

Quandong

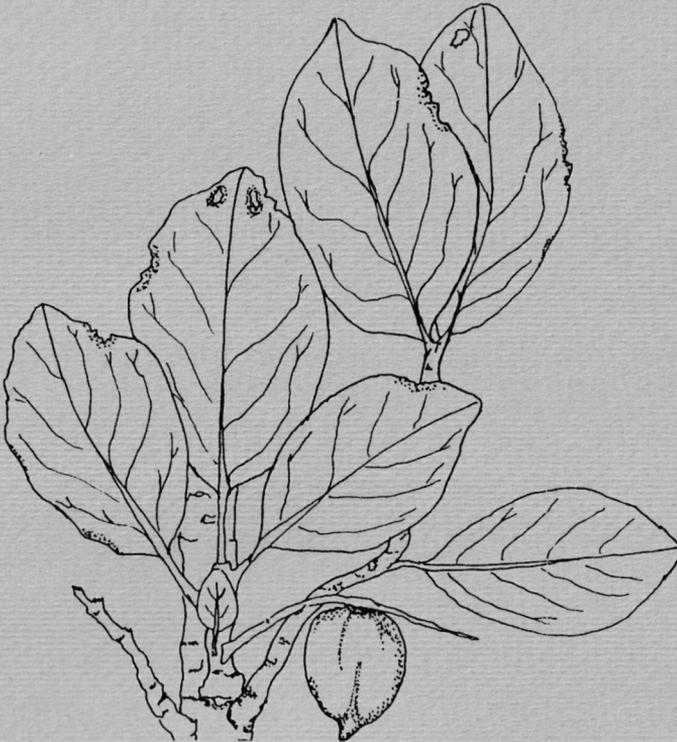
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West Australian Nut & Tree Crop Association (Inc)

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GABINY (*Terminalia ferdinandiana*)

From Mayi: Some Bush Fruits of Dampierland

NEXT MEETING

CASUARINAS AS AND FOR TREE CROPS

Wednesday November 18, at 7.30 pm

The next meeting will be the Association's Annual General Meeting. As well as a short formal business meeting, we will have TWO speakers.

The first will be Henry Esbenshade, who will talk about casuarinas. These Australian natives, commonly called she-oaks, are assuming more and more importance in world agriculture. An isolated and primitive family of flowering plants, possibly related to the ancient horsetails, they have been found to fix atmospheric nitrogen. In fact they have been rated as the second most important nitrogen fixers, after the legumes (which use a different mechanism).

Fast-growing, versatile, salt resistant, and hardy, casuarinas are in use for fuel and timber production, animal fodder, windbreaks, and especially reclamation of damaged or unstable lands. Examples include huge plantings along the coasts of China, fuel sources for power stations in the Philippines, and universal use as windbreaks in New Zealand horticulture. In the driest Australian deserts, casuarinas form the only true trees.

Henry Esbenshade, author of the standard book about carobs, is very prominent in the International Tree Crops Institute, as well as being a WANATCA member.

The second speaker will be Ken Rotman, who will be talking about

W.A.'s NEW RURAL INNOVATION CENTRE

The Rural Innovation Centre, which Ken currently heads, is a Western Australian Government body recently set up to promote and assist innovative rural businesses and products. Ken will explain its workings and how it can help tree cropping activities.

ELECTION OF EXECUTIVE

In accordance with the constitution, half the current executive retire at the end of 1987, and nominations are called to fill these positions. Those retiring are Mirkovic, Napier, Noel, Sas, and Shorter. An election will be held at the AGM. The current executive will be putting forward nominations at that meeting, but other nominations or expressions of interest are very welcome from any member - contact David Noel if interested.

NUTS ABOUT CHESTNUTS

Five years ago, Agriculture Department representatives confidently told me two things about chestnuts: there was no way I could grow them in my area, and even if I could somehow coax the tree to grow, there was absolutely no way I could get it to bear nuts.

Today, I am in the process of converting as much land as possible to chestnut cultivation. It just goes to show, you can't always trust the authorities.

I live near Bowraville, a sleepy rural town on the NSW North Coast, situated almost exactly halfway between Brisbane and Sydney. Summer rainfall and temperatures are high, and winters are very mild, although frosts often can occur on winter nights.

When I first moved to the areas, I sought Agriculture Department advice on the best tree crop for my land, which is mainly alluvial floodplain. I suggested chestnuts; they suggested I'd be nuts unless I got that idea out of my head; mainly because of the climate (not cold enough) and the 'fact' that the chestnuts would not tolerate flooding. On their advice, I started my plantings with a pecan orchard.

Sometime later, just for the heck of it, my wife bought a sickly looking chestnut seedling which had somehow ended up in a Coffs Harbour nursery. The nursery man wasn't even sure what it was. I told my wife, confidently parroting the government information, that there was no way it would grow; she bought it anyway and told me to plant it, just to see what would happen.

The seedling was about one foot high, but after the goats, sheep and cows all had a nibble it was stumped by the next day. I placed a proper guard around it, and then left it alone. No water, a few handfuls of chook manure several weeks after it was planted, and that was it. My attitude was 'why waste time on something which won't grow anyway?'

