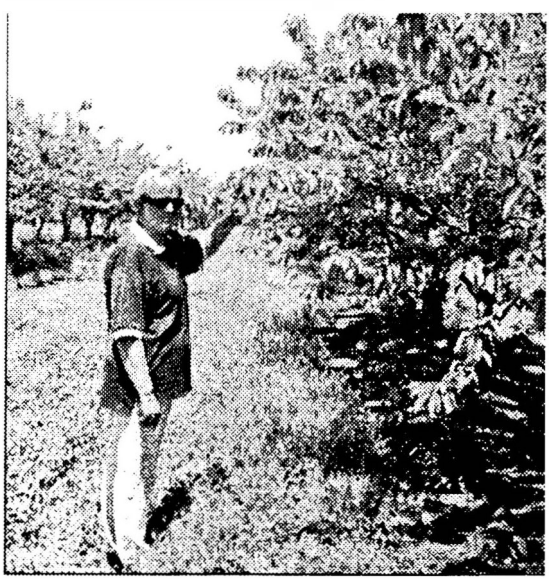
Cherries blossom in Mt Barker

Farm diversification into horticulture has allowed Mt Barker farmers Beverley and Ian Lynch a profitable alternative to sheep and beef while solving waterlogging problems on-farm.

The broadacre farmers diversified into cherries in 1980 when Mrs Lynch decided she wanted her four children to be educated in Perth. "I was told the farm couldn't pay for it so I was given some ground and told to make some money from it," she said.

In July 1980 they planted 190 cherry trees and gradually put in more each year to a total of 560 trees. Through irrigation, the cherry trees have allowed them to utilise an integrated farming and water management system.

"We have three creeks running through the place and we had a lot of wet areas and problems so we put drainage in," Mrs Lynch said. "But we really wanted to maximise the use of water we were draining off".



Albany cherry grower Bev Lynch with cherries that will be ready for harvest around Christmas time

"So all the water we collect for the orchard comes off the top of the hills. It has corrected a lot of problems because that water is no longer going to the lower slopes of the hill".

The remaining water drains into dams or into a small area of blue gums on the property.

Mr and Mrs Lynch sent their first fruit away in 1984, a total of 9 kg, which increased to 1500 kg the next year.

In 1996, they planted a new orchard of 900 cherry trees along with one quarter of a hectare of Department of Agriculture trials of apricots, pears, plums and apples.

"We've learnt a lot about the trees since the first time," Mrs Lynch said. "It is a totally new training and growing system.

"We've learnt about fertilisers, pruning, varieties that are in demand and we are expecting to produce more per tree.

The trees have been planted under bird netting and on mounds, providing an extra 50 cm of topsoil.

"The branches are tied horizontally onto wires to increase the amount of fruit per tree and reduce picking costs.

"From humble beginnings as a sideline source of income, cherries have become a profitable enterprise.

"When the reserve price came off wool and prices dropped dramatically, what sustained us through that time was the cherries."

— Jodie Thomson

[Countryman Horticulture / 2002 Dec 5]

WA cherry growers begin to feel effects of imports

Cherry growers are just starting to feel the effects of the first cherry imports into the State.

Cherries from South Australia started entering WA late last month and already about 800 cartons have been sold. None of the imported cherries has been fumigated with methyl bromide.

Until last month WA cherry growers had the domestic market to themselves but the discovery of brown rot in WA in recent years gave cherry growers no reason to keep eastern States cherries out of WA.

And the South Australian growers made a successful application to send their fruit into the WA market.

Cherry Import Rules

- ***Only cherries grown and packed in South Australia are permitted entry.***
- ***Each consignment must be accompanied by an interstate plant health certificate.***
- ***Each consignment must be inspected and found free of pests of quarantine concern to WA.***
- ***The cherries must be packed in clean, new packaging.***
- ***All consignments must be free from leaves, soil and other plant debris.***
- ***All consignments are to be inspected on arrival in WA.***
- ***The trade in cherries from South Australia will be reviewed at the end of the first season.***

Anthony Scaffidi, of Donnybrook, checks the development of cherries on his trees. He has bought a cherry grader because of competition from South Australia

President of the WA Cherry Growers Association, Tim Birmingham, said prices would drop with more cherries on the market but he believed there would still be room for premium grade WA cherries to attract premium prices.

