

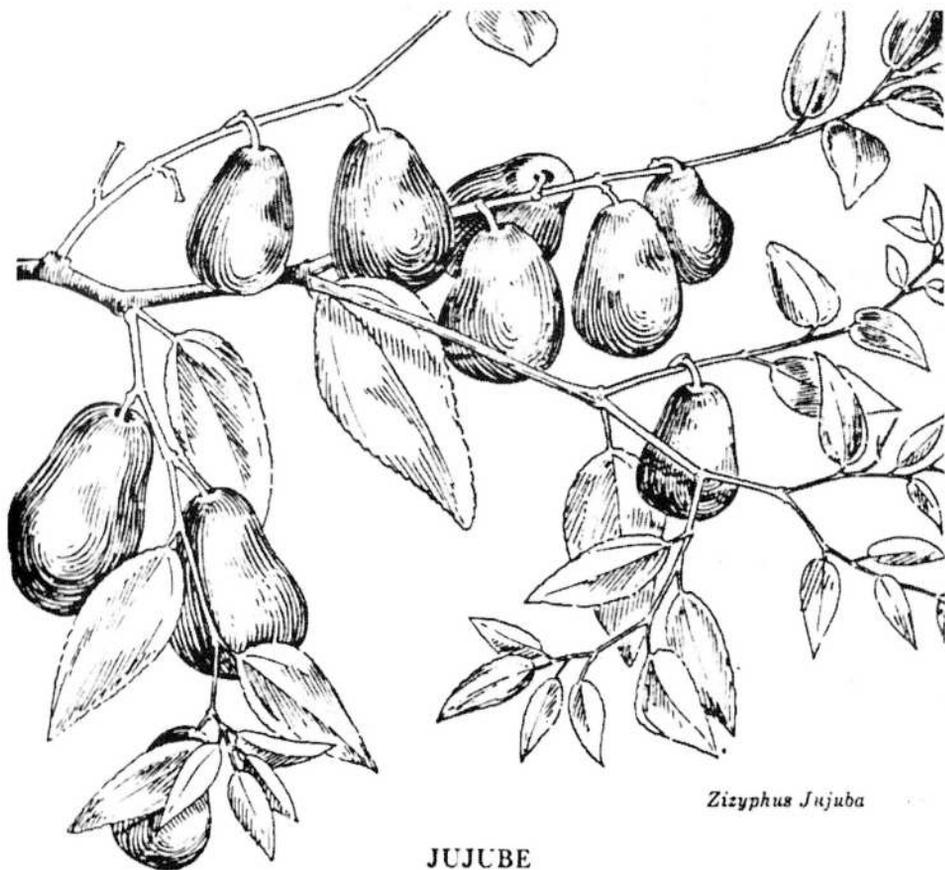


Quandong

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

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Zizyphus Jujuba

JUJUBE

Jujube or Chinese Date, *Zizyphus jujuba* (See: About the Cover, p. 2)

Quandong • Fourth Quarter 2004 • Vol 30 No 4

***DON'T MISS THE NEXT WANATCA GENERAL MEETING:
7.30 pm, Tuesday November 16, 2004.***

At our next meeting there will be a presentation on:

All about Jujubes

At this meeting our Jujube expert, Jim Dawson, will describe his pioneering work toward getting jujube growing established in Western Australia.

Jujube is one of the most promising fruit crops for the State, and can be grown over big areas of WA. But its development has been held back by lack of planting stock.

As with most crops, local experience is needed for local success and economic viability, and this is your opportunity to learn about this vital aspect of jujube growing.

This meeting is at Kings Park Headquarters as usual. See the attached flier and the article on page 5.

Late enquiries to 9250 1888 please.

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About the Cover

The cover drawing of the Jujube, *Ziziphus jujuba*, is from B.E. Dahlgren's 1947 book *Tropical and Subtropical Fruits*. An article on this fruit, and an invitation to a talk about it, appears on page 5.

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[Countryman / 2003 Jun 5]

Oil mallees the future for low-rainfall lands?

Oil mallees are proving a growing business for the Parnell family, of Tincurrin, who three years ago leased out their farm land to concentrate on their mallee nursery.

Kerry and Keith Parnell started the oil mallee nursery five years ago with 60,000 seedlings and this season will produce 1.65 million seedlings.

"We have 1.3 million mallees and 195,000 other seedlings are being grown for evaluation in the CALM [Conservation & Land Management Dept] Search project which is looking at the potential of native species for commercial use, as well as other trees for landcare use," Mr Parnell said.

"This includes 40,000 trees for the Lake Toolibin recovery program and 750,000 mallees for the Kansai carbon credits project."

The CALM Search project also includes two newer oil mallee species, *Eucalyptus myriadena* and *E. angustissima*, from the subspecies *quarendra*, which look promising in the nursery.

Mr Parnell believes the industry's future hinges on its profitability and ability to



Keith Parnell, of Tincurrin, among young trees at his oil mallee nursery

compete economically with conventional practices. The next few years would be critical in proving the mallee's profitability as a low rainfall tree crop.

"The Western Power pilot project at Narrogin was the first chance to prove the economics," he said.

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>.

But the farmer turned nurseryman said the figures looked exciting with potential net farm returns of \$250-370 per hectare per year for mallees planted on a good site.

This figure was based on 2500 trees/ha, producing 10 kg of harvestable material (branches and leaves) per tree per year worth a net farm price of \$1015/tonne of biomass, the indicative price for biomass supplied to the integrated wood processing plant at Narrogin.

Mr Parnell said mallees planted in 1996 on their farm, on an ideal site, each produced 10 kg of biomass a year but average production rates were about 5 kg of biomass/tree/year.

"They are pretty exciting numbers as once



Oil Mallee Association Upper Great Southern regional manager David McFall with the new mallee oil pilot plant at Narrogin in the background

you have established the crop there is no annual costs," he said.

Ground-breaking plantings begin

Millions of mallees are set to go in the ground in the Kalannie and Wongan Hills area in the next few weeks as part of a multi-million dollar carbon credits deal.

Struck last year, the deal between the Oil Mallee Company and one of Japan's biggest electricity companies, Kansai Electric Power Company, will see farmers paid a lease for the area the trees occupy of \$ 50-80 per hectare per year for the life of the 20-year agreement.

Oil Mallee Company managing director Syd Shea said the Kansai planting of 2.5 million mallees across about 1000 ha was the biggest single planting of mallees by one group.

Professor Shea said future plantings for carbon credits depended on the Federal Government signing the Kyoto Agreement.

"The Government has publicly agreed to

meet the Kyoto targets so why don't we take the benefits of meeting them?" he said.

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Jim Dawson to speak on jujube, November 16

A unique opportunity occurs at the next WANATCA Meeting to hear our Jujube Action Group Leader, Jim Dawson, speak and answer questions about Jujube.

This versatile, productive fruit tree has great potential for WA. Some years back, a team from the Chinese Academy of Sciences toured all parts of Western Australia.

Their first recommendation was that suitable jujube varieties should be planted all over the State. Not only in orchards, but also around paddocks, in alley farming and intercropping, and in land reclamation. The jujube's ability to cope with all sorts of extreme conditions makes it a prime candidate for all these plantings.

An excellent paper by Dr J C Tewari, *Jujube: A multipurpose Tree Crop for Solving Multiple Problems of Arid Lands*, was given at the ACOTANC-2001 Conference in Perth, and is available on the Web at

www.aoi.com.au/acotanc/Papers/Tewari-2. At the same site is Roger Meyer's paper on *Jujube Orchards*.

Wetting the leaves

I visited Jim's jujube planting last year, and he made an important point. Apparently jujubes dislike water being sprayed on their leaves during summer, and if this happens, they show poor growth. I have never done well with jujubes in my Shenton Park yard, which is sprinkler-irrigated automatically from a bore in summer, and this appears to be the reason. A plant I had from Jim, which I sited out of the automatic sprinkler zone, has taken off strongly this month, while other plants have not done well.

A more extensive writeup of Jim's work



Jim Dawson with a loaded jujube tree

with Jujube appeared in the Second Quarter 2004 issue of *Quandong*. This mentioned that Jim thinks one of the factors in his success with jujube is that he was able to find a very good rootstock variety.

This rootstock, and his method of budding (which he will demonstrate at the meeting), have enabled Jim to propagate and sell some thousands of plants. But the demand still exceeds his supply!