During that first year I watched open-mouthed as that chestnut grew 15 — yes, fifteen! — feet. It fruited in the second year, with many of the nuts too small to eat. From the third year on till the present, we have had an ever increasing supply of nuts which average 30 g in weight.

This year, we picked about 20 kg from the tree. The nut size is from two to three times the size of nuts I've been sold commercially in Sydney. All this from a tree which I was told was impossible to grow in a warm climate. A fluke perhaps? Three years ago I planted several more seedlings. All of them this year bore nuts of the same size and quality, although there were also many nuts which did not mature properly. However, some of these trees are already following the pattern of the first, and giving increasing yields of quality nuts.

I also found out then that young chestnuts, at least, cope with flooding very well. I planted some on my flood plain; one month later I had a flood which rose six feet over the plain, and ripped out most of my fences. The water was up for about three days. The chestnuts showed no ill effects whatsoever, quickly putting out new flushes of leaves. It remains to be seen how they will cope in a flood of longer duration, or whether their young age was a factor in their survival.

Since that time, I've formed the opinion that chestnuts not only tolerate a warmer climate, they thrive on it. I have met a farmer in the Bangalow area who never gets frost on his land and has chestnuts with such a short dormant cycle they could virtually be classed as evergreen. He also is getting food crops on trees (in his case grafted) only three years old. I now have about thirty chestnut trees planted, and plans for planting about 100 more. The trees flower with sickly smelling catkins in late spring.

After the catkins wilt, green spiky balls are formed which rapidly start swelling. From mid-March to mid-April the balls brown off and split, revealing the deep red nut inside. Usually the nuts will not fall from the husks, which means you need to wear gloves to separate the nuts from the prickly spikes.

The best way of picking nuts is by putting on gloves, a wide brimmed hat (have you ever been struck on the head by a fat, heavy porcupine? If you don't wear a hat, you'll find out what it feels like) and giving the tree a good shake. The ripe nuts, husk and all, will fall to the ground. It's then a simple matter of removing the husks. I pick and dehusk about 1 kilo of nuts every five minutes using this method.

In my experience, chestnuts grow quite happily in warm temperate and sub-tropical regions.

I've found the following points to be general rules.

1. There is no difference at this stage between the seedling and grafted trees I've planted in the time it takes for them to fruit — usually the second or third year.
2. They like to be watered, at least in the first couple of years until their taproot is established.
3. Chestnuts don't grow as well in heavy soils as they do in soils that have good drainage.
4. They don't like fertilizer just after they have been planted, but love it once they reach about four or five feet high. The only fertilizer I've given my trees is chook manure.
5. Chestnuts are prone to insect attack, especially on the bark, when very young, but become quite resistant to pests as they mature. Once established, they are easy to look after.
6. Chestnuts will only tolerate being planted while they are completely dormant. If you plant at any other time, they are very likely to die.

Now the good bit. Eating the nuts. Chestnuts are delicious, with a taste very much like a sweet bunya nut, to give an Australian equivalent. The best way to prepare the nuts is to make a cross with a sharp knife on the flat side of the nut and then roast them on a flat tray (a pizza tray is ideal) in a hot oven until the red-brown skin is crisp, and very easy to separate from the nut meat. They taste great with a bit of butter. A disagreeable bitter taste means the skin, which you don't eat, hasn't been cooked long enough.

The last point is perhaps the most obvious. Chestnut trees, fruiting or not, make an excellent, drought resistant shade tree, but you need plenty of space. They really are spreading trees; they can grow to incredible sizes.

Jamie Derkenne



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We look forward to hearing from you.

NOTES FROM MEMBERS AND OTHERS

From *Murray Fraser*, New South Wales

I am an agricultural student, majoring in Integrated Farming System Designs incorporating Nut and Tree Crops with animal production systems, forestry and numerous other commercial production systems. I have a good understanding and practical background in the use of organic and biological control methods for agriculture/horticulture production.

I am interested in seeing what the WANATCA Yearbook contains in the way of articles, references and contacts. I have a copy of "Tree Crops: The 3rd Component" and find it both interesting and useful. I look forward to receiving more of your publications.

From *Helga Kling*, West Germany

I am very much interested in receiving *Quandong* and your yearbook. Enclosed please find A\$40.00 to cover subscription for 1987, please send by air mail.

My favourite trees are walnut trees and peach trees. As to walnut trees I made the mistake of not giving them enough space when I planted them, as space is limited in my garden. That could only happen to an amateur.

If you need any information about trees in Europe, I would be glad to try to obtain that information. Looking forward to receive "Quandong".

From *W.G. Sinnock*, 160 Mt Wellington Highway, Panmure, Auckland 6, New Zealand

I am a member of the N.Z. Tree Crops Association as well as the WANATCA, and I am very interested in nuts. My 3/4 acre has a chestnut, walnut, almond and several macadamias, some bearing. I have read a brief description of the Australian native *Sterculia quadrifida*, or Peanut Tree.

