

NEWSLETTER

Quandong

WEST AUSTRALIAN NUT AND TREE CROP ASSOCIATION

May 1982 Vol. 8 No. 2 ISSN 0312-8989 Publication No. WHB 0868

TREE CROPS



PERTH

1982

"THE 3rd COMPONENT"

CONTENTS

Market Review
Tree Auction
Eucalyptus Energy
Malabar Chestnut
Chironja
Summer School Review

Conference Programme
Tropical Black Walnut
Book Review - LIKLIK BUK
Giant Leucaena
Member's Corner

MARKET REPORT

Here is the market update for nuts from Wayne Geddis.

Peanuts	\$2.60 per kilo	Excellent quality
Almonds	\$2.50	
Pistachio	\$-.-	not available at present
Hazel	\$3.00	
Macadamia (kernals)	\$16.80	
Brazil	\$2.40	
Chinese pine kernals	\$8.50	
Walnuts (American)	\$2.50	
Walnuts (Indian)	\$2.00	
Chestnuts	\$5.00	very cheap at the moment, likely to rise to \$7.00
Pecans	\$3.30	
Cashew (salted)	\$9.80	(raw) \$9.00

NEXT MEETING

THE NEXT MEETING WILL BE HELD ON MAY 19
AT THE NATURALIST'S HALL 63 MERIWA ST.
NEDLANDS

THERE WILL BE A GUEST SPEAKER FROM THE CONFERENCE
SO PLEASE COME ALONG AN EXCHANGE VIEWS OVER COFFEE
AND BICKIES.

FOR SALE

Grafted Macadamias with a one year old top are available at
a cost of \$9.90 each from:

NUT TREES AND CONIFERS NURSERY,
52 Croyden Road,
ROLEYSTONE. 6111.
Tel. 397 5628

VARIETIES: 246 KEAUHOU, 333 IKAIKA, 344 KAU,
508 KAKEA, 660 KEAAU, H2 HINDE.

TREE AUCTION

The tree auction held at the last WANATCA meeting was another great success. Wayne Geddes, who once again was our ace auctioneer, also brought along some interesting nuts for sale - Pine Kernels from China (probably Pinus Koraiensis)

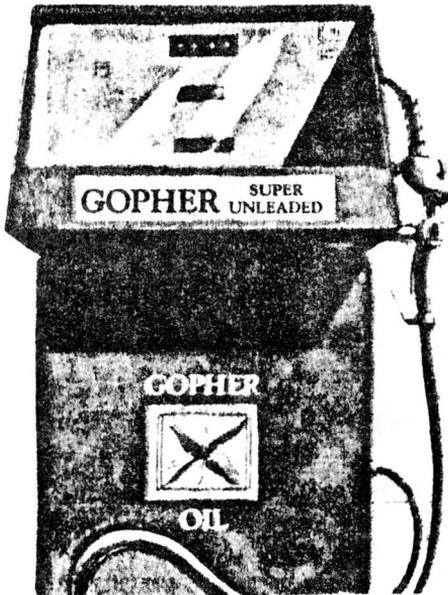
Among the items sold were:

Bunya pine (<i>Araucaria bidwillii</i>)	- \$3.00
Honey locust (<i>Gleditsia tricanthos</i>)	- \$2.50
Grafted chestnuts ('mammoth')	- \$8.50 - \$9.00
Pomegranate (<i>Punicum granatum</i>)	- \$3.70
Loquat (<i>Eriobobrya japonica</i>)	- \$2.00
Pair of named hazlenuts	-\$13.50 pair
Kei apple (<i>Dovyalis caffra</i>)	- \$5.50
Scarlet oak (<i>Quercus coccinea</i>)	- \$5.50
Dwarf japanese quince (<i>Chaenomeles speciosa</i>)	- \$3.50
Bags of nuts (Walnuts, brazil, pecans, pine kernels)	- \$2.70 - \$4.00

In addition a large number of seedlings of Avacado, Bunya, Guava, and Almond were sold at a flat rate of 50 cents each.