Below is reproduced Jim Dawson's brief summary on this plant, but at the talk he will have much more extensive information to hand, backed by experience to answer most of your questions.

Ziziphus jujuba

(Chinese Date, Red Date or Jujube)

Originated in China 4000 years ago and is used in traditional Chinese medicine. The fruit is high in vitamin C and is eaten fresh or dried.

The Jujube is salt, drought and frost tolerant and revels in long, dry, hot summers. It dislikes

shade and humidity, which will cause ripening fruit to split.

Fresh fruit tastes like a Granny Smith apple. Trec dried fruit stores for 12 months without need of preservatives. The tree and fruit are disease free — however the roots will sucker if over-watered during summer. Simply cut off suckers if a nuisance.

Varieties

Li: Bears largest fruit and is first to ripen. Best eaten fresh when colour changes from green to yellow and then, depending on taste, to full mahogany colour. Tree is virtually thornless.

Chico: Apple shaped fruit with round seed. Dual purpose fresh or dried. Thorny plant.

Sui men: Oval shaped, medium sized, dual purpose fruit.

Thornless: Pear shaped fruit best left on tree to dry. If eaten fresh, leave on tree until ripened to full colour.

Ta Jan: Tree is virtually thornless and fruit is similar to thornless variety.

¥

[North American Fruit Explorers <nafex@lists.ibiblio.org>]

Rooting kiwi cuttings

I have a co-worker who's wanting to plant some kiwis to run over a pergola or something like that in his backyard. Told him I'd give him some cuttings from some of mine.

Now, the question is, what is the best time to strike cuttings — and the best method for reasonable success in getting hardy kiwi cuttings to root.

Seems like I stuck some prunings, taken just before bud-break, in the ground, several years ago, and had reasonable success, but I

may be misremembering.

— *Lucky Pittman*

<lucky.pittman@murraystate.edu>

Years ago I visited a nursery that was working out kiwi propagation when the crop was new in the U.S. They tried dormant cuttings and had such a low success rate they were growing seedlings and grafting to them. Then later I worked at a place that propagated kiwi by green cuttings in a mist bench.

That gave nearly 100% success. In fact,

they started new varieties on occasion by forcing small green shoots from dormant cuttings, then removing those to root in the mist bench. The original hardwood cutting never did root, and did die. In any case, I'd have to say that rooting green cuttings would give the highest percent success, from what I've seen.

— *Lon Rombough*

<lonrom@hevanet.com>

There's propagation advice in this publication: <http://pearl.agcomm.okstate.edu/hort/fruits/f6249.htm>.

— *Sam Brungardt*

<Sam.Brungardt@state.mn.us>

I have had near 100% by sticking them in a old wood chip pile in the late fall before freeze, and early spring when I had to at some times use a steel rod to drive a hole deep enough to put the cuttings in. I use about 30 cm lengths and make a 25 mm cutting one each side before I stick them in the Rootone and put into the hole and leave only one bud showing.

— *Gordon C. Nofs*

<gc_nofs@hotmail.com>, Flint, MI.

Dormant cuttings can be rooted with bottom heat if you keep the tops cold, but I have not had great success with it. The easiest and almost 100% successful method I use is leaf bud cuttings.

I cut green to semi-green shoots, and then divide into one inch sections of stem with one bud with the petiole and leaf attached. Each cutting is dipped in rooting hormone and placed in potting soil in a seed starting tray.

The stem and bud are placed about 12-25 mm deep, with the leaf sticking out. The trays are placed under a fluorescent light at room temperature. I leave the cover on until shoots just emerge, then remove the top for a few days before transplanting.

Roots usually appear in just a few days, and shoots emerge in about two weeks. I have done this with cuttings taken at any time the plant is actively growing right up to just before the leaves drop in fall. I have done this with a number of species and all root easily except for the kolomiktas.

— *Hal Love* <lovehd@comcast.net>.

I'll have to try this. You say that the roots appear in a few days. Do you mean that in less than a week I can take kiwi cuttings and have them rooted without a mister? I'll have to ask my friend that runs a kiwi nursery if he has tried this technique. He usually roots cuttings 15-20 cm long and his success rate is less than 50%. I wonder how this would work with roses?

— *Mark Lee* <markl@nytec.com>, Seattle.

Yes, they root very quickly without misting. The seed starter trays I use have a wicking material that runs under the individual cells, a water reservoir underneath, and a clear plastic lid. By lifting the upper part of the tray, I can usually see roots sticking out of the soil in about a week.

The real advantage of this method, is the shoots don't emerge until the roots have formed, so no hardening off is needed. As soon as the shoots start to appear, I remove the plastic humidity cover, wait a few days to a couple of weeks for the shoots to lengthen,

then transplant to larger pots. I have never tried this with roses.

— *Hal Love* <lovehd@comcast.net>.

Can the hardy kiwis (preferably *kolomikta*) be grown from seed?

— *Pat Meadows*

<pat@containerseeds.com>

You can grow them from seed. However, unless you are wanting to breed new varieties, you would not want to grow them from seed. They would not breed true, and about half would be non-fruiting males.

Some species, such as *A. arguta* can have a long juvenile period, and may take several years to fruit from seed. Of all the *Actinidia*

species, *A. kolomikta* is likely the most difficult to germinate. If you just sow them outdoors in fall and wait for spring, some will germinate that same spring, but many will require a double dormancy, and not germinate until the following spring.

Stratifying them for 120 days in a refrigerator and then placing at room temperature will sometimes produce some germination. Soaking them for three days in 1000 ppm GA3 will sometimes produce some immediate germination, especially if you alternate them from warm to cold every other day for a couple of weeks. I have gotten the best germination by soaking in GA3, followed by 30 days of stratification, then alternating temperatures.

— *Hal Love* <lovehd@comcast.net>.

Sound pretty tricky. Thanks! I think I'll buy plants.

— *Pat Meadows*

I take 30cm, pencil-thick *Actinidia arguta* cuttings end of May and stick them in peat and just leave them outside with the rest of my houseplants. I get about 60% success rate and by the end of the summer I've got gallon sized plants ready to plant in the spring. In other words nothing special — no rooting hormone, no greenhouse, no mist bench. Now if only *kolomikta* would behave like this!

For years I thought these particular plants were *A. kolomikta* because that's the way they were labelled from Bachman's Nursery in Minneapolis. I was bragging to Kevin B, from this list about how vigorous my *kolomikta* plants were. He took one look and set me straight.

— *mIEKAL aND* <dtv@mwt.net>

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About China

Nobody involved in any form of international trade can afford to ignore the implications of the massive developments taking place in recent years in China. This applies to current and potential exporters, importers, and even local producers who may have to compete on the local market against imports.

The following extracts give some idea of some of these implications. The full articles are well worth following up for those interested in this trading revolution.

*[Australian Olivegrower & Processor / 2003
Jul-Aug]*

(Bruce McGhie visited China last year as a 'working guest' of the Victorian government. His observations and comments should prove helpful to those Australian olive producers who are looking to develop export markets in Asia).

The potential of China

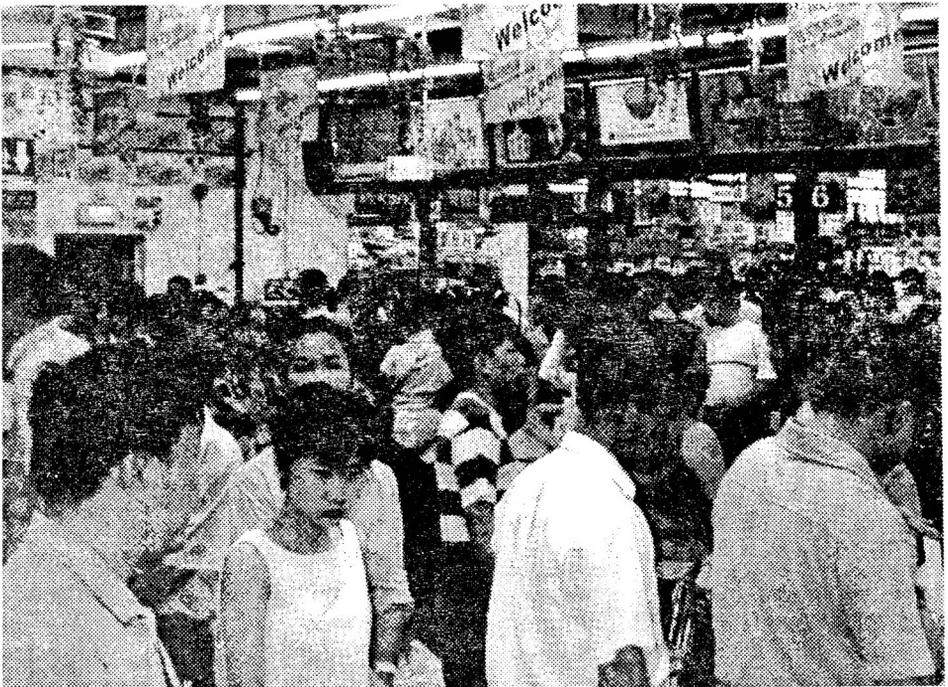
The number of modern markets in China is growing, and so is the demand for more stringent health regulation, and products of

consistent quality

There is incredible potential for the marketing of Australian produce in China.