I should be very grateful for any information about the tree, its nuts, the obtaining of seed, and any other lines of enquiry that I could follow.

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BOOK REVIEWS

Ornamental Rainforest Plants in Australia. David L Jones (Published by Reed, NSW, 1986). 364p. Hard cover. \$29.95 at Granny Smith's Bookshop.

Behind this relatively unpromising title lurks a real treasure of a book. When I picked it up, I expected another glossy coffee-table book, mostly made up of spectacular photos, with little real information. What a pleasure to find a real work of scholarship, a really practical and useful handbook for the plantsman looking for new things to grow, and an absolutely unmatched source of information for the tree cropper looking for new species of fruit and nuts.

With all this, the book is superbly produced, with excellent, informative colour photos, many line drawings, and a really first-class index. Information on current species names is right up to date. The author and publisher are to be congratulated on what is destined to become a classic in its field.

In structure, the book is divided up into 20 chapters. The first 4 deal with Australian rainforests in general and the nature, propagation, and cultivation of the plants they contain. A map shows the location of Australian rainforests, which are not confined to the tropics as many think, but occur right across the northern and eastern coasts, round to southern Victoria, and are especially strong in Tasmania.

Then come 10 chapters dealing with particular plant families (Proteaceae, Myrtaceae, Sapindaceae, etc) plus a further 6 on various plant groupings (climbers, ferns, palms and cycads, etc). These sections contain the real meat of the book. Over 1000 species are dealt with in detail, each species having a description of its size, form, flowering and fruiting habit, its distribution, and notes on its cultivation and propagation. These latter two categories are invaluable. Under each plant genus, the number of species in Australia and in the world is given.

Some examples of the things I turned up, previously unknown to me: I looked up *Macadamia praealta*, the ball nut, a rare macadamia species which I have a specimen of. The index referred me from this name to *Floydia praealta* – it had been renamed. Under *Athertonia*, another macadamia relative with huge potential as a commercial nut source, was the information that this could be propagated by cuttings, an item of great importance. The index also showed what had happened in the recent massive break-up and renaming of the *Eugenia* genus; more than 50 species described, now under *Syzygium*, *Acmena*, *Waterhousea*, etc – leaving only one species still in *Eugenia*! And from the photos it was obvious that the 'Lilly-pilly' grown around Perth, which I had thought was *Acmena smithii* (renamed from *Eugenia smithii*) was actually *Syzygium paniculatum*, properly called the Magenta Cherry.

What about their value as tree crops? It is true that this book was not written from the economic point of view, but most of the information is

there. Perhaps 20% of species are mentioned as having edible fruits or nuts, with another 30% close relatives likely to have edible parts, and another 20% as possibles. That is 700 potential native Australian tree crop plants – of which only 2, the edible macadamias, have actually been used!

Oh, I almost forgot – the Appendices. Eighteen appendices listing species by category such as edible fruit, decorative foliage, shade, inland, tropics, seacoast, indoor, fast-growing ... And a glossary of technical terms. Very highly recommended.

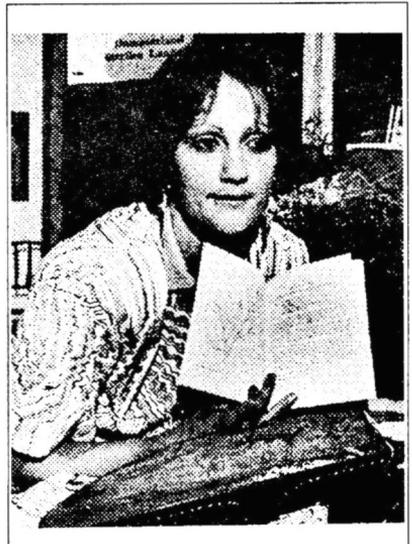
Mayi, Some Bush Fruits of Dampierland. Merrilee Lands. Publisher Magabala Books, Broome, W.A., 1987. 60p. Pb. \$9.95 at Granny Smith's Bookshop.

A bright little book, interesting for its origins as well as its contents. The first book produced by what is believed to be the first Aboriginal publishing company in Australia. Its subject – the fruits known and used by the aboriginals of 'Dampierland', the area around Broome in Western Australia's tropical north.

The area is much less prolific than, say, our rainforest areas, and the book describes only about 20 species used. As well as the descriptions of the plants and fruits, and specific locations where they can be found, the book lists aboriginal customs and uses associated with the plants, their names in the various aboriginal languages of the area, and techniques of preparation for eating. Botanical names are also given.

Among species of particular interest are *Terminalia ferdinandiana*, the Gabiny, notable for having the highest known natural level of vitamin C occurring in a plant food anywhere in the world; *Pouteria sericea*, or Minyjuru, one of a widespread family of fruiting plants, extending as far as Chile and central America; and Kungkura (*Carissa lanceolata*), a native member of the Carissas. These occur all around the Indian Ocean, ending with *C. grandiflora*, the Natal Plum from South Africa, specimens of which can be seen fruiting in Perth.