"SA still has to pay extra freight costs. There will be some WA growers that will probably be forced out of the industry," Mr Birmingham said.

"Those growers that have not changed to newer varieties and more modern and efficient growing techniques might not be able to compete," he said. "But I am confident that good fruit will still get a good price."

He said in former years WA cherries of small sizes had sold for $15 and even $20 a kilo when in other markets they would have struggled to get a steady $10 a kilo.

Anthony Scaffidi, of Donnybrook, has

prepared for the competition by buying a grader that will machine grade his 3.2 ha of cherries.

"The cherry growers in SA are so much bigger than most growers here that they size grade all their fruit," he said. "To stay competitive I have invested in the grader so that my fruit is comparable to the SA fruit."

Mr Scaffidi assumes that retailers will prefer the graded fruit to ungraded fruit once the option is available.

"I grow around 15 tonnes of cherries a season, but there are growers in the Adelaide Hills that pick 20 tonne a day. They get better yield per hectare because of the chill in the Adelaide Hills. South Australia coming in will really level things out."

Mr Birmingham said WA's cherry crop was light around Mt Barker because of insufficient chilling, Dwellingup crops had been good and Donnybrook and Manjimup crops were light but would produce good sized fruit.

He had used a chemical dormancy breaker in his Dwellingup orchard this season to trick his trees into false dormancy.

With an unseasonally warm winter the dormancy breaker had worked extremely well, he said.

African relatives of the jujube

The Jujube or Chinese Date sometimes available in Australia is *Ziziphus zizyphus* and was developed from wild stock in China. However there are many other relatives with edible fruits which are hardly known outside their native areas. The following descriptions are of *Ziziphus* species found in Zimbabwe in Africa. They are from *Food Plants of Zimbabwe*, by M H Tredgold.

177. ZIZIPHUS MUCRONATA Subspecies: mucronata.

Names: E: buffalo thorn, wait-a-bit tree. S: chinanga, mupakwe, muchecheni. N: umpafa, umpakwe, umpasamala.

Description: A tree up to 12 m high, with twisted bole and spreading crown. The branches are generally drooping and are armed with pairs of very sharp thorns, one straight and the other bent. The leaves are brittle and shiny with wavy margins and the main vein set askew. Small star-shaped yellow flowers cluster in the leaf axils. The fruit is round, 15 mm across, shiny bright red or red-brown when ripe. The smooth tough skin encloses floury pulp and a single hard stone, with two flat oval seeds within.

Location: Widespread at medium to low altitudes, mainly in msasa woodlands and often on termite mounds, in good rainfall areas.

Dates edible: March to August and most of the winter.

Preparation: The pulp of the fruit is rather dry but sweet and mealy and pleasantly thirst-quenching, eaten fresh. The dried and pounded fruits are roasted and ground as a coffee substitute.

Medicinal uses: This tree is used extensively in folk medicine. The leaves, soaked in boiling water, are applied hot as a fomentation for pneumonia and other chest complaints. Roots and leaves, infused and ground into paste, are used to treat boils,

Ziziphus mucronata

carbuncles and swollen glands. Extracts from the roasted, ground and pounded roots are a remedy for dysentery, lumbago and general body pains. The root may also be cleansed and chewed fresh to treat the above conditions.

General interest: The tree was believed to deflect lightning from anyone sheltering beneath it. In folk belief it should not be felled after the first rains began or a drought would follow. The Swazi people protect their graves from wild animals by covering them with Ziziphus branches, though certain wild animals eat the fruit and young leaves. The bark contains tannin. The fresh leaves provide fodder for grazing stock.

Related plants: 177(a) **ZIZIPHUS RHODESICA. (see front cover of 'Quandong').**

Usually widespread in Brachystegia and Julbernardia woodlands, on termite mounds, in good rainfall areas. The leaves are greyish-green and densely hairy beneath. The fruits are dry but edible.