Olive producers need to be aware though that every product requires its own protocol for admission to the Chinese market.

The World Trade Organisation has many pages of export rules and guidelines. However, there are two basic 'rules' regarding business dealing with the Chinese: 1. Everything is possible; and 2. Everything is difficult (and if you have a problem with number 2, please



refer back to number 1).

You need to have the right contacts and know the right people. In China, trade is done between friends — not necessarily for the lowest price. Australian olive producers will need to spend time building a rapport with their potential partners and customers.

The Chinese like fresh produce. With green vegetables for example, particularly in the new markets, they will discard any produce left over at the end of the day and bring in fresh vegetables for the next day.

Drops in quality cost dearly

Quality is a major factor in developing a successful market in China as the Chinese are discerning customers, demanding high and consistent quality.

A slip in quality cost Australian navel orange producers a very large share of that

market. Australian olive producers cannot afford to jeopardise their future sales by being inconsistent in the quality of their products.

The enormous size of the Chinese market is perhaps difficult for many Australian olive producers to comprehend. Shanghai, for example, has 19 million people living in an area less than three times the size of the Australian Capital Territory. In addition, 80 million tourists visit Shanghai each year, including large numbers of international visitors.

The Chinese standard of living is rapidly improving as they save 40% of their income, compared with Australians who save 4%. This increase in disposable income means that the Chinese can increasingly afford new and international products which, up until quite recently, would have been out of their reach.

Health issues — a growing concern

Health and hygiene have become increasingly important issues for Chinese consumers.

Although traditional food markets in China have virtually no health regulations, the modern food markets are demanding more stringent health regulations for their industry. These modern markets are often owned by Chinese business people with an outside partner.

For all Australian olive producers, marketers and governments to successfully and effectively tap into the huge market potential of China, it will be necessary for them to pool their resources and work together.

Australian farmers and States have a tendency to compete against each other to obtain the lowest price and capture the export market. Olive producers would



The standard of living of the Chinese is improving rapidly and they can increasingly afford what were once considered luxury products

achieve far more, however, if they worked together with a common price, a common goal and a common but high and consistent quality product.

Marketing to China

With a population of 1.2 billion, China is currently Asia's second largest food and beverage market by value after Japan.

Food consumption patterns in China have changed significantly as living standards have risen.

Consumers, particularly in the younger age groups, are becoming more accustomed to western-style foods. Young professionals are also increasingly buying convenience foods. In general, there is growing emphasis being placed on quality, modern packaging, freshness, nutrition, variety, and convenience.

These shifts in tastes are coinciding with a proliferation of modern supermarkets, hypermarkets, department stores and convenience stores. One large supermarket chain alone reached a sales revenue of \$2.6 billion throughout its 950 outlets in 2000.

Olive oil consumption

China imports about 10,000 tonnes of olive oil annually, mainly from Spain and Italy.

Most olive oil imports are for up-market consumption such as hotels, supermarkets, cosmetic and pharmaceutical companies, and western-style restaurants. There are 213,000 restaurants in Shanghai alone.

Industry standards

All imported foodstuffs and beverages are subject to inspections by the China Entry-Exit Inspection and Quarantine Bureau (CIQ). Imported foodstuffs must be labelled in both English and Chinese (simplified Chinese as used in the whole mainland of China), including 7 specific items.

Market entry strategies

There are a number of market entry strategies worth considering.

Look for small or medium-sized private trading houses with subsidiaries or contacts in Hong Kong who can arrange payment in foreign currency and who have a wide distribution network in your target local market. Be cautious, there are many Chinese traders who have difficulties opening Lines of Credit (LC) and have a poor understanding of international trading practice.

Exporting online

With the rapid growth of Internet use and penetration in China, particularly in major urban centres, e-commerce is seen to offer considerable potential.

Online trading is gradually expanding in China and there are a number of e-commerce sites amid developers.

Many sites provide a platform for business information exchange, however physical transactions are primarily undertaken offline due to China's undeveloped online payment system and difficulties in establishing the business credentials of some companies in China.

How Austrade can help

The Australian Trade Commission (Austrade) is the federal Government's peak export and investment facilitation agency.

Its mission is to help Australians win export business and generate inward and outward investment, and they provide a wide range of services. Further information at their website: www.austrade.gov.au.

— **Bruce McGhie**, Deputy Chairperson of AgriWest, Victoria.

Australian Olivegrower & Processor:
A3140.

[The Orchardist (New Zealand) / 2004 Jun]

China — nation in rapid change

In April a team from the Fruitgrowers Federation and the Vegetable and Potato Growers Federation spent almost two weeks in China.

The visit was a follow-up to studies by New Zealand Trade and Enterprise completed last year on the theme of "China — Threats and Opportunities", looking at both the fruit and vegetable industries.

Members of the team were Martin Clements, president of the Fruitgrowers Federation, Brian Gargiulo, president of

Vegfed, Ken Robertson, executive officer of Vegfed, Hans Kuiper, editor of The Orchardist, and Jim Tait, client manager food and beverages for New Zealand Trade and Enterprise (NZTE).

The team visited Hong Kong, Guangdong province in South China, and attended the Asiafruit congress in Shanghai which focused on China and the major horticulture production region of Shandong province. They visited wholesale markets, supermarket and hypermarkets, major fruit and vegetable businesses, the international Shouguang Vegetable Fair, spoke to customs officials, and met several New Zealanders doing business in China and with trade officials from New Zealand Trade and Enterprise.



China, with cities visited by the group from the two Federations and New Zealand Trade and Enterprise shown in capitals. There was extensive travel into nearby rural areas to visit fruit and vegetable businesses and markets. The visit took place from 17-30 April.

China at a glance...

- Population 1.3 billion
- Urban about 500 million, rural about 800 million
- Growth in GDP is averaging about 8%, but there is concern that the economy is overheating
- GDP per capita as at 2002 was US\$970
- The economy is the world's sixth largest and within 20 years is expected to rate second
- Direct foreign investment in

China in 2002 was US\$52 billion

- China feeds 22% of the world's population using 7% of the world's arable land

- About 22 million hectares are devoted to fruit and vegetable production, with 13 million hectares for fruit and 8.6 million hectares for vegetable production

- China is the world's largest fruit producer, with 12% of the total. With its wide climatic range, can grow virtually all types of fruit, from citrus and bananas in the south to apples, pears and stonefruit in the central regions. Half of fruit production is apples and citrus.

- China is easily the world's largest apple producer, with Fuji the main variety

- By 2006 it is expected to be the world's

largest producer of kiwifruit

- Citrus and stonefruit plantings are increasing rapidly

- Exports of fruit are on the rise, reaching US\$574 million in 2002. An increase of 20% per year is expected.

- Of the labour force, an estimated 50% work in agriculture (2001)

- China and New Zealand are in the early phases of negotiating a free trade agreement, the first developed nation with which China is negotiating such an agreement

- China is New Zealand's fourth largest export market and exports to that market doubled in the past six years to NZ\$1.38 billion in 2001.

The Orchardist: A1759.

Hi to all the Bushfoods People

For those who are interested, the CSIRO and RIRDC have recently combined efforts in making the new 'Native Foods Website' available to the public.

It was officially launched at the New Crops Conference in Gatton, Queensland in September 04.

Website address is:

<http://www.clw.csiro.au/nativefoods>

Hopefully, the website will help to form a focus, as well as filling a much needed gap in the Native Foods Industry.