Part of the Dampierland Oral History Project, and a production of the Kimberley Aboriginal Law and Culture Centre, this book is to be commended for its initiative in making available centuries-old aboriginal folklore on local food for the possible benefit of tree croppers everywhere.



Merrilee Lands with bush fruits

Australian Rainforest Plants. Nan & Hugh Nicholson.

Publisher: Terania Rainforest Nursery, NSW, 1985. 72p. Pb. \$9.95 from Granny Smith's Bookshop.

An attractive book, very well illustrated with fine colour photographs, covering more than 100 rainforest plants from Eastern Australia.

The Nicholsons run a wholesale nursery in northern New South Wales, producing rainforest plants for use in gardens and in reforestation. Over many years they have been involved with rainforest conservation, and have developed practical methods of propagation to introduce many spectacular Australian natives to a wider 'audience', and so helping to ensure their survival.

This book allows the extensive knowledge they they have gained in this work to be made available to others interested in growing or propagating rainforest plants. Each species is described in its natural environment, then details are given of its behaviour in the garden and methods for propagation. Quite a number of the species produce edible fruit.

OTHER BOOKS NOTED

Among the new books which have become available recently are the following, which cannot be reviewed in this issue of *Quandong* due to space limitations. Short notes are given here, and some titles will be given a fuller review at a later date.

Home Fruit Growing. (NSW Dept Agric, 1984). 124p. Boards. Useful standard work covering 7 nuts and 18 tropical or exotic fruits as well as the traditional temperate fruits. \$10.00.

Primary Production of Pistachios. (SA Dept Agric, 1987). 52p. Pb. Duplicated collection on growing, fertilizing, harvesting and storage, and economic aspects of pistachios. Contains much valuable information. Recommended. \$11.50.

Pistachio Propagation. Bass & Hodge (SA Dept Agric, 1986). 28p. Spiral. Good practical summary. \$6.95

Growing Fruit in Australia. Baxter & Tankard (Nelson, 1987). 226p. Hb. New edition of Baxter's standard work, expanded to include many tropical fruits and new production techniques. Recommended. \$30.00.

Cooking with Pistachios. Hallworth (Pistachio Growers Assn, 1987). 31p. Pb. Australia's first pistachio recipe book. \$5.75.

NEW VIDEO LOAN SERVICE

The Association has acquired two important new video cassettes of great interest. These are **David Bellamy's** new film "**Wheat Today, What Tomorrow?**", which deals with the need to plant trees and tree crops on Australia's degrading agricultural soils, and the **Wesfarmers** production "**Money Can Grow on Trees**", which graphically shows how progressive W.A. farmers are making trees work for them in actuality, now. These cassettes are reviewed in more detail elsewhere in this issue of *Quandong*.

These cassettes are being held at the Tree Crops Centre in Nedlands. As a trial service, they will be lent to WANATCA members for up to 2 days, at a cost of \$2. A deposit of \$10 must be paid. Loans for longer than 2 days cost an extra \$1 per day. The videos are in VHS format and are only available on personal application – check on 386 8093 that the one you want is available.

[The West Australian, Nov. 15, 1987]

Pecan trees will reward with a lifetime of nuts

The graceful stately pecan tree is a big asset for a garden. It is not suited to all suburban blocks because it grows up to 10, sometimes 15 metres high. However, where you can fit one or two trees in, you will be rewarded with a lifetime of nuts.

Pecans can easily live to be 100 years old and some trees in the Mississippi delta are known to be 1000 years old. They are well suited to many areas of Western Australia because they enjoy long, hot summers that are in fact necessary to mature and fill out the fruits.

The natural growing region for pecans in WA extends from north of

Carnarvon, north of Wiluna through to an area east of Esperance and includes most of the South-West barring the wetter portions close to the south coast.

The pecan nut has a wide range of uses in the kitchen. It can be added to sandwiches and salads and baked in sweet breads. Of course there is the famous and delicious pecan pie.

The nuts are harvested in autumn and are somewhat oval in shape with pointed ends. Some varieties drop their nuts when they are mature and others need to be knocked down with long poles. Once the nuts have been harvested, it is advisable to crack the outer shell and remove the nut meat. This can then be frozen in sealed plastic bags for up to 12 months.

These tall stately trees can bear their first crops four to seven years after planting. This is for grafted trees, seedling may take many more years. The trees have what is called a low-to-medium chilling requirement — they do need some cold winter weather to set the wood and let flowers form in the spring.

The climate of the suitable growing area in WA satisfies this amount of winter cold. Because of the large size of the trees, it is not advisable to plant them within five metres of buildings or sewerage lines. Pecans can tolerate infertile sandy soils, however best results are achieved when it is planted in deep fertile loams.

The flowers are in drooping catkins and are not showy. The tree is pollinated by wind. While pecans have male and female flowers on the same tree, in most cases there is not sufficient crossover to achieve good pollination. It is therefore recommended that two trees of different pollinating varieties are planted together. There are a couple of varieties, however, that are self-fertile, sufficient to give a home gardener a good crop from one tree.