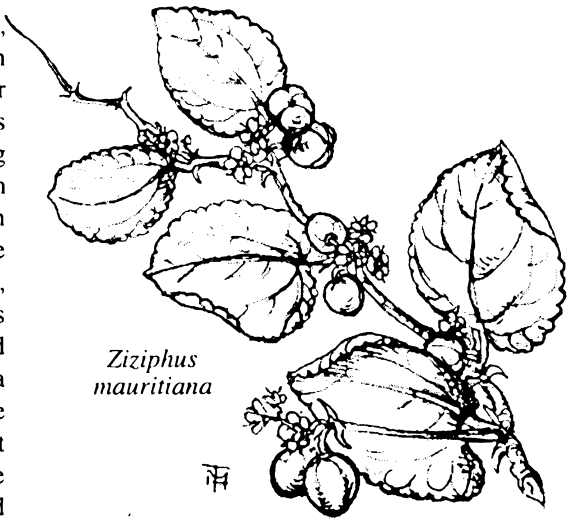
178. **ZIZIPHUS ABYSSINICA.**

Names: E: jube-jube S: muchecheni. This is a riverside tree of low altitudes, reaching 7 m in height. The oval leaves are lobed at the base, one lobe being deeper than the other. They are set with two small spines, one pointing upward and one hooked down. The fruits are some 30 mm across, ripening to reddish brown from June to September. The pulp, eaten fresh, is mealy but sweet. The leaves are used to make a hot steam fomentation for chest complaints and their burnt ash, mixed with salt, is used to treat tonsillitis.

Ziziphus abyssinica

179. **ZIZIPHUS MAURITIANA.**

Names: E: buffalo thorn S: musau, sau (fruits), with the same common names, is a small tree of the lower Zambesi valley, with smaller leaves and fruits than Z. *abyssinica*. The young leaves and stem are covered with whitish down. The fruits are yellow, 10 mm in diameter, ripening to black. They are pleasant-tasting and thirst-quenching, eaten fresh, or sometimes sun-dried as a preserve. The ripe fruits, crushed and soaked for some hours in water, make a fruit drink. If allowed to ferment the liquid may be distilled to make a potent spirit called *kachaso*. In Bindura the roots, soaked for several hours, are used to cure convulsions in a child.



Ziziphus mauritiana

[NWFP-Digest-L / No. 10/01, 2001 Sep]
<nwfp-digest-L@mailserv.fao.org>

Shea nuts, NWFPs, and Biotrade

The FAO is to support UNCTAD's Biotrade Initiative — helping conserve biodiversity by making it pay.

The best way to protect a resource, such as forests and their biodiversity, is to make it useful to those destroying it. And if they are willing to preserve it instead, they should receive a fair income from it.

That's the thinking behind the Biotrade Initiative launched in 1996 by the UN Conference on Trade and Development (UNCTAD).

Its objectives, in line with the Convention on Biological Diversity (CBD), are to ensure conservation and sustainable use of biological diversity, and to ensure that the benefits arising from its use are shared fairly.

The Initiative has practical support from the UNCTAD/WTO International Trade Centre, which assists developing countries with the skills needed for trade promotion and export development.

Now, following discussions in Rome with representatives of UNCTAD and the International Trade Centre, FAO will support the Biotrade Initiative's Trade Facilitation Programme.

This is intended to enable sustainable trade in biodiversity products and services, through innovative partnerships in product development, processing, marketing and biodiversity management.

FAO already actively promotes a fair-trade approach to the preservation of genetic resources, one example being promotion of non-wood forest products (NWFP) that can be harvested sustainably from the forest. This

gives people an economic alternative to cutting it down for either timber or agriculture.

NWFP range from wild honey to fibres used in car upholstery, and include mushrooms, wild edible nuts, berries and bamboo.

Why biotrade? The thinking behind the Initiative is that people will be more willing to preserve biodiversity if doing so offers economic advantages.