— *Yvonne Latham*

Email: yvonne.latham@csiro.au.

CSIRO Land and Water, Native Plant Food Cultivation, C/o CSIRO Forestry and Forest Products, PO Box 946 (Airport Road), Mt. Gambier, S.A. 5290.

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[West Australian / 2004 Oct 1]

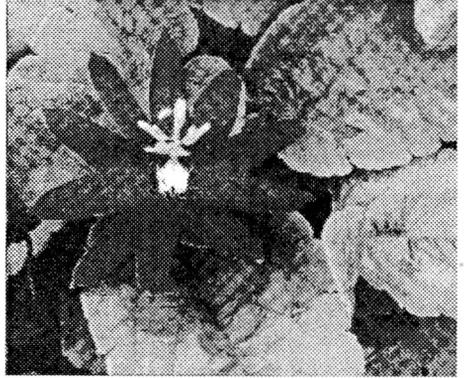
Passionflowers and passionfruit

Passionfruit are among the few plants that can be grown successfully across most of WA. Not all of them will fruit in all climates but even if the fruit is not worth having, the flowers are.

Passiflora edulis, the common edible passionfruit, is among the most hardy. It will tolerate a range of conditions from tropical to cold temperate, although, like most of the passionfruit, it can be damaged by severe frosts.

There is really only one type on the market and that is the grafted form Nelly Kelly. It is fast-growing, climbing with the aid of tendrils to as much as 4 m high. The ornate flowers are generally white and the fruits that follow are shades of bronze, green and purple, depending on how much sunlight they receive.

For good yields, the plants should be pruned lightly in spring, fed regularly during warmer months with a balanced general-purpose fertiliser and watered regularly. Most plants eventually succumb to a virus. On average their useful life is only four to seven years.



Passiflora coccinea

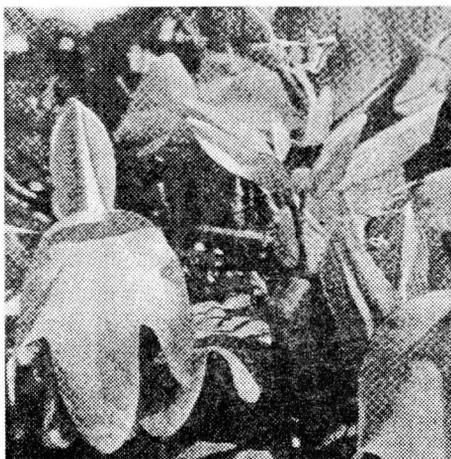
A common problem with grafted vines is that the rootstock is so vigorous it begins to take over, sending up suckers some distance from the plant. Unless removed by pulling up, the rootstock will quickly grow into a large bush with pretty blue flowers but almost inedible fruit.



Passiflora caerulea

Panama Red and Panama Gold are more recent introductions. My experience with them has been disappointing. While the vines were very vigorous, they flowered too close to winter and carried very little fruit. These varieties are better suited to warmer, more tropical climates.

Banana passionfruit are a different species. The vines are just as vigorous, the flowers attractive and the fruit are long and thin. The plant will grow all



Passiflora aurantia

the way to the south coast but is susceptible to frost.

Granadilla is another vine for the tropics. It is best grown over a dedicated support where it can be pruned to minimise the number of fruit and therefore maximise the size. The fruits can be as large as footballs but they bruise easily and don't have much juice.

Among the 400 or so members of the *Passiflora* genus are many highly decorative forms, including some from Australia. Unfortunately some have become weeds here as well. In the Kimberley, Stinking Passionfruit forms almost impenetrable curtains of tangled vines.

Also very much at home in the tropics but less invasive and much prettier is the Scarlet or Red Passionflower, *P. coccinea*. It will also grow almost all the way to the south coast but the further south you are the more protection the vine will need.

P. aurantia is one of the native passionvines from Queensland. It is less vigorous but surprisingly hardy, being able to



Passiflora foetida

cope with occasional frost. It has very pretty, large pink-orange flowers.

— *John Colwill*



Passiflora mollissima

[*Sub-Tropical Fruit Club of Qld. Inc / 2004 Feb-Mar*]

Visit to Laurie & Jan Beier's Pummelo Orchard

Laurie: I moved here about 8 years ago and we have four and a half acres. I originally grew a few trees in Ash Street, Yamanto and then sold that property and moved here.

I experimented there for about four years with grafted trees from various nurseries and I couldn't get them to grow, and a friend of mine had a tree that originally came from China 40 years ago. I tasted the fruit which was very good eating, so I air-layered a branch and potted it on and it grew, and all of my 300 trees that I have on this property came off that one tree.

I believe that it's a Shatinyu variety from China. Most Pummelos are tropical but this one is a temperate variety, which is why it

grows very well in Ipswich [Southeast Queensland]. It's on its own rootstock — it's not grafted. I don't know anything about grafting trees. I just air-layer any time of the month by putting a Jiffy Pot around them and you can do this at any time of the year.

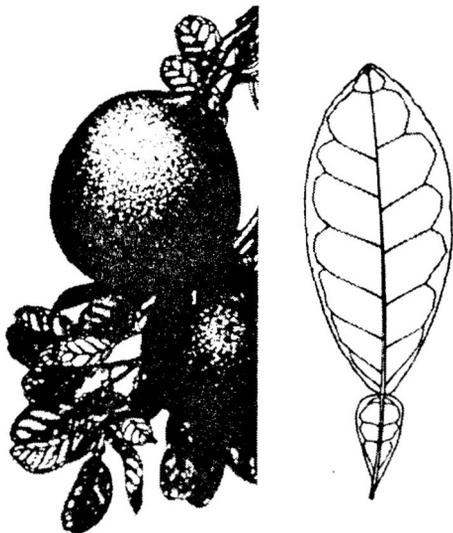
I believe I'm the only one who has this variety. The tree seems to grow all year round here and gets new leaves on all the time — it seems to grow best in autumn and the cooler months than the summer months. It's a very good eating variety and I've tried all of them, including the red variety.

I have one red variety here and you can see it only has one piece of fruit on it — I've shifted it around a bit to see if it would do better in another spot but haven't been successful. It's probably a tropical type — Cardiff Red. Most of the Pummelos come from SE Asia and they're called a Shaddock. Captain Shaddock apparently brought it to Barbados from Asia. Some of the trees seem to be alternate bearers. One year they do really well and the next year not as well.

Planting Out and Soil — I know a bit more now than when I started out. What I should have done was get a grader in to create hills and run polypipe along the crest of the hill. The best way is to take an area 3 m x 3 m and hill it up 40 cm so you have a mound, so you have good drainage, because they don't like wet feet. The trees grow better in a lighter soil so if your soil is like plasticine or heavy then it will kill the tree eventually. The trees are surface rooted so the water must get away.

Sheryl: Have you had a pH test done or leaf analysis?

Laurie: Grow Force did the soil test but I've never had leaf analysis done. I have asked the DPI to come out a couple of times but they never have and I even offered to pay. Some of



Pummelo fruiting habit and leaf shape

the trees I have here I'm still not happy with — they grow all right but still have collar rot and root rot.

George: If it's not an economic crop and it's not grower funded, then the DPI don't get involved.

Laurie: Fertiliser — I use a Citrus fertiliser and also grass clippings, Dynamic Lifter, horse manure, blood and bone, Magnesium Sulphate (Epsom salts) and Sulphate of Ammonia (only on bearing trees). I find most of them do better just with grass clippings, would you believe, and I just let it rot.

I put 2 kg of Dynamic Lifter around each mature tree in the spring and more about 3 months before they fruit. Blood and bone I use anytime. I dissolve a tablespoon of magnesium sulphate in a bucket of water and put this on in during autumn.

Merv: If there's a magnesium deficiency indicated by a yellowing effect on the leaves, they say the best way of correcting it is to put a teaspoon of Epsom Salts in a bucket of water and throw it over the tree. It actually absorbs quicker through the leaves.

George: The only problem in using things in isolation like that is that you can be sure it will, you can almost guarantee, it has an effect on other elements, from what I've seen. It's actually locking other elements. Apparently some things are antagonistic and some are pro-active which is why organics work because it's generally in the right mix to start with.

Merv: If you throw this solution over the citrus tree, it's not going to turn your yellow leaves green, the new shoots will be green. That was always a prime recommendation to people who rang into a horticultural hotline with the magnesium deficiency problem.