Desert gas pumps

Latex from the gopher plant, a cousin of the rubber tree, can be broken down into petroleum derivatives useful for everything from gasoline to lightweight tents. Industrial grade alcohol also can be made from the fleshy branches containing almost as



much sugar as sugar cane.

Already gopher plants grown from wild seed annually produce six barrels of oil and 3.6 barrels of alcohol an acre. Crop improvement with tissue culture could easily double or triple the yields. Experiments are underway to mass propagate shrubs selected for high concentrations of chemicals used in petroleum products. Protoplast fusion with a few of the gopher's 2,000 relatives in the *Euphorbia* family could lead to a commercial variety whose milky-white latex would not irritate the skin of harvesters.

Eucalyptus energy

Florida's eucalyptus plantations may become as famous as the state's orange groves. Energy forests of nearly 90 million fast-growing trees could supply enough wood chips to support a 100-million-gallon-a-year methanol fuel industry. Some 100,000 strip-mined acres in central Florida could be reclaimed by eucalyptus, which thrive on the phosphate-rich soils.

Tissue culture propagation of eucalyptus is a vital part of the feasibility study that Biomass Energy Systems is conducting for the U.S. Department of Energy. To replace the six million trees that would be harvested each year, more than 2,000 acres would have to be set aside for growing trees from rooted cuttings. However, nodes, the small masses of specialized cells on shoots that produce more shoots, can reproduce 10 to 20 times



their numbers in test tubes every month. Theoretically, a single shoot in tissue culture could be multiplied to more than a million in six months. In addition, the process may offer an economical way to select desirable characteristics such as disease resistance and salt tolerance. In Australia a scientist has propagated a eucalyptus that tolerates more salt than that in seawater.

PROGRESS OF THE NORTH, MARCH 21, 1982

Show of faith by local MLC

When North Province MLC Bill Withers says he backs Ord agriculture he's got more at stake than political point scoring.

The controversial MP has invested heavily in the Ord's future.

Apart from the jewellery and gift shop he and his wife run in Kununurra, Bill Withers farms a horticultural block and plans to turn it into a money-making concern.

He has 200 mango trees on the block at present and one day hopes to have 1000 as well as 250 other mixed tropical fruit trees.

Worms

He is also developing a worm farm for fertiliser production and plans to set up a small factory to produce iced confections and bottle lime juice.

Mr Withers has stuck by the Ord during 18 years in Kununurra and is right behind plans to set up a sugar industry in the area.

He said he could understand the fears voiced by Queensland sugar cane growers.

"I have said before that our sugar industry would be much more efficient than anything in Queensland," he said.

"We will be able to produce more sugar per



Mr Bill Withers, MLC, . . . a commitment to the Ord.

hectare and our mill will be better.

"Naturally they are afraid that we will show up their inefficiencies."

But Mr Withers said he could not understand how the Queenslanders could say Ord sugar would damage the industry.

"The amount of sugar we will produce will be only a relatively small percentage of the total Australian production," he said.

"And I don't know why they bother to say domestic market availability could work against a new industry.

"It's insignificant compared with the amount of sugar that is exported."

Mr. Bill Withers will also be attending 'ACOTANC-1'.

There have been numerous newspaper articles to do with the forth-coming Conference. Unfortunately there is not enough space to print them in this issue.

The Malabar Chestnut

From notes of Bill Nelson

If you can't get your almond tree blossoms synchronized maybe it's time for a *Pachira aquatic*. Although it is known as the Malabar chestnut in Hawaii, Saba nut or Guyana chestnut is a better name since the tree is from the American tropics. It is also called the Provision tree.

The family, Bombaceae, has produced many popular trees from *Chorisia speciosa* or Silk Floss tree and the *Ceiba pentandra* or Kapok tree. There are some similarities in the thickness of the trunk, for instance, which give the tree a swollen appearance. There are no spines on the Malabar chestnut, but it has the family tendency to a fat bottom.