An example is the karite, or shea nut, tree [*Vitellaria paradoxa*]. It grows over much of West Africa — including ecologically sensitive areas on the fringes of the Sahara, where trees are vital.

Karite demonstrates how sustainable exploitation of a resource may help preserve it, according to Paul Vantomme, FAO's expert on NWFP.

"Farmers often cut trees down to free land for growing food," he says. "But, increasingly, they are tolerating karite trees in their fields because the nuts provide an edible oil".

That oil can also be processed into shea butter, which can be used as a substitute for cocoa butter in chocolates, and in cosmetics.

If local farmers earn enough from the income this generates, they will integrate the trees with agriculture. This is now happening.

The next step, says Mr Vantomme, may be that farmers start growing a plant in which they previously had no interest — or even considered a nuisance.

"A "crossover" situation has arisen in which some potentially threatened plants (such as kola nuts in West Africa) are farmed and traded, but wild ones continue to grow in nearby forests. This is good, as the wild populations can be used to maintain the genetic health of the farmed crop.

The principle does not apply solely to forests, but they offer particular potential because they are a critical reservoir of biodiversity".

And NWFP are an important business. In 1990/91 the value of the total recorded trade in such products was estimated at US$11 billion.

To put this in context, the global coffee-bean trade was then worth about US$17 billion.

Challenges to biotrade

The Rome discussions on the Trade Facilitation Programme centred on a number of key issues concerning sustainable trade in biodiversity and forest products.

Trade in a threatened resource must have sufficient value for it to be worth preserving. But at the same time, the trade may have to be limited, precisely because so is the resource.

Species yielding NWFP tend to grow at low densities - especially in tropical forests. This means there will not be large commercial quantities. So these products must be aimed at niche markets that can be profitable in small quantities.

This could include, for example, forest plants used for high-value medicines and herbal remedies.

It is also important to determine where the limits of sustainable harvesting lie for a given wild product. And the technical tools for assessing those limits must be developed and transferred.

After this, there must be ways to certify that harvesting is sustainable, in order to set standards for labelling - but it is difficult to certify products gathered in the wild.

Finally, new initiatives are needed to market unfamiliar products.

Many of these issues should be addressed

by the joint activities provisionally agreed to at the meeting.

They include:

* Improving terms and definitions for NWFP, essential for international trade. Work will focus on adding to the classifications already listed by the World Customs Organization.

* Clarification of certification and labelling issues. Consumers must know that what they are buying was harvested sustainably.

* Development of benefit-sharing arrangements. These are mechanisms to ensure that those who harvest resources with care receive a fair share of the income. These arrangements also cover, for example, farmers' rights to use commercial varieties of crops developed with genetic material they have helped preserve.

* Possible joint promotion of trade in key NWFP.

"If this collaboration develops," says Paul Vantomme, "it will help us to help local communities become partners in conservation - and raise their own living standards at the same time".

— *Tina Etherington*

<Tina.Etherington@fao.org>.

[Countryman / 2002 Nov 14]

WA avocado growers in box seat

Drought in the eastern States will push up demand for WA-grown avocados in the coming months as water becomes scarce and yields decline in many avocado-growing areas.

WA board representative on the Australian Avocado Growers Federation, Wayne Franceshci, said prices for WA avocados would be high this season.

Unlike eastern States areas, the WA avocado-growing regions of the south-west coast rely mainly on ground-water and are not experiencing water shortages.

Mr Franceshci said that while he was pleased WA growers would enjoy high prices, he was also concerned about the impact of low supply on future consumer demand and the possibility of competition entering from other countries to fill the void.

New Zealand, which is the only country that exports avocados to Australia, was hit by severe storms two months ago, losing 250,000 trays of the fruit.

The current general lack of supply is in stark contrast to what is predicted for 2010.

By then, conservative estimates say the present 450,000 trays of avocados produced in WA will more than double to 1.5 million.

Mr Franceshci's own Avonova packhouse expects to pack 500,000 trays within five years.

The 15 avocado growers that produce for the Avonova label command a long harvest window because they grow from metropolitan Perth to Pemberton.

Mr Franceshci expects more growers will join the alliance.