Laurie: Dolomite is important and this helps release other fertilisers.

Sheryl: Have you done a test to see that it is the grass clippings?

Laurie: Yes, I just put grass clippings on one and its fruit was equal to if not better than others.

George: Do you use Trace Elements?

Laurie: Yes. *Pests* — Biggest problem is with scale so I use White Oil and Rogor or Lorsban very early in the morning when there's no wind. I don't get much gall wasp, which you should burn.

Willie: I just use vegetable oil and brush it on to my trees.

Laurie: This year after I pick the fruit I'm going to try some 5 kg Hydrated Lime and mix it up with water and 0.5 kg copper sulphate and paint some of the trunks of the trees. They say if you get some vegetable oil with water and detergent so that when the water evaporates from the detergent, the oil sticks to the scale and dehydrates the scale. The proper

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white oil for citrus is around \$60.00 for a 20 litre drum.

Merv: I read that Pest Oil wasn't doing the job it's suppose to do. Some trees don't get any problems at all so I only do selective spraying with white oil.

George: I use a backpack with a leaf-blower which is extremely effective. Take the spray nozzle off the sprayer — just use a 5 litre sprayer. Mix it up then turn your blower on, then the tap and you don't get anything on you, it's an extremely fine mist so you can do a tree in 40 seconds, and the coverage is brilliant. It just atomises and it'll go 15 metres high. Use a wire around the handle so it won't roll.

Laurie: I put up Dakpots and make up my own and hang them in the trees which attract all the male fruit flies and leaves the females sterile so when they lay their eggs they don't hatch out. I use a protein bait — Fruitfly Lure Yeast Autolysate — salt free attractant for the control of the female fruit fly which is put out by Bugs for Bugs from Mundubbera. The fruit goes soft and rotten on the outside and drops off.

Sheryl: You don't think it's the Fruit Piercing Moth?

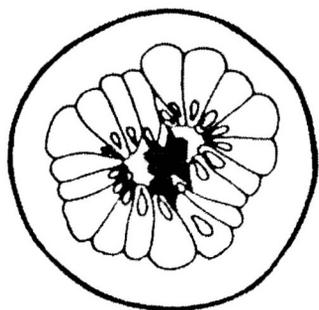
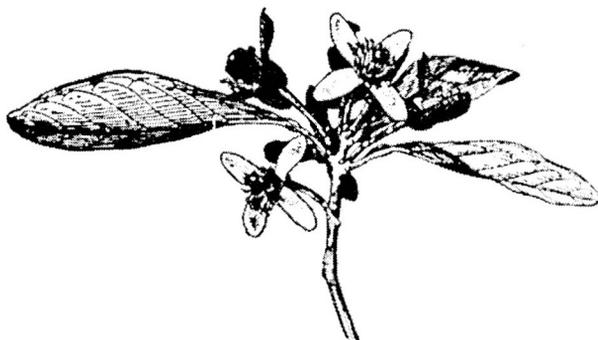
George: You've definitely got the Fruit

Piecing Moth — you can't stop them. They've got massive muscles, they can fly 3000 miles, they can go through rain and travel up to 70 km a night — they're the toughest moth ever produced! Only thing that works is netting. Sprays don't work. There's also a fruit sucking moth that doesn't do any real harm — it only goes to damaged fruit.

Merv: With the Protein Bait you're using, you don't have to put a cover spray on it — you only have to spot it onto a few leaves of each tree. The protein bait helps control female populations. Also the use of the male fruit fly attractant is a good way to assess the level of fruit fly problem. If I only catch a low level of male fruit flies, then I don't bother with the Protein Bait.

George: You can do a mass cover quite cheap. Chop the wicks into little pieces and hang them in soft drink bottles, cut the top off the bottle, you don't need to count the fruit fly — you want maximum access — cut a wick into 6 so buy 4 or 5 wicks. They last a few months. A mosquito netting works well too — we put one over a guava which worked very well.

Laurie: Pruning — After fruiting I prune very heavily — it doesn't seem to hurt them.



Pummelo flowers and fruit cross-section

Sheryl: Do you take out any main branches and how exactly do you prune?

Laurie: I did take some main branches out but found that I got big long water shoots which I don't want. With pruning, you want to keep it off the ground so that snails can't climb onto the branches.

George: Have you tried a copper spray? Jenny Iriondo says that copper stops a lot of things including snails.

Laurie: No I haven't tried copper. **Irrigation** — There's a sprinkler on every free and I water twice a week.

Laurie & Jan Beier are at 50 Andrew Street, Bundamba, Qld 4304 Ph: 07-3816 0779. Fruit available first week in June. Seedling Shatinyu Pummelos only. Email: ljbeier@dodo.com.au.

David Higham is very knowledgeable about pummelos. Ph: 07-4097 6475. PO Box 49 Ravenshoe 4872.

Compiled by Sheryl Backhouse

Sub-Tropical Fruit Club of Qld. Inc.:
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[Pacific Nut Producer / 2003 Jul-Aug]

The Chinese walnut industry

Global production of walnuts is forecast to be up 3% in 2002/03, reaching about 800,000 tons. China is the largest walnut producer, accounting for around 44% of the world production.

In 2002/03 walnut production in China is forecast to be about 352,000 tons, up 15% from the previous year. By way of comparison, walnut production in the United States, the world's second largest producer, is expected to decline by over 7% to around 280,000 tons. All other major producing countries (Turkey, India, France, Italy and Chile) are expected to have increased production in 2002/03.

The United States is the world's largest exporter of walnuts, accounting for about 53% of the total trade. At the present time exports from China make up about 14% of global walnut trade. Other important exporters include France, India and Chile.

The importance of China as a producer of walnuts and the increasing role China plays in the global walnut trade leads to increased interest in monitoring the situation and outlook for the Chinese walnut industry and its

potential impact on California producers. In this article we examine some of the fundamentals that are driving the supply and demand for Chinese walnuts and policy issues that may affect the long-term outlook for their industry.

Production

It is difficult to get an accurate accounting of current Chinese walnut production and new plantings of walnut trees and the increased production we can expect from China in the coming years. Part of the difficulty results from a lack of good data on just how much area is devoted to commercial walnut production, versus individual farmers with one or two walnut trees that may supplement their income as small scale multi-crop production enterprises.

Currently the best information available suggests that Chinese walnut production is

increasing significantly, but perhaps not alarmingly.

Information available from the United Nations, Food and Agriculture Organisation (FAO) provides one picture of walnut harvested area in China (Figure 2). According to the latest FAO data, walnut harvested area in China has increased by 22% from 1993 to 2002, increasing from over 355,000 acres to about 435,000.

In contrast to the FAO official statistics, USDA Foreign Agricultural Service reports suggest that the total area planted to walnuts in China is currently about 1.7 million acres, of which about 1.2 million acres are comprised of bearing trees. If the FAO data is representative of commercial operations then only about 36% of the total walnut bearing acreage is currently devoted to what could be viewed as 'commercial' walnut production.

Expectations for future increases in area devoted to walnut production are based primarily on China's agricultural restructuring program. This includes China's State Forestry Administration pilot program called 'Cropland conversion to forest and grassland'.

During 2000, the first year for the program, a total of 1,688 million acres were converted.

The program provides cash, grain and seedling subsidies, and farmers cannot grow other crops. The program allows a maximum of 20% of the converted area to be for economic trees (e.g. walnuts, pecans, and other nut or fruit-bearing trees).

Several specialists in key production areas believe that walnut trees will be the tree of choice in the conversion. In some areas, walnut seedlings could comprise 5-10% of the total converted area.

The maximum impact on walnut plantings resulting from the program would be in the range of 33,000 acres per year if this pace continues and if walnuts were to comprise 10% of total converted area. This is likely to be an upside limit as reports suggest that farmers in some areas are selecting less expensive and poorer quality seedlings in order to keep some of the financial subsidies in cash. As a result, seedling suitability is often neglected in the decision making process and not all trees are expected to survive.