There is similarity, also, in the long, oval fruits, which are anywhere from 4 to 12 inches in length. Although these woody, ovoid, five-valved fruits resemble their relatives, there is no floss or fluff inside. Instead, the pod is filled with rounded seeds up to a half-inch in diameter which are edible raw and considered as delicious as any chestnut when roasted.

In Sturtveant's *Edible Plants of the World* he quotes F. Unger (1859) and Belanger (1858) as saying: "The mealy seeds of this tree, when roasted, taste like chestnuts. The young leaves and flowers are used as a vegetable. There is nothing better than this chestnut cooked with a little salt."

"In spite of its tropical nature, it is very resistant to drought and adverse conditions. In its native habitat the fruits split open like a walnut when they are ripe. They then discharge their many nuts to the ground. If there is rain the seeds sprout. If it is dry they sun-dry. When drying these seeds one must be careful to keep them from getting wet or they tend to mildew. The nuts are particularly popular in Angola when they are fried in oil. The plant has also spread to the West Indies, Mexico and Guyana."

According to Burkill, the seeds contain about 50% oil. The oil has a smell that suggests liquorice or fenugreek.

"The seeds of many species of the Bombax family are rich in oil which is edible. The *Pachira insignis* or Maranhao nut should also be considered an edible fruit because of its nuts. Other species of the genus have edible seeds but of little nutritive value."

There are two handsome, producing specimens growing in the tropical fruit section at Quail Gardens, and they seem to thrive in our area. They are fast-growing and shallow-rooted. Since they are extremely compact as well as decorative, they are well worth giving a try. Quail Gardens does have some frosts, but the lower limits of frost tolerance have yet to be reported.

Jim Neitzel has a *Pachira* growing in a tub and feels that it makes an especially handsome tub specimen. Bill Nelson believes that in our area the tree is not likely to exceed 10 feet.

Chironja, A Natural Orangelo

Rick Parkhurst

From Puerto Rico comes a report of a fruit which is called Chironja. This fruit is believed to be a natural hybrid of the sweet orange, *Citrus sinensis* Osbeck, and the grapefruit, *C. paradisi* Macf. The cross happened some time before 1956, in the mountainous Angeles and Caguanas area of Utuado municipality.

The tree is large and vigorous with a growth habit like that of a grapefruit. The fruit is usually borne singly, is the size and color of grapefruit. It peels easily and is sweet and juicy. It matures in midseason. Its citric acid content is about half that of the orange and less than half of the grapefruit's, making it the least acidic of the three fruits with an average pH of 3.95. Although the Chironja is as juicy as either an orange or a grapefruit, it also has more meat so that it is less juicy (in percentage) than either orange or grapefruit.

The first specimen discovered was found growing wild in the mountains by Moscoso in 1969. It was at an altitude where coffee grows well. Moscoso and Shambulingappa (1972) have both done cytological studies of the tree and other seedlings that seem to have come from the one seedling. They appear to have become sufficiently stable to permit reproduction of its characteristics by means of seed propagation.

The Chironja combines morphologically as well as chemically with the flavor characteristics of both orange and grapefruit so that it is a natural hybrid. A seven-year old tree produces 400 to 600 fruits per year. Some produce fruit 12 months of the year.

It's an excellent fresh fruit. It can be eaten with a spoon as a grapefruit or in sections as a tangerine, because its peel is easily removed by hand. Its juice is very pleasant and does not require the addition of sugar because it's not as sour as grapefruit and is sweeter even than an orange.

To date, all fruits of this cultivar are sold locally with no attempt to export.

Reprinted from - 'California Rare Fruit Growers' First Quarter, Vol. 14 No. 1.