Pecans are deciduous trees and can be most majestic when fully mature. They give a lovely deep shade and because of their bushy nature can be used as a large screening tree. They look tremendous when planted along the line of a driveway.

The temperature of your house can be dropped by four to five degrees in

summer with a pecan planted on the north side of the home, where it can shade those exposed walls. Irrigation and fertilisers help pecans to grow. Their natural habitat is rich alluvial river flats, often with their roots tapping into fresh water.

A mature pecan tree needs to be producing new growth to a length of 20 cm to 40 cm each year to be growing well. Anything short of 20 cm of new growth means that it needs additional fertiliser. Zinc is one of the critical minor trace elements required to grow pecans successfully. This can be applied either as a foliar spray of zinc sulphate or a side dressing of superphosphate with copper and zinc added.

Pruning is needed only in the early stages to shape the tree and is not required annually. Early training should aim to encourage the natural pyramid-shaped growth pattern, to develop wide crotch angles for the branches and to remove any criss-cross growth in the centre of the tree.

Transporting a fruiting tree from its natural habitat, in this case from North America to a completely foreign environment, often eliminates many of the natural pests and diseases. This is the case with the pecan which is relatively free of problems in Australia.

There are a wide range of varieties available. Some of the recommended ones for this area are Chickasaw, Shoshoni, Cherokee

(this is a very early-bearing precocious tree) and Western Schley. Western Schley is a late-season variety, but is the best one for single plantings for the home gardener as it is reliably self-fertile.

Pecans are a long term investment for the gardener. It may well be that your children and grandchildren will reap the greatest rewards from a planting.

Neville Passmore

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[*The West Australian*, Sept. 7, 1987]

NUTS A CURE FOR AIDS?

A hunt for a natural cure for AIDS has been launched by scientists in Britain. They will gather thousands of forms of plant and marine life, fungi and other organisms, taking particular note of native folklore when selecting plants.

One of the first drugs to be investigated is derived from an Australian tree. The scientist in charge of the project, Dr.

Kenneth Snader, said: "A chemical called castanospermine, derived from a type of Australian chestnut tree [Ed:- the Moreton Bay Chestnut, *Castanospermum australe*] is producing very encouraging results.

He said castanospermine blocked the formation of proteins that formed the coat of the AIDS virus, and so halted its replication in the body.

[Ed:- A Moreton Bay Chestnut at Hoop's Nursery, Forrestfield, has flowered and fruited in previous years. The flowers are spectacular]

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to discuss matters of concern with acknowledged experts in their fields.

Two post-conference horticultural tours have been organised. One will visit the temperate

If you are interested in finding out more about the conference, fill in the "Notice of Intention to Attend" sheet below and post to the address indicated. Full programme details will be available early in 1988.



Department of Agriculture New South Wales



ACOTANC 4

Please forward me full details of the ACOTANC programme.

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subtropical fruits and nuts
temperate fruits and nuts (Please tick)

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For further information:

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Wollonbar, N.S.W. 2480.

Phone (066) 24 0360
John Robson,
Conference Secretary.

ACOTANC 4 FOURTH AUSTRALASIAN CONFERENCE ON TREE AND NUT CROPS

LISMORE, N.S.W., AUGUST 15-19, 1988



A very important conference will be held at Lismore, N.S.W. in August 1988. It's ACOTANC-4 the 4th Australasian Conference on Tree and Nut Crops. Previous conferences have been held at Perth, Melbourne and Auckland, New Zealand. ACOTANC 4 is being organised by the Exotic Fruit Growers' Association Ltd. in conjunction with the N.S.W. Department of Agriculture and local horticultural organisations. Lismore is the centre of subtropical tree and nut crop production in N.S.W. and is well suited to host this conference.

The conference has as its theme "Australasian Horticulture for the World". To be examined is the rapidly expanding range of nut and tree crops being grown in the Australasian region to meet both local and export markets. Temperate, subtropical, tropical, and edible and industrial crops will all be covered. Grouped in Lismore at the one time will be the people with the current wisdom at their fingertips and this will provide delegates with an excellent opportunity

fruit and nut growing regions, whilst the other will visit the subtropical areas of north-east N.S.W. and south-east Queensland. The latter tour offers the option of visiting Cairns and north Queensland.

Specific topics include avocados, lychees and longans, macadamias and other nuts, custard apples and cherimoyas, persimmons, nashi fruit, loquats, kiwi fruit, citrus, bananas, stonefruit, papaws, rare and exotic subtropical and tropical fruits, reforestation, windbreaks, permaculture, nurseries, marketing, management, crop pollination, soil conservation, finance, the international scene and exporting.

The conference programme will include lectures, workshops, concurrent sessions, local horticulture tours, overseas keynote speaker, local and overseas speakers, conference dinner, concert, post-conference tours and partners' and guests' programme.