With a less than perfect estimate of actual planted acreage, it is not surprising that estimates of Chinese walnut production and trend projections for future production are less than precise (Figure 3). The current

Figure 2. Chinese Walnut Production Area

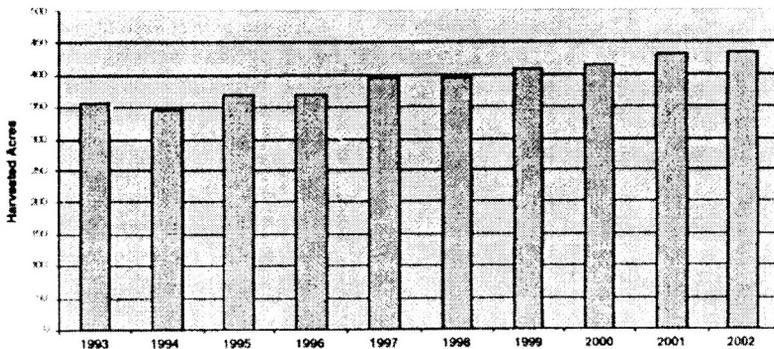
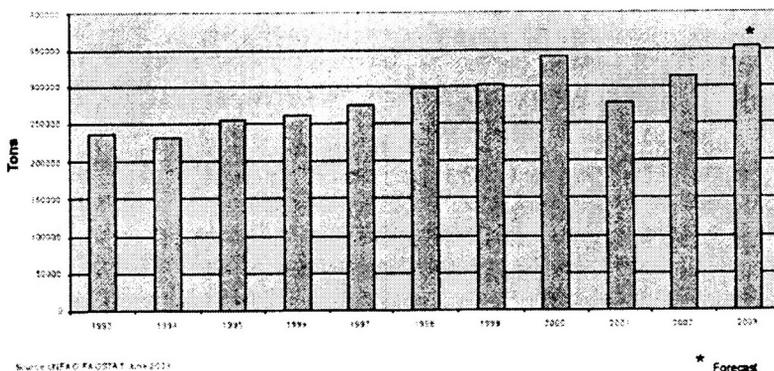


Figure 3. Chinese Walnut Production



estimate of China's walnut production at 352,000 tons, comes from reports of official production estimates from the Chinese government for 2003. Total production estimates from all sources reflect these government statistics.

The difficulty in projecting future production stems from the vast difference in estimate yields that result from comparison of production estimates. In official FAO statistics, the apparent yield per acre is 1445 pounds (1642 kg/ha), in USDA/FAS attache reports from China, the apparent yield per acre is 575 pounds (653 kg/ha).

While some of the difference arises because the total acreage reports from FAS reflect some non-bearing acreage, it is clearly difficult to forecast future production trends with any degree of accuracy based on readily available information. Even with the difficulty present in the data, it is apparent that walnut production in China is increasing. Based on official statistics, it appears that production can be expected to increase by about 10,000 tons per year, with production likely to be reported to reach around 375,000 tons by 2005.

Domestic consumption

China's role in the world walnut market, like with many agricultural commodities China produces, depends largely on the result of the race between increasing domestic production and demand from an increasingly affluent urban population. As incomes in China increase, the market for a more diversified diet will grow. China has one-fifth of the world's population and its economy has been growing at an average rate of 10% annually since 1980. It is expected to continue to grow at an annual rate of around 7% through 2010. Increasing per capita income should increase

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the overall demand such for dietary diversity as fruits, vegetables and tree nuts.

According to information provided by in-country specialists, Chinese consumers prefer in-shell nuts that can be cracked by hand. They are considered to be cleaner and they are cheaper than processed nuts. Like promoters of walnuts in the U.S., the Chinese consider walnuts to be a health food. While walnuts are most often consumed fresh or dried there is a growing market for walnuts in processed snack food, baking and the confectionery industry. Higher quality walnut consumption in packaged form is in demand in large cities with rural areas having higher purchases of bulk bin walnuts.

Domestic consumption of walnuts in China has increased at about 5% per year over the past 5 years. So far the increased consumption has been supplied by increasing domestic production with 92% of domestic production consumed locally. If the growth in consumer demand continues, it remains to be seen if domestic production can keep pace.

The current level of per capita consumption in China is well below that of other countries, at 0.21 lbs (95 g). For every 0.01 pound increase in per capita consumption, China would require an addition of over 15,000 tons of domestic production. If the estimates for domestic production increases are in the ball park, and recent trends in domestic consumption continue, it would appear that the supply/demand balance in China will remain very tight for the foreseeable future.

Trade

At the present time China exports about 8% of its annual production. The primary markets for Chinese exports are Japan, the United Kingdom, Canada, Australia and France. Continued success in the export market will depend on the ability of China to provide

a low cost, high quality product. Increasingly China is facing competition for its export markets from India in Australia, and in Europe from Eastern European suppliers.

Currently the U.S. and China compete directly in a limited number of export markets. In the major markets for shelled walnuts, the U.S. and China compete primarily in Germany, Canada and Japan. In the market for in-shell walnuts the most significant direct competition between China and the U.S. is in Germany. If surplus production continues to be available, China will likely remain a competitor in world markets and can be expected to be more formidable as more modern processing and handling facilities come online.

Conclusions

China is the world's largest producer of walnuts and is aggressively promoting the expansion of walnut production throughout the country. Given the importance of the walnut industry to many California producers it is prudent to pay close attention to the development of the walnut industry in China. While current trends suggest China will remain a self sufficient producer with a competitive presence in the export market, the future for the industry remains less than clear. China can remain a competitor or emerge as a market opportunity, only time will tell.

Note: The author would like to thank Adam Branson, Agricultural Specialist, US Embassy, Beijing, for sharing his insights regarding the Chinese walnut industry and related data.

— *Mechel S Paggi*, Director, Centre of Agricultural Business, California State University.

[Countryman Horticulture / 2004 Jul 1]

Australian walnuts — expand or expire

The Australian walnut industry is being urged to expand or expire.

A Rural Industries Research and Development Corporation (RIRDC) report said there were many parts of Australia in which walnuts could be grown successfully, giving Australia an advantage over its competitors.

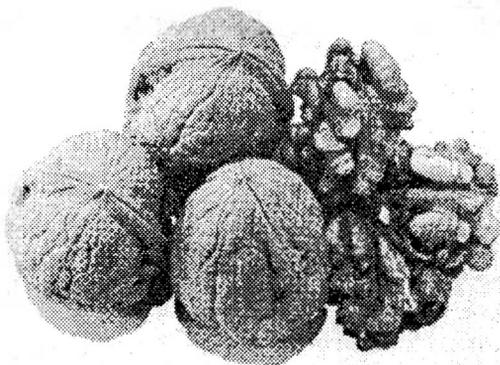
Walnuts appeal to many growers because production is highly mechanised, orchards require low maintenance, and are productive for at least 40 years, according to a report by RIRDC's Harold Adem.

Mr Adem said the irrigation areas which support the deciduous fruit industry could also underpin a profitable walnut industry.

The walnut sector has been expanding rapidly in Australia but Australians still imported more than \$13 million worth of the nuts in 2002.

Mr Adem said the Australian walnut industry could become self sufficient and allow export of quality nuts to Europe and Asia during the northern hemisphere winter.

Advances in walnut research and development since 2002 have seen new



growers enter the industry on an intensive basis, compared with the growers of old.

Growers traditionally have between 100 and 1000 trees, but the new breed of grower is putting in investment plantations of between 12,000 to 500,000 trees.

The new plantings have been of high-yielding, early-bearing cultivars planted as hedgerows, effectively quadrupling tree numbers for the same area of land.

The RIRDC found that many walnut growers were approaching the industry from an investment point of view and had limited horticulture experience.

This finding has prompted the corporation to propose a formal course of study for walnut growers so they will be able to develop their horticulture skills.

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[Made in Australia (new Industries Development Program) / 2003 May]

Putting your finger on the right markets

To find the best market for your product, consider all possible markets — you might even test some to build demand

Erika Birmingham of Byron Bay Native Produce in New South Wales has created the world's first commercial native citrus orchard.

In doing so, she has secured Interim Protection, from the Plant Breeder's Rights Office, for a pin k-pulped finger lime called the 'Rainforest Pearl'.

But there was no existing market demand—so how did she go about creating some?

Erika's research and development began in 1995 with the native finger lime (*Citrus australasica*), a citrus found in the subtropical coastal rainforests of eastern Australia. It is finger shaped and varies in size, colour and flavour. The skin colours can be crimson, blood red, purple, black, yellow or green; and the jewel-like pulp cells—which resemble caviar—can be green, yellow, white or pink.