SUMMER SCHOOL REVIEW

PROGRAMME

- Mon Jan 18 WHY GROW NUT AND TREE CROPS? (David Noel, WANATCA President).
- Tue Jan 19 NUTS FOR SOUTHERN W.A. - Pecan, Macadamia, Chestnut, etc. (Bob Woodward, Newhope Farm).
- Wed Jan 20 NUTS FOR LOW-RAINFALL CONDITIONS - Jojoba, Pistachio, Stone Pine etc. (Milan Mirkovic, Pecan Industries).
- Thu Jan 21 NEW COMMERCIAL FRUITS FOR THE COASTAL PLAIN - Kiwi, Avocado, Tamarillo etc. (Mike Hawson, Agriculture Department).
- Fri Jan 22 UNTRIED AND EXPERIMENTAL TREE CROPS WITH PROMISE - Cherimoya, Cashew, Mangosteen, Durian etc. (Warren Boucaut, Kelmscott Azalea Gardens).
-
- Sun Jan 24 FIELD TRIP. All-day field trip, coaches provided. Expected to visit Stoneville Research Station, Stoneville; Newhope Farm, Sawyers Valley; Nutland Nursery, Wanneroo. (Leader: Bob Woodward)
-
- Mon Jan 25 HOW NUT AND FRUIT TREES ARE PRODUCED - Tree propagation (Alex Sas, Nut Tree & Conifer Nursery).
- Tue Jan 26 TREES FOR FORAGE, HONEY, CORK AND OTHER PURPOSES (Alec Hart, Forests Department).
- Wed Jan 27 TREE CROPS AS A COMMERCIAL PROPOSITION - Economics of tree crop industries (Nola Washer, Nutland Nursery).
-

This year's Summer School stimulated considerable public interest. There have been several requests to publish the programme in Quandong. At a later stage the talks from the Summer school will be printed as a booklet by the society.



ACOTANC-1

**FIRST AUSTRALASIAN
CONFERENCE
ON
TREE AND NUT CROPS**

UNIVERSITY OF WESTERN AUSTRALIA
PERTH

MAY 12th, 13th, 14th, 1982

THEME: "THE 3rd COMPONENT"

***** A C O T A N C - 1 *****

1st Australasian Conference on Tree & Nut Crops, Perth, May 12-14, 1982

VENUE-Social Sciences Lecture Theatre, University of Western Australia

WEDNESDAY MAY 12

8.30-9.30 REGISTRATION
9.30-10.00 OPENING ADDRESS : Development of Tree Crop Industries
- A renewable resource (Sir Charles COURT, KCMG, OBE)
10.00-10.30 THE CALIFORNIA EXPERIENCE - Development of tree crops
in Southwest U.S.A. (Paul THOMSON)

----- Refreshment

11.00-11.30 INTRODUCING NEW TREE CROPS - Impact of quarantine
policy and controls (Dr R. IKIN)
11.30-12.00 ON-LINE COMPUTER INFORMATION on Tree Crops (Julie
Maxam)
12.00-12.30 ROLE OF TREE CROPS IN SOME NATIONAL ECONOMIES (John
Hyde, MHR)
12.30-12.45 (Group Photograph)

----- Lunch

2.00-2.30 PAWPAWS - Development of seedless and other pawpaws
into commercial crops (Dick ENDT)
2.30-3.00 BLUEBERRIES, GUAVAS, CHINESE GOOSEBERRIES -
burgeoning Australian crops for local and export
markets (Ridley BELL)
3.00-3.30 CASHEWS - Australia's potential for a major tropical
tree crop (Dr John MILLINGTON)

----- Refreshment

4.00-4.30 THE TOP END - fruits and nuts in a wet/dry season
situation (Bruce TOOHILL)
4.30-5.00 MALAYSIA & INDONESIA - Underexploited native fruits
and nuts (Dr Bobby TEE)

(ACOTANC Participating Organizations : Committee)

[EVENING : WELCOME RECEPTION]