He has just finished planting extra trees on his own properties in the last 12 months and now has 24,000. The trend for large-scale plantings of avocado trees is nation-wide.

The Australian Avocado Growers Federation is planning to avoid a future over-supply problem by assessing export markets.

Mr Franceshci said export would only suit bigger growers and would be a necessary part of the industry within a few years.

— Mignon Shardlow

Pemberton avocado grower and packer Wayne Franceshci: avocado prices will be very good this season

Prosopis source of useful products

Up in WA's Northwest, there are extensive areas of Mesquite, Prosopis species commonly believed to be introduced (and subject to strict government control). Local man Ray Ward has developed a number of industries based on these trees, here is his account.

Summary

The Mesquite tree grows on Mardie Station near the Fortescue River 85 kilometres Southwest of Karratha. There are about 12,000 hectares of Mesquite in total. The Mesquite was introduced in the 1920s and it has never been kept under control. I have been granted a special lease through the pastoral board and I have a contract of sale from CALM to harvest Mesquite. There are two types of Mesquite trees on Mardie Station; *Prosopis juliflora* and *Prosopis pallida*.

Source of Honey

The Mesquite tree flowers from the first week in September to the first week in January and the nectar gathered from the Mesquite flower is separated to be of Superior Quality with a special flavour. The honey from the Pilbara has won top awards at the "Perth Royal Show'. The hives (two seepers) produce 20 litres of honey per hive. The honey is sold in the Pilbara.

Mesquite Meat

The pods come on the tree after the flowers are finished. When the pods are ripe they fall from the tree and are gathered, milled and then it is a good supplement for feeding all livestock. With more treatment the meal is made into cooking flour for bread making etc. It can be used in all forms of cooking.

Timber

At the present time I am supplying Mesquite wood to a chain of steakhouses Australia wide. I also make woodchips for smoking food on Webers and Sawdust for a meat factory in New South Wales. I am also milling the Mesquite wood for furniture. After the wood has been polished, it is on par with walnut, rosewood and some mahoganies.

Future Projects

This year our project to make "Liquid

Smoke" — first spray on your meat ,and the taste is as good as a Weber. The other product which is on trial at the present time is the Organic Termite Deterrent for around trees and houses. Mesquite Mulch is in big demand in Karratha gardens. The first batch of mead has just been put down, I am sure with this fine honey we will have a special wine.

Conclusions

A Mesquite management plan should be put in place to control the Mesquite on Mardie Station. Here we have the Government at a high cost getting ride of the Mesquite and I produce six products at the present time and three for the future. Mesquites have a very bright future.

— ***Ray Ward***, Pilbara Mesquite, PO Box 520, Karratha WA 6714. Phone/fax 08-9185 3497.

[Fruit Loops / 2002 Feb-Mar]

Pollination, Problems and Varieties of Passionfruit

(Adapted from Daley's Nursery Website with their kind permission)

One of the main challenges when growing passionfruit is in obtaining a satisfactory fruit set in some of the varieties. This set only occurs when an abundance of pollinators are present.

A good way to increase pollination is to attract more bees. A good way to do this is to interplant with a purple and yellow passionfruit that between them have their flowers open from dawn to dusk.

Hand pollination greatly increases fruit set and size. For successful hand pollination ensure the flower is fully open (receptive) then with a cotton bud remove pollen from the Anthers and deposit it on the Stigma. The Stigma is receptive from the time of flower opening to closing. Pollen is released before the flower opens and before the stigma is receptive.

Frequently Asked Questions

Q: Why don't my passionfruit set fruit?

A: Poor pollination. This is the main cause and can be due to bees not working the flowers; temperatures being too low or too high for pollination (optimum temperatures are between 20° C and 30° C); or strong winds or rain. Boron deficiency. Extended periods of overcast weather. This can cause flower drop regardless of pollination problems.

Q: Why is the fruit dropping off the vine?

A: Rootrot is the main problem, and the only cure is prevention. Grow Passionfruit in well drained soil. They plants aren't long lived, and can be replaced after 5 or 6 years. Give the plants a dressing of a balanced fertiliser several times a year. Irregular watering in which the vines at times get insufficient water Fungal diseases. Fruit fly and severe mite damage, particularly with young fruit.