The Mangosteen (*Garcinia mangostana*)

Mangosteen is indigenous to this part of the world, and wild trees have been found in the jungle on the east coast of the Malay Peninsula. It is believed to have been in cultivation throughout the Asian tropics for centuries, but there are no distinct varieties. The fruit is well known as one of the most delicious of all the tropical fruits and is termed the 'queen of fruits' and 'the finest fruit in the world'.

It is an evergreen tree of medium height, with a dense pyramidal crown. The tree grows to about 10-20 metres high at maturity. The sap is yellow. All plant parts excrete a yellow latex when damaged. The trunk is straight with low arched branches, and the slightly flaky bark is dark brown to blackish. There may be short, thick knobs on the trunk, which are the remains of earlier branches. New twigs are angled and green, becoming brown with age.

The leaves are borne on the end of new twigs. They are of varying sizes, about 20-25 cm by 9-12 cm. They are simple and in opposite pairs, unifoliate, thick and leathery. The colour varies from olive green to dark green above, and is slightly glossy, but is dull and almost yellow below. New leaves are pink. The midrib is pale and prominently raised in both surfaces. The leaf-stalks are thick and short, about 1.5 cm long, fleshy looking when new but becoming brown and wrinkled with age.

The yellowish-green flowers are unisexual-dioecious. They are large, about 4-6 cm across, and are borne solitary or in pairs near the twig ends among the leaves. They are rather fleshy looking with 4 large

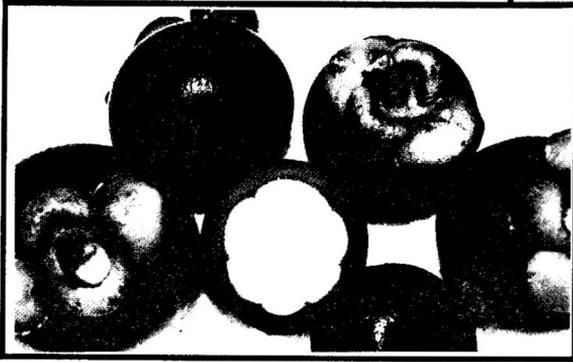
curved sepals and 4 petals, being flushed with pink or red. The globose ovary has a yellow, thick stigma which is divided into 4-8 lobes. The flowers open in the late afternoon. The petals of the female flowers quickly fall off while the sepals remain and are still visible as the fruits ripen.

Mangosteen is dioecious. However, only trees with female flowers are known in cultivation. Male trees are rare to non-existent. Almost all the flowers are purely female, and these develop into purplish brown fruits. The fruit is formed in a peculiar way without fertilisation by what is known botanically as 'parthenogenesis'. This peculiarity accounts for the lack of variation in the species.

The fruit is a berry and varies from 6 cm up to 9 cm in diameter. It is round but slightly flattened at each end. The smooth and firm rind is pale green at first and gradually turns purple or crimson-purple on ripening. The four large, rounded sepals remain on the fruit at the stalk end, and the apex is crowned with 5-8 flat woody lobes which always correspond to the number of fleshy segments inside. The fruit-stalk is thick, and varies from 1-2 cm long.

The rind, about 1 cm thick, is deep

Below: Mangosteen fruits



*Above:
Mangosteen flower*

crimson and fibrous. It contains a purple resin which will stain hands and clothes. Inside are 5-8 fleshy, ivory-white segments which are the edible arils. They are extremely pleasant to taste but slightly sour. One to three of these segments may contain a large, light-brown seed which adheres to the flesh. Seeds are formed from nucellar tissue in these parthenocarpic fruits.

The tree is slow growing, but is long-lived. From the seed it takes above 15 years to fruit. It produces 500-1000 fruits annually. Fruits are produced twice a year. The seasons are roughly at the middle and towards the end of the year. Generally, their seasons coincide with those of the durian and rambutan. The yield is uncertain and is easily upset by unusual weather.

Mature fruits drop and bruise easily. For marketing, it is best to hand harvest at early maturity before fruits are fully ripe. If harvested too soon, fruits do not develop full flavour. Fresh fruits can be marketed up to 5 days after harvest.

Mangosteen is excellent as a fresh fruit. It is considered as the choicest fruit of the tropics. The rind is rich in tannin and is dried for use as medicine by the local Chinese and Malays.

Mangosteen has always been a difficult tree to grow. Initial propagation is not easy, even with seeds, as the viability of the seed is poor and short-lived. Propagation is by seed or grafting onto seedlings of the same species. Asexual propagation by approach grafting and wedge grafting has proved successful in mangosteen. The young tree requires shading when planting out in the open as the leaves are easily scorched by hot sun and eventually the plant will be stunted and killed. The Mangosteen tree prefers a moist, hot climate with a short dry season. It thrives in deep, fertile, well-drained soil which is slightly acidic.

Yong-Ho Siew Yee

WANATCA's OWN SEED OFFER

We have arranged a special SEED DISTRIBUTION for members which will include samples of at least 10 different species of useful fruits and nuts. Cost is \$10/ packet

Please order the number of packets you want quickly, to help us organise things. Send money to SEED OFFER, PO Box 565, Subiaco WA 6008, with your address.