THURSDAY MAY 13

- 9.00-9.30 THE NEW ZEALAND EXPERIENCE : how Government fostered new export and local tree crops (Doug DAVIES)
- 9.30-10.00 MAKING FARM TREES PAY - useful products from environmental tree plantings (Alec HART)
- 10.00-10.30 TISSUE-CULTURE PROPAGATION of nut and tree crops (Dr Jennie McCOMB)
- Refreshment
- 11.00-12.00 WINDBREAKS - Importance in tree crop production (Hamish DEANS; Doug DAVIES; Dick ENDT; Nola WASHER)
- 12.00-12.30 FORAGE TREES - Tree lucerne and other multipurpose leguminous forage trees (Doug DAVIES)
- Lunch
- 2.00-2.30 MANGOES - A commercial variety for Mediterranean climates (Paul THOMSON)
- 2.30-3.00 MACADAMIAS - Their possible cultural range (Ted DAVENPORT)
- 3.00-3.30 PISTACHIOS AND PECANS - Prospects for commercialization in Western Australia (Neville SHORTER)
- Refreshment
- 4.00-4.30 SOUTH AMERICA - Source of promising new introductions of fruits and nuts (Dick ENDT)
- 4.30-5.00 PAPUA NEW GUINEA - Wild and cultivated fruits and nuts (Jon DODD & Dr Andree MILLAR)

[EVENING : OPTIONAL RIVER CRUISE]
=====

FRIDAY MAY 14

- 9.00-9.30 THE VICTORIAN EXPERIENCE - Development of nut and non-traditional fruit crops (Tony ALLEN)
- 9.30-10.00 FERTILIZER TRIALS ON NUT TREES in Victoria (Paul BAXTER)
- 10.00-10.30 PHYTOPHTHORA - Effect of dieback/rootrot on various crop trees (Dr K. SIVA)
- Refreshment
- 11.00-11.30 ONE-HIT TREE CROP ESTABLISHMENT - planting jojoba and other tree crops under dry conditions (Milan MIRKOVIC)
- 11.30-12.00 THE HONEY LOCUST (Jason ALEXANDRA)
- 12.00-12.30 MILLIONS OF TREES FOR FOOD AND ENVIRONMENT CONTROL (Charles PEATY)

----- Lunch

- 2.00-2.30 WALNUTS - Introduction of new high-yielding varieties from overseas (Tony ALLEN)
- 2.30-3.00 HAZELNUTS - Prospects for an Australian industry (Jim COX)
- 3.00-3.30 NATIVE NUT TREES OF AFGHANISTAN (Mir Frahmand)
- Refreshment
- 4.00-4.30 FEIJOAS - Factors in successful commercialization in California (Paul THOMSON)
- 4.30-5.00 NATIVE FRUITS AND NUTS OF THE BRAZILIAN CERRADO - a dry outback area (Russ YODER)

[EVENING : OPTIONAL FAREWELL DINNER]
=====

Amended to April 26

ACOTANC-1 : LIST OF SPEAKERS

**** KEYNOTE SPEAKERS ****

PAUL THOMSON of California

Author, editor, nurseryman. Past Director or Committeeman, the California Macadamia Society, Northern Nut Growers Association, North American Fruit Explorers. A Co-founder of the California Rare Fruit Growers. Paul was a pioneer in the introduction of jojoba into cultivation, and has also been involved with development of avocado, feijoa, and macadamia into commercial crops.

ANTHONY ALLEN of Victoria

Horticultural Officer, N.E. Division, Victorian Department of Agriculture, and a specialist in Temperate Nut Crops. A founder, and currently Secretary, Victorian Nut Growers Association. Graduate of Burnley Horticultural College, Tony has been working for the last ten years on the production of nuts, especially walnuts, hazels, and chestnuts.

DOUGLAS DAVIES of New Zealand

Tree Crop specialist with the N.Z. Department of Scientific & Industrial Research's Crop Research Division, in Christchurch (South Island). A Founder, and Currently Secretary, of the New Zealand Tree Crops Association. Responsible for the introduction of many new varieties of nuts and fruits into New Zealand, Doug has wide interests including walnuts, tree lucerne, hazels, blueberries and chestnuts.

**** OTHER PROMINENT SPEAKERS ****

JASON ALEXANDRA. Partner in a tree crop nursery in Victoria.

PAUL BAXTER. Horticultural Research Station, Victoria. Author of 'Fruit Growing in Australia'.

RIDLEY BELL. Formerly of CSIRO and the Department of Agriculture, Victoria, now a commercial nurseryman. Expert on blueberries, chinese gooseberries, guavas.