0: Why are the leaves turning yellow?

A: The most common cause of leaves going yellow is passionfruit woodiness virus. Other possible causes are: Magnesium

deficiency. Nitrogen deficiency on sandy soil winter yellows' brought on by cold weather, windy conditions, low humidity or a combination.

Q: Why is the fruit bumpy of malformed or shrivelled?

A: The main causes for this is: Woodiness virus. The most likely cause, particularly if the vines aren't growing well and there are some yellowing of the leaves. Boron deficiency. Insect damage, particularly fruit fly. Sucking bug damage. Poor pollination. Insufficient irrigation when a heavy crop is set.

Passionfruit Varieties

Grafted Varieties

TOM'S SPECIAL A freak hybrid from Burringbar in Northern NSW. It bears fruit of excellent quality and seems to have a high degree of tolerance to fungal diseases. This variety was used in breeding work that has resulted in some promising selections being made notably the Super Sweet Selections.

SUPER SWEET-AV1 Grafted Pink Skinned passionfruit cropping most of the year. Large with sweet juicy pulp and good disease resistance. Most promising Selection to date. The Pink skin is a negative but as consumers begin to relate the quality to this variety it should become more popular.

Seedling Varieties:

PASSIONFRUIT, BANANA *Passiflora antioquensis, P.mollissima* and *P.mixta.* The name 'banana passionfruit' is most often given to either *P.mollissima.* The fruit quality is good, however it lacks the sweetness of the improved varieties. This variety is widespread throughout South America where it is grown commercially for juice. The yellow oblong fruits are approximately 10 to 15 cm long with a citrus tasting overtone. The species grows vigorously and shoots develop from roots after frost injury.

PASSIONFRUIT, PURPLE *Passiflora edulis* This fast growing vine is vigorous, easy to maintain, and ornamental with dark green, glossy leaves and purple and white fringed flowers. The fruit are a bit bigger than golf ball size, purple skinned, and produced in profusion. They are ready when they fall from the vine, but become even sweeter if collected and allowed to shrivel slightly. Fruit have to be collected from the ground regularly, because they sunburn. Vines begin to bear from one to two years from planting out.

PASSIONFRUIT, YELLOW *Passiflora edulis var.flavicarpa* — 'Golden passionfruit', 'Hawaiian passionfruit' . The yellow form is identical in all respects to the purple plant, except that the fruit are a mid yellow colour, and slightly smaller. They withstand some less than ideal soil conditions better than the purple form. The yellow passionfruit grown in many tropical areas may be different from the true P.edulis var. flavicarpa because it is larger than even the purple form, has a thicker

fruit wall, and a slightly more acid flavour. The foliage is lighter, and larger. Requires two plants for cross-pollination. This variety is used as a rootstock for the grafted types due to its high disease tolerance and vigour.

PASSIONFRUIT, SWEET GRANADILLA *Passiflora ligularis* — This very vigorous vine has somewhat heart shaped leaves and very attractive large white and purple fringed flowers. It requires something fairly strong to climb up, and will reward you with orange round fruit, sometimes blushed purple, about half way between golf ball and tennis ball size, with a brittle fruit wall enclosing opaque white pulp that is sweet, perfumed and aromatic. One of the sweetest of the passionfruit, it originated from mountains above 3,000 m and therefore will only tolerate a very light frost.

PASSIONFRUIT, GIANT GRANADILLA *Passiflora quadrangularis.* This is the queen and king of all passionfruit — at least in terms of size. The fruit can be as big as a melon! They fruit virtually year round, and in the best conditions, a single vine can produce upward of a hundred fruit. The plants are extensive growers. The flowers are up to 12 cm in diameter, with purple and white filaments against the red sepals. Fruit are oblong with delicate aroma and thin, smooth skin. Inside is an inch or more of firm whitish or pinkish flesh and a large central cavity filled with a mass of purplish-pink pulp that surrounds large dark seeds. Thrives in a warm humid climate and will die if temperature fall below 13° C.