Packets will be made up from the following species, according to availability:

Anacardium occidentale - Cashew
Annona cherimola - Cherimoya
Butia capitata - Yatay
Carica sp. - Toronchi
Casimiroa edulis - White sapote
Chrysophyllum cainito - Star apple
Diospyros virginia - American persimmon
Eugenia uniflora - Brazil cherry
Hicksbeachia pinnatifolia - Rose nut
Hovenia dulcis - Chinese currant
Manilkara hexandra - Sapodilla relative
Morus tartarica - Siberian mulberry
Passiflora alata - Cold-hardy granadilla
Pinus pinea - Pine nut, Stone pine
Pouteria campechiana - Canistel?
Sclerocarya caffra - Marula
Terminalia fernandiana - Gabiny
 - PLUS OTHERS -

Orders dealt with in strict order of receipt: first in, best choice. Distribution starts as stock available - expected February on.

Orders accepted as long as seed is available and cash refunded when stocks gone.

Brief descriptions and growing hints included. Price includes postage. WANATCA members only.

Prices for Unusual Fruit

An article in a recent *Rare Fruit Council of Australia Newsletter* (July 1987) lists market conditions, and prices being obtained by growers in Queensland, for some newer fruits. Here we extract only the price information. (This is price received by the grower, not retail price, which may be 50-150% higher).

Fruit	Price (\$)
Jakfruit	2.50-3.50/kg
Carambola	9-30/tray
Longan	little supply
Rambutan	10/kg
Casimiroa	15-22/tray
Caimito	4.50/kg
Soursop	4-6/kg
Black sapote	3-3.50/kg
Malay apple	3/kg
Carissa	little supply
Champedak	as jakfruit
Breadfruit	4-4.50/kg
Salak	4-5/kg

Special Notice "Edible Nuts of the World"

Horticultural Books, publishers of Edwin Meninger's famous book, are going out of business. If you don't already have a copy, order one from us now while we still have stock

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NEEM TREE NEWS

The Association has received some seeds of the Neem Tree (*Melia azedarach*), kindly sent over from India by Avril Baxter (Avril was on a private visit; she has been working on a project for the Land Management Society in Perth).

The neem, a close relative of the Cape Lilac widespread in Perth Suburbs, has recently been discovered to provide a source of valuable natural insecticides and medicinal products.

Some of the seeds, being raised by Ian Fox, have already germinated, and we hope to have some seedlings available for distribution at a later date.

Tree Crops Centre Statistical Bulletin No. 2 Areas planted to various nut crops in Australia

Trees (Number)	6 years and over			Total			Production (Tonnes)		
	1984	1985	1986	1984	1985	1986	1984	1985	1986
Figs	3,828	3,526	3,779	5,038	4,875	6,710	88	108	128
Guavas	10,690	26,760	6,226	31,359	21,347	12,943	388	298	142
Loquats	1,059	1,053	967	1,278	4,223	1,748	46	28	19
Lychees	11,476	9,821	16,796	82,506	98,208	131,454	58	104	148
Persimon	3,982	4,473	5,742	9,420	12,240	65,943	82	125	216
Quinces	1,581	2,847	3,032	2,119	3,835	4,229	77	113	126
Rambutans	6	4	4	1,614	3,997	4,293	1	1	1
Cashews	24	24	452	1,049	2,282	4,653	-	-	1
Chestnut	3,191	4,814	5,480	17,738	21,203	20,531	44	58	63
Filberts	822	1,344	1,114	16,77	16,316	16,060	16	35	24
Walnuts	11,558	12,814	12,183	17,224	19,816	19,735	98	92	104

Miscellaneous Orchard Fruit: Tree Numbers and Production

(Source: Australian Bureau of Statistics)

BLACK WALNUT REPORT

The following valuable report has been sent in by the Meggits. They may be contacted at PO Box 69, Alexandra VIC 3714, or on (03) 589 2680 or (057) 721 041. The report will be printed in parts.

Hugh and Gay Meggitt visited Michigan and Missouri to attend a black walnut conference (at Battle Creek, Michigan) and to see American plantations, veneer mills and a black walnut processing factory, in July/August 1987.

The visit was necessary because we recently purchased Australia's only significant black walnut plantation, on Walnut Island, on the Goulburn River near Alexandra, Victoria. We actually purchased the property for a trout farm and only subsequently discovered the history and potential value of the unusual looking trees on the property.

The 100 acres of black walnuts - about 15,000 trees - on Walnut Island (a virtual island formed by a breakaway of the Goulburn River) were planted about 17 years ago, with public involvement being sought through an unsuccessful public offering of shares in a company called Walnut Island Limited.

Walnut Island Limited became an insignificant part of a large property and timber group which changed hands a number of times (previous owners included Alan Bond and Rene Rivkin). The insignificant and loss-making Victorian operations, including Walnut Island and pine interests in Taggerty, were sold out of the group and acquired by us in December 1986.