Sir CHARLES COURT. Former Premier of the State of Western Australia. Architect of many resource development programmes in the State.

JIM COX. Department of Agriculture, Tasmania. Chairman, Tasmanian Nut Growers Association.

TED DAVENPORT. Head of Macadamia activity for CSR Ltd. Executive member, Australian Macadamia Society.

HAMISH DEANS. President, New Zealand Tree Crop Association, former President, New Zealand Farm Forestry Association.

JOHN DODD. Botany Department, University of W.A. Worked for some years in Papua New Guinea.

DICK ENDT. New Zealand's most prominent figure in sub-tropical and tropical tree crops, a commercial grower and nurseryman who has undertaken three expeditions to South America in search of promising fruit and nut introductions.

MIR FRAHMAND. Faculty of Agriculture, University of Western Australia. Formerly with the Government Agricultural Service, Afghanistan.

Alex HART. Forests Department, Western Australia. Graduate of University of Western Australia and Australian National University.

JOHN HYDE. Federal Member of Parliament for Moore, Western Australia. A wheatbelt farmer noted for interests in economics and tariff policies.

Dr BOB IKIN. Australian Department of Health - Plant Quarantine, author of 'Varieties of fruit trees, berry fruit, nuts and vines in Australia', and is directly concerned with introduction of new plant materials into Australia.

JULIE MAXAM. Library, University of W.A. Expert in on-line searching of computer databases of scientific material, such as those maintained by the U.S. Department of Agriculture and the U.K. Commonwealth Agricultural Bureaux on the Dialog and Orbit systems accessed through OTC's Midas Network.

Dr JENNIE McCOMB. School of Environment & Life Sciences, Murdoch University. Researcher on tissue culture propagation of plants.

Dr ANDREE MILLAR. Papua New Guinea's foremost horticultural writer, with unmatched field experience from a lifetime in the area.

Dr JOHN MILLINGTON. W.A. Department of Regional Administration & The North West. Formerly OIC, CSIRO Kimberley Research Station, and earlier of the University of W.A. and W.A. State Department of Agriculture. He has special expertise on cashews and was the only Australian participant in the First International Conference on the Cashew, India, 1979.

MILAN MIRKOVIC. Partner in a tree crop establishment company. Winner of a Rolex Award for Enterprise for methods of establishing trees under arid conditions. Executive member, W.A. Nut & Tree Crop Association.

CHARLES PEATY. Principal of an afforestation company. President of the Men of the Trees group. A forester with experience in Africa as well as Australia.

NEVILLE SHORTER. Department of Agriculture of W.A. Specialist in Tree Fruit Crops for the Department.

Dr K. SIVASITHAMPARAN. Department of Soil Science, University of W.A. Formerly Plant Pathologist with the W.A. Dept. Agriculture. An expert on Phytophthora fungal diseases in plants.

Dr BOBBY TEE Thean Soo. Technical Adviser to the Rural Development Corporation at Sabah, Malaysia. Has worked with the Rare Fruit Council International.

BRUCE TOO HILL. W.A. Department of Regional Administration & the North West. Graduate of La Trobe University, Victoria, formerly of CSIRO Horticultural Research Division. Extensive experience in the Northern Territory and other tropical areas of Australia.

NOLA WASHER. Partner in a nut tree nursery and avocado orchard in Perth. Executive member of W.A. Nut & Tree Crop Association.

RUSSELL YODER. President, Ohio Nut Growers Association. As well as Ohio interests, Russ has a large property near Brasilia in Brazil.

ACOTANC-1: COOPERATING ORGANIZATIONS

The following organizations are cooperating in the presentation of the First Australasian Conference on Tree and Nut Crops, Perth, May 1982.