PASSIONFRUIT, WATER LEMON *Passiflora laurifolia* 'Jamaican Honeysuckle', 'Jamaican watermelon'. A moderately vigorous climber to 10 m or more. The highly fragrant flowers are up to 15 cm across with red or purple sepals and petals. The rind is leather to 3 mm thick, white and spongy within; becomes hard when dry. Pleasantly rose-scented, the translucent, whitish pulp is very sweet and juicy. The flowers open only in the afternoon and are apparently not self pollinated. Cross-pollination is required for good crops. Hand pollination is advised for best fruit set.

PASSIONFRUIT, PANAMA The Panama Passionfruit is a tropical passionfruit from the same species as the golden passionfruit. It produces purple or golden fruit, larger than the hybrid varieties but a lower pulp to weight ratio. For commercial growing Panama and other golden passionfruit selections are best suited to a true tropical climate, however they are well suited for subtropical conditions for the home orchard. Growth will slow and the pulp content of the fruit will diminish during the cooler months.

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[Countryman / 2002 Nov 28]

UAE interest grows in Gascoyne dates

The United Arab Emirates ambassador has sparked excitement in the Gascoyne with his interest in the area's suitability for growing dates.

Khalifa Al-Falasi visited the Gascoyne during a recent investment tour organised by the State Government.

Department of Agriculture regional director Mark Lewis said Premier Geoff Gallop opened a trade office in Dubai last month and the department's director of trade and development would be following up the ambassador's interest.

"We are hoping that he wants to go to the next step with a memorandum of understanding to do some importation and trialling of the varieties they want to use," Mr Lewis said.

Department economist Karen White, who is looking into the expansion of the horticulture industry in Carnarvon, spoke to the ambassador while he was in Carnarvon.

She said she understood the United Arab Emirates were interested in pieces of land suitable for big date plantings.

"We were looking at an area 15 km east of the town which would be very suitable for date production," Ms White said.

"The dates would enjoy the hotter, harsher weather out east and the area has suitable soils."

Elizabeth Guglielmana beside a date garden she and her husband pioneered in Carnarvon in the early 1990s

She said the area was now under pastoral lease and a change of usage would need to be negotiated.

"I was left with the impression that they were looking very long term and would be interested in having a five-year trial to ensure the area could provide the necessary quality," Ms White said.

The quality of the product would be paramount. The cost of production is higher here so we would have to produce the right quality."

Mr Lewis said some date trials were carried out at the Carnarvon Agricultural Research station about 20 years ago.

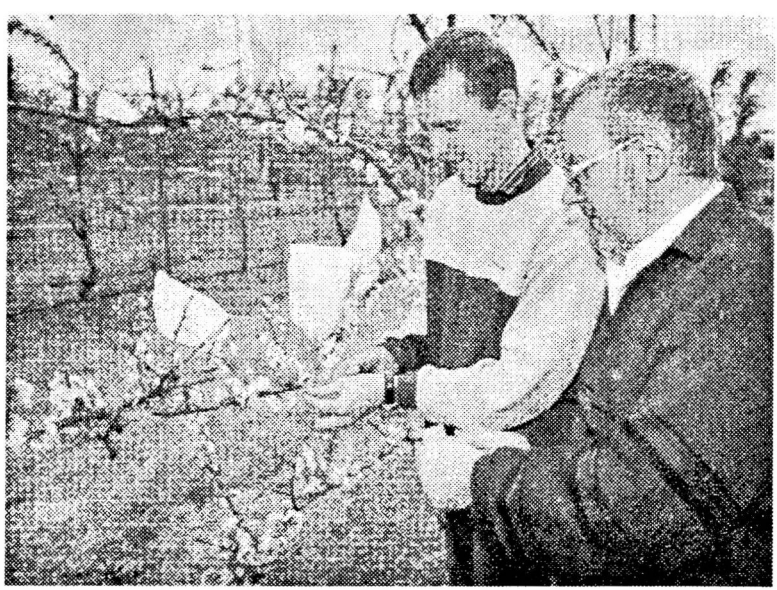
— Jennifer Peate

[Countryman / 2001 Nov 1]

Climate matching favours Manjimup

A climate-matching project by the Department of Agriculture in Manjimup has found Manjimup's climate is close to a perfect match with key horticultural regions around the world. It compares well with areas from Biarritz, the gourmet centre of France, to the nut-growing regions of Perugia in Italy, Trabson in Turkey and Corvallis in Oregon, USA.