And, of the six native species of citrus found growing in Australia, Byron Bay Native Produce has started trialling four for commercial production. The Australian native food industry experienced a boom in 2000, due to the Sydney Olympics, and is currently estimated to be worth \$14 million annually.

Erika knew supply was going to prove difficult if she was the sole supplier of the fruit. So she went about creating a network of growers, agents, wholesalers and retailers who would support her fledgling native produce market.

This also meant protecting her rights through the Plant Breeder's Rights Office—she had grafted and propagated the trees to produce a reliable crop after a process of breeding and selecting varieties of finger limes.



Finger limes on the tree

Market development from scratch

Erika realised she would need to drive demand for this remarkable fruit and started an extensive campaign to educate Australian gourmet chefs and food lovers about the delights of the finger lime. It had, in fact, been almost 200 years since early botanists who came to Australia had recommended the native citrus be cultivated for fruit! And it is known that early settlers used it for cordial,, marmalades and desserts.

In the beginning, Erika attended conferences, trade fairs, expos and displays, but the return in terms of sales and public awareness was not very good. Another of her more innovative approaches had greater success. Having worked as a chef in Sydney for many years, Erika introduced the finger limes to well-known celebrity chefs like Neil Perry, Rick Stein and Stephanie Alexander.

She also wrote articles and used her

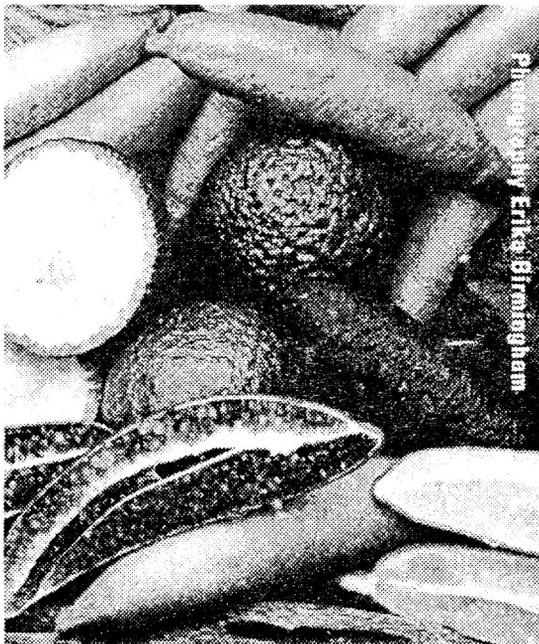
photographic skills to create exquisite photos of finger limes and other native citrus, which enabled her to approach food-based publications like *Gourmet Traveller*, *Australian Bushfoods* and *Australian Horticulture* with article ideas, stories and pictures to generate significant publicity for her cause.

Another way to promote product awareness was to approach TAFE colleges, other training organisations and cooking schools, with Erika herself presenting guest lectures and master classes.

Her New Industries Development Program (NIDP) In-Market Experience Scholarship has allowed her to identify which market angle is the most feasible: will it be the native tree and her breeder's rights? Or will it be the fruit and its gourmet attraction? Or will it be in value-added products?

Having the ability to step back and assess these possibilities should enable Erika to determine her next steps in the native produce business.

The project: 'Rainforest Pearl' finger lime.
NIDP funding: \$32969 In-Market Experience



Photography Erika Birmingham

Finger lime fruits come in many colours, shapes

Scholarship. Byron Bay Native Produce.
Location: Bangalow, New South Wales.

Useful contacts:

Byron Bay Native Produce:
www.fingerlimes.com

Plant Breeder's Rights Office:
www.affa.gov.au/pbr

[Contours (Australian Department of Agriculture Fisheries and Forests) / 2004 Mar]

Pukka tucker

Once upon a time, many Australians sat down to the ubiquitous meat and two vegies for dinner. They added salt and pepper and, sometimes, tomato sauce, mustard or mint jelly, for extra flavour.

As the nation's multicultural population grew in the second half of last century, Continental European and then Asian influences introduced Australians to a new bill of fare that included a wide variety of

herbs and spices. Now, a small, but growing, number of non-Indigenous Australians are adding native food to their diets.

"It has been a long, slow journey and it has been difficult to commercialise native food,"

Juleigh Robins, of Robins Foods, said. "But it is now growing beyond a niche market."

Australia's Indigenous people have lived off native food for thousands of years. But, somehow, it has remained one of the country's open secrets — seen but not recognised.

The broader Australian community began to learn about native food, its high nutritional and medicinal benefits, and unique flavours in the 1980s. Native food was novel and Australian, and seen as clean, healthy, organic and environmentally friendly.

Bush tomatoes (*Solanum centrale*), wild or desert limes (*Eremocitrus glauca*, *Microcitrus spp*), native mountain pepper (*Tasmannia lanceolata*), Kakadu plums (*Terminalia ferdinandiana*) and lemon myrtle (*Backhousia citriodora*) — to name a few — did not become household names overnight. But native food awareness gradually increased among Australians and a growing number of overseas consumers.

"Native food is not a big industry," Juleigh Robins said. "A recent study showed its farm-gate value is about \$10-12 million a year, and it is poised for significant growth."

Last year, Robins Foods won the Rural Industries Research and Development Corporation Agribusiness Value Adding Award, one of the Rabobank Agribusiness Awards for Excellence.

"We have developed our market through food services," she said. "We marketed it first to chefs, then the airline industry, and then got into retail products — initially the gourmet, niche areas. But our strategic view was to



*Gil Freeman harvests round leaf mint (*Prostanthera rotundifolia*) on his property in south Gippsland. The mint is used in sauces and Australian native flavoured teas. Photo: Meredith*

bring the products into the mainstream market.

"Getting a new product into a supermarket is difficult, especially if you are not a major company. Coles Supermarkets learned of our supply chain, which provides equity for Aboriginal people, and has provided significant philanthropic support. After testing products in the specialty category, we developed our flagship 'Outback Spirit' brand. Coles gave us a D grade listing one year ago, enabling us to get into the mainstream product range. It happened at the best time for us and our supply chain.

"But the export market picked up these products before the domestic market. Our products were already on the shelves of 300 Sainsbury stores in the United Kingdom. And we are selling native food through supermarket chains in Singapore, Chile and Canada.

"I expect my own company to grow fourfold in the next three to four years, and I think that would be typical of the outlook of other companies that focus on native food. At the moment, the main market is domestic, but exports will become increasingly important. The export market represents about 20 per cent of our business, but we expect that to grow to about 40 per cent."

Australia has thousands of individual growers and hundreds of enterprises involved in producing native food. They range from Aboriginal communities in central Australia to individual growers like Gil Freeman, a farmer who has been active in expanding the native food sector in south Gippsland.

Gil, who's a partner in the Victorian organic grower and wholesaler, Tarnuk Bush Food and Flowers, has been involved in native food for 15 years.

It began with an interest in native plants and using the land in a sensitive way, to try to return it to its original setting and attract back native fauna,' he said. "It was environmental, as well as commercial.

"My wife and I have run a business for seven years and put money back into the business. There's not huge money in it. You cover costs and have a little to capitalise. If you plan carefully and work with people prepared to take your product, there will always be a place for you in the industry. It requires close integration in a vertical sense."

Gil — like several other growers — has his sights set on a creating a national native

food industry association.

"We need an association that will deal at an industry-wide level with government authorities involved in food regulation, quality and export, and -to some extent -food research," he said.

Meanwhile, processors like Juleigh Robins and growers like Gil Freeman are getting on with the business of growing, processing, and marketing native food products because they see the future — and it looks good.

— *Rodger Skivington*

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[*Australian Nutgrower / 2004 Jun*]

Webster's 'North Island'* walnut development

Webster is moving into walnuts at Griffith in NSW

Webster Ltd. has a clear vision of being a quality fresh food producer, packer and marketer. Presently the Company grows under contract with farmers 45,000 tonnes of brown onions, 2,000 tonnes of red onions and 12,000 tonnes of premium quality carrots. Webster also produces Atlantic Salmon in Tasmania through its wholly owned subsidiary, Aquatas.

Webster is also into walnuts. The operation is vertically integrated from growing rootstock seed right through to marketing the end product. Currently the Company has about 600 hectares under walnut orchard in Tasmania. The 'flagship' orchard is situated just north of Swansea on the beautiful east coast of Tasmania. Here Webster has established a 500-hectare orchard over 5 years. This site was chosen for its good alluvial soils, a drier climate by Tasmanian standards (570 mm annual rainfall), a reliable water resource and flat terrain.