Some 18 years ago the Walnut Island site was selected by American and Australian experts as an ideal site for the growing of American black walnut. Nuts were flown across from North East Iowa with the plantings being supervised by a leading American expert on black walnut (R.W. Daubendiek). Two American universities (in Michigan and Illinois) also became involved in the Australian planting and sent out special hybrid nuts for research purposes. The Australian planting was featured in a number of American publications.

After the initial excitement caused by the planting, interest faded, and until very recently the plantation was virtually forgotten, to such an extent that a few years ago American enquirers were told by Victorian Conservation Department people that they could find no trace of the plantation.

The Walnut Island plantation has not been thinned and in recent years has received only limited pruning. In addition approximately one third of the 100 acres has proved to be too sandy for black walnuts. However, some of the trees on Walnut Island already have a dbh (diameter at breast height) of more than 10 inches, which is not normally expected until 25 years. On average, judged by American standards, the Walnut Island plantation has performed reasonably well. It also has a crop of 25 tons of nuts, which have not been harvested in previous years.

(To be continued in next issue)

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Review: New Video Releases

Wheat Today, What Tomorrow? *David Bellamy*, Video, VHS, 34 min. Available from Granny Smith's Bookshop, \$50.

A fascinating and compelling film made by Professor David Bellamy, the 'Botanic Man' of television fame, about our backyard — the Wheatbelt of Western Australia.

Bellamy's message is to put the trees back onto our vast open wheat farms, to save the land from the alarming erosion and salinity problems which increasingly threaten both farmers' incomes and the continuing use of much of our land to grow field crops.

And the message is positive — plant trees which will give replacement incomes to farmers or improve their returns from conventional wheat and sheep production. Plant pistachios and other nut and fruit producers, plant tagasaste for animal fodder, plant trees and more trees for windbreaks, erosion control, timber and fuel.

Bellamy graphically demonstrates the basis of his call. He shows savage erosion happening, and what triggered it off. He shows the life, resilience, richness, and stability of soils around trees, and the inertness and intolerance of ground literally worked to death after 20 years of use.

This film was the inspiration of Barrie Oldfield, of *Men of the Trees*, the W.A. branch of a loose world-wide grouping working to reafforest this planet. Barrie happens to be a media wizard, and was responsible for all the production details of this tremendous achievement.

This is a first-class film carrying a potent message in a gripping form. Every country group and agricultural organisation should have a copy to spread the message among its members and increase its membership by showing the video to others who have yet to see the light.

Money Can Grow on Trees. *Wesfarmers*. Video, VHS. 30 min. Available from Granny Smith's Bookshop, \$40.00

If David Bellamy's film "Wheat Today, What Tomorrow?" carried the message of **what** we need to do to use our land properly, this film shows **how**. It shows what farmers and others in Western Australia are actually doing in real solid practice.

While we are still feeling the way, and all admit the final answers are not yet in, achievements to date are already impressive. Huge plantings have already gone in of trees for stock feed and all the other uses, and results of feeding trials have been positive.

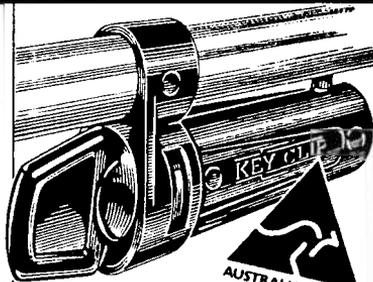
A nursery venture set up to produce the trees is shown. Planting equipment, direct seeding of tree seeds, and seedling planting is shown.

This video is the first of a series planned by Wesfarmers, the State's huge cooperative farmer trading company, to improve farmers' knowledge of how best to use the land. It is a laudable venture which should greatly improve their standing as a Corporate Citizen, and eventually benefit all of us here now as well as those to follow. Again, this is a video which all manner of local organizations should have available for consultation.

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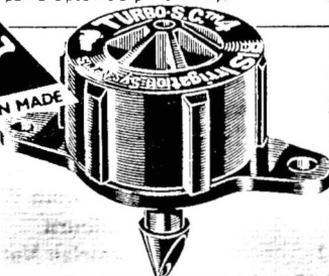
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CALENDAR OF FORTHCOMING EVENTS

1987

**Nov 18 Wed Annual General Meeting* (Esbensshade – Casuarinas
as and for Tree Crops)**

1988

Jan 17 Tue Executive Committee Meeting
**Feb 15 Wed General Meeting (The Machlin nut plantation at
Gingin)**
April Field Day, Machlin Plantation, Gingin
**Jun 13-14 New South Wales Nut Growers AGM & Conference,
Goulburn**
Aug 1-2 Victorian Nut Growers AGM & Conference, Warrigal
**Aug 15-19 ACOTANC-4 Conference, Lismore (Fourth
Australasian Conference on Tree & Nut Crops)**

*General Meetings are held at the Naturalists Hall, 63 Meriwa Street, Nedlands, starting at 7.30 pm. These meetings usually include a plant auction and current magazine display. Members wishing any matter to be considered at an Executive Committee meeting should contact the Secretary by 2 days before the meeting.

**Current Subscription Rate: \$30.00 per year
(includes all publications for the year) Student Rate: \$15.00**

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