The climate-matching is being used to identify potential new crops for the Manjimup region after a series of blows to growers that started with the closure of potato processor Simplot and continues with common horticultural problems including the cost price squeeze between rising input costs and increasing international competition from countries like China, New Zealand, Chile and South Africa.



Fruit breeding technician Steele Jacob and Manjimup Horticultural Research Station manager David Doolan cross-pollinate a new variety of plum

The New Futures Project already has a long list of possible crops but it aims to present to growers, in 18 months, a final list of about three to seven crops after determining market opportunities and

conducting economic and agronomic analysis.

"The new crops have to be market led. We have to produce what is wanted by the market, not what we want to grow," said David Doolan, manager of the Manjimup Horticultural Research Station.

Mr Doolan said Australia was falling behind in fruit exports while Southern Hemisphere competitors were surging ahead with exports to Europe.

"The Southern Hemisphere supplies fruit worth $3.7 billion to Europe and Australia only supply $40 million of that," Mr Doolan said.

"We have concentrated on Asia and considered Europe too hard. But if Chile exports to Europe, so can we.

Mr Doolan said preliminary work on the project had revealed close climate matches between Manjimup and Northern Hemisphere horticultural regions, including:

• Porto in Northern Portugal the home of Port wine.

• Biarritz in southwest France — gourmet food and fine wine centre.

• Nice on the French Riviera.

• Perugia in Italy — home of walnuts, chestnuts, truffles and pate de fois gras.

• Trabzon in Turkey — a hazelnut growing region.

• Corvallis, Oregon in America centre for hazelnut production.

• Santa Rosa in Northern California.

• Parts of the Napa Valley in California.

Nut crops

The case for growing nut crops in the region appeared to be strong, Mr Doolan said.

"$10 million worth of walnuts are imported into Australia each year and the domestic hazelnut market is worth $10 million.

"We don't know about the market for chestnuts but Japan buys a lot and American and European chestnuts are suffering disease problems so we may have an advantage there."

Mr Doolan is one of the key speakers at the South West Horticulture Conference on Thursday November 15. ¥

[The Post / 2000 Jun 22]

Nedlands goes nuts over street trees

Walnut and almond frees may be planted in Nedlands [western Perth suburbs] streets but macadamias must not be planted under powerlines.

Fruit trees have been excluded from a list of 39 species considered suitable for planting in the city.

Most of the trees are Australian natives, but Jacarandas, London Plane trees and Chinese tallows have been included in a selection of 10 exotic plants that will be allowed if the council approves the list on Tuesday.

A group of councillors, tree and plant experts, and city staff drew up the list.

Trees prone to diseases, invasive roots and shedding limbs were excluded.

Those included had to respond well to pruning and not create a hazard or nuisance with fruit or nuts.

West Australian Nut & Tree Crop Association (Inc)

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CALENDAR OF FORTHCOMING EVENTS

(See also www.AOI.com.au/wanatca/Events)

Deadline for next issue: Apr 20

2003

Jan 21 Tue Wanatca Executive Committee Meeting
Mar 14 Fri **Wanatca Pistachio Seminar/ Workshop, Northam**

2004

Sep 20-24 **Acotanc-2004, Gatton, Queensland**

*General Meetings are held starting at 7.30pm. *Venue: Theatre Room, Kings Park HQ, West Perth.*
These meetings usually include a display of current world tree-crop magazines for sale.
• Event with WANATCA participation; § For contact details refer to the Tree Crops Centre.

Current Subscription Rate: $60.00 per year
(includes all publications for four consecutive quarters). Student Rate: $30.00

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