There is a strong demand for good healthy foods and the Nuts for Health Campaign, funded by contributions from all the nut industry members through ANIC and HAL, and research findings in overseas countries, are making consumers aware of the substantial

health benefits of tree crop nuts. In particular, convenience will be a big factor in the future, and kernel demand will increase rapidly.

Webster has a walnut nursery capable of producing a large number of grafted trees annually. The Company would also like to expand the orchard estate under its control to give it a strong presence in the walnut industry in Australia and also the southern hemisphere.

There is little scope within Tasmania to duplicate the Swansea orchard, and so Webster has been actively looking for a mainland site to expand its walnut development. It is not an easy task to find a site with all the desirable attributes for a large horticultural development of any kind. In the end, and after much searching, the final choice is usually a compromise.

Webster has chosen the Griffith area in southern NSW to develop an 800 to 900 hectare orchard over the next 4 years. The area has well drained red-brown earth soils, available water supply via the Murrumbidgee Irrigation Scheme and a warm to hot summer time climate with adequate winter chill, similar to that experienced in California where nearly 300,000 tonnes of in-shell walnuts are grown each year. The dry climate will mean that walnut blight will not be too much of a problem in spring.

As the Griffith area is a major horticultural area within Australia, there are adequate resources available that are crucial to establishing a new industry in the region. The area offers the economics of scale necessary to be a keen competitor in the world walnut market. Webster aims to be a high quality

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PO Box 429, Northam WA 6401

producer of walnuts, but quality is not everything that a buyer is looking for, so to have world competitive production costs will be a significant advantage.

Webster will attract investors to help develop the walnut orchard over the next 4 years, provide grafted trees of suitable varieties to the venture, enter into a management agreement to establish and maintain the orchard, and when the orchard commences to bear, Webster will harvest, process and market

the in-shell walnuts or kernel product.

— *Leigh Titmus*, Walnut Manager, Webster Ltd

(Planting of the first 250 ha is due to start this winter)

(*The 'North Island' is a whimsical term that Tasmanians use for the Australian mainland).

Australian Nutgrower: A1058.

[The Cracker / 2004 Jan]

Kenya promotes macadamia industry

The role of macadamia in poverty eradication and environmental conservation

Macadamias, introduced in Kenya in 1945 as an ornamental plant, are proving an environmentally friendly nut with far-reaching poverty eradication benefits that can transform rural areas into agriculturally rich and productive beds.

At the forefront of the silent fight against poverty eradication through growing macadamias in the country is the Kenya Nut Company (KNC) which is working together with small-scale farmers to create wealth through sustainable environmental farming.



Kenya Nut Company has over one million seedlings ready for distribution

This project has been facilitated through the company's research department that was started in the early 1970's. The research department established and identified good bearing plants and further exploration on suitable zones for the nut trees is being carried out. Already, the livelihood of hundreds of small-scale peasant farmers has been turned around through production of the cash crop that also provides wood fuel and an organic-rich ecosystem that guarantees perfect rain-cover.

Through this program, farmers in rural

areas are now able to afford their basic needs through growing macadamia seedlings. These seedlings developed at KNC nursery in Thika are largely responsible for the 75% of the country's macadamia production by small-scale farmers, with the plantations scooping the remaining 25%.

However plantation owners are fast realising the economic potential of the crop and many are turning to growing of macadamia trees at such a fast rate that agriculturists estimate in the next few years, the production

of estates is set to outdo production of small-scale holders.

In order to assist the small-scale farmer, KNC has been looking for donor support to assist in the large-scale production of seedlings and distribution to farmers. In its efforts to educate rural folk on quality farming techniques, KNC has targeted schoolchildren and regularly arrange for school educational tours and workshops. The children are taught on the benefits of macadamia production. Ninety percent of the produce is exported for use in confectionery products thereby bringing in the much needed foreign exchange to Kenya. The rest of the produce is developed as snack foods for the local market.

According to Mr Pius Ngugi, Kenya's Macadamia Ambassador, plenty of research and market analysis has to be carried out to reach rural areas which have been lagging behind in national development. "Kenya has the potential to become one of the major producers of macadamias in the world if donors can assist in the production of seedling varieties suitable for various climatic conditions in the country. In the long run, Kenya shall not need to be dependent on aid, but rather on trade with the West," said Mr Ngugi.

The current nursery at Hatwara, Thika, has a capacity of handling over one million macadamia seedlings. Since the establishment of Hatwara macadamia nursery, KNC has managed to supply hundreds of small-scale farmers from various areas. This has been made possible by the improved grafted seedlings, which have transformed the entire industry and have led to better productivity.

Certainly, Kenya Nut Company is determined to be Africa's flagship for premium quality macadamia through continued application of improved scientific standards. This application improves the natural



*Kenya Nut Company Education Tour —
Ndutumi Secondary School*

environment and embraces the government's efforts to eradicate poverty in Kenya.

— *Naseem Machooka, Kenya.*

The Cracker: A1758.

*[Australian Olivegrower & Processor / 2003
Jul-Aug]*

Olive nursery stock from Spain

Nursery stock of olive trees can now be imported from approved sources in Spain under new import conditions developed by Biosecurity Australia.

The conditions are based on:

- *Accreditation of nurseries.*
- *Active testing of mother trees for olive knot.*
- *Inspection and certification of plants.*
- *Post-entry quarantine in Australia.*
- *Audit testing of all new sources.*

"Some Australian growers are interested in accessing Spanish olive varieties that have very good oil-producing qualities", said Biosecurity Australia's Dr. Bronwyn Wiseman, who travelled to Spain to inspect high-health nursery facilities last year.

"The new import conditions for high-health olive nursery stock can be applied to nurseries in other countries, and Biosecurity Australia will be discussing with Italian and Israeli quarantine agencies their requests to extend them to nurseries in their countries."

Dr. Bronwyn Wiseman can be contacted on phone 02-6272 4906, or email bronwyn.wiseman@affa.gov.au.

Australian Olivegrower & Processor: A3140,

Query on Baytree crops in WA

I have a candle shop near Margaret River in the South-West and am desperately searching for a source of bayberry wax from within Australia. (The wax comes from the berries off the bay tree.)

Do you have any listings of bay tree farms/plantations that I can contact? I would really appreciate any information. Thank you.

— **Diane Paddon-Jones**

<witchcliffeartcandle@hotmail.com>
Witchcliffe Art & Candle Gallery .

Hello Diane, not good news. Bayberry wax comes from plants of the genus *Myrica*, Red Bay. This is a northern-hemisphere genus and is virtually unknown in Australia, no doubt there are specimens in a botanic garden somewhere but I don't know of any. I am virtually 100% certain there are no production plantations.

'Bay Tree' may refer to a whole range of species, but in Australia would normally mean *Laurus nobilis*, source of the bay leaves used in cooking, and totally unrelated to *Myrica*. There are other trees which produce waxes, such as Chinese Tallow (*Sapium sebiferum*), but again I know only of trees

planted for amenity or decoration.

I imagine that you have some special reason for wanting tree wax for candles rather than standard paraffin sources?

— **David Noel** <himself@aoi.com.au>

Does anybody have anything to add here?

5th International Cherry Symposium

June 06-10, 2005, Bursa, Turkey



A meeting of the ISHS Fruit Section Working Group on Cherry Production Organized by International Society for Horticultural Science; Uludag University, Bursa; Atatürk Central Horticultural Research Institute, Yalova In collaboration with The Scientific and Technical Research Council of Turkey; Turkish Society for Horticultural Science

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CALENDAR OF FORTHCOMING EVENTS

Deadline for next issue: Jan 20, 2005

2004

- Oct 24 Sun • Macadamia Seminar
Nov 16 Tue * Wanatca (Annual) General Meeting (Jim Dawson - All About Jujubes)

2005

- Jan 18 Tue Wanatca Executive Committee Meeting
Feb 15 Tue * Wanatca General Meeting
Apr 23 Sat • Balingup Small Farm Field Day
Aug 23-25? • Dowerin Show

*General Meetings are held starting at 7.30pm. Venue: As noted in each case.

These meetings usually include a display of current world tree-crop magazines offered free.

• Event with WANATCA participation; § Refer to news item in this issue of *Quandong*.

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