Avocado Growers Association
Australian Macadamia Society
Australian Department of Health
Department of Agriculture, Brunei
Department of Agriculture, Victoria
Department of Agriculture, Western Australia
Department of Scientific & Industrial Research, New Zealand
Down to Earth Association
Forests Department, Western Australia
Men of the Trees
Murdoch University
New Zealand Tree Crops Association
Office of the Northwest, Western Australia
Organic Growers Association
Permaculture Association of Australia
Rural Development Corporation, Malaysia
Tasmanian Nut Growers Association
University of Western Australia
Victorian Nut Growers Association
West Australian Nut & Tree Crop Association
Wheatlands Agricultural Research Development & Demonstration Society

Contact address: ACOTANC-1, P.O. Box 27, Subiaco,
WA, 6008, Australia.

ADVERTISEMENT.

Mr. W. Boucaut of the "AZALEA GARDENS KELMSCOTT" 41 Roberts Rd.
KELMSCOTT.
Tel 390 5311.

has available some quantities of the following plants:

MACADAMIA	MACADAMIA
FEIJOA SELLOWIANIA	FEIJOA
ARTOCARPUS HETEROPHYLLUS	JAKFRUIT
ARTOCARPUS COMMUNIS	BREADFRUIT
DIOSPYRUS DIGYNA	CHOCOLATE PUDDING FRUIT or
	BLACK SAPOTE
INGA EDULIS	ICE CREAM BEAN
NEPHILIMUM LAPPACEUM	RAMBUTANS
MORINGA OLEEFLORE	DRUMSTICK
	SWEET MANILLA BEAN
MANGIFERA INDICA	MANGO
NEPHILIMUM CHINENSIS	LYCHEE
DILLENIA INDICA	ELEPHANT APPLE
AVERRHOA CARAMBOLA	STARFRUIT
ACTINIDIA	CHINESE GOOSEBERRIES
TACSONIA MOLLISIMA	BANANA PASSIONFRUIT
VACCINIUM CORYMBOSUM	BLUEBERRIES
ANACARDIUM OCCIDENTALE	CASHEW NUTS
CINNAMOMUM ZEYLANICUM	CINNAMON
PSIDIUM GUAJAVA	GUAVA PINEAPPLE
PSIDIUM CATTLEIANUM	GUAVA STRAWBERRY
EUGENIA JAMBOS	JAMBOLAN PLUMS
	CURRY LEAF TREES
CARICA PAPAYA	PAW PAWS
PISTACEA VERA	PISTACHIO NUTS
ANANAS COMOSUS	PINEAPPLES
CARYA OLIVIFORMIS	PECANS
CHRYSOPHYLLUM CAIMITO	STAR APPLE
PHYLLANTHUS ACIDUS	STAR GOOSEBERRY
SCLEROCARYU CAFFRA	MARULA
SANDORICUM KOETJAPE	SANTOL
CAMELLIA SINENSIS	TEA
COFFEE ARABICA	COFFEE
MANIHOT ESCULENTA	TAPIOCCA
VANILLA FRAGRUS	VANILLA
PERSEA AMERICANA	AVOCADO
EUGENIA UNIFLORA	BRAZILLIAN CHERRY
CERATONIA SILIQUA	CAROB BEAN
MUSA	BANANA
PLEIGYNIUM SOLANDRI	BURDEKIN PLUMS

TROPICAL BLACK WALNUT TREES

As noted at the last meeting, a joint investigation is under way between WANATCA and the W.A. Forests Department to determine if tropical black walnut (*Juglans neotropica* and allied species) can be established in Western Australia. These are a fast-growing, evergreen walnut which could be a source of first-class walnut timber as well as of nuts. David Noel had this tree pointed out to him when visiting Dick Endt's property in Auckland, New Zealand. Dick Endt is currently on another expedition to the source of the tree, the Andes region of Columbia and Ecuador, and will be attempting to locate seed for this trial.

BOOK REVIEW

LIKLIK BUK: A Rural Development Handbook Catalogue for Papua New Guinea. Revised edition, published Lae, PNG. 1981. 275p paperback.
(Available from Granny Smith's Bookshop at \$8.40).

This is an absolutely fascinating book, completely crammed with every sort of useful information for making good use of the land in a tropical setting. Has similarities in approach to the 'Whole Earth Catalogue', but is more specifically focused on crops. Standard of information is extremely high, expressed as simply as possible with all essential points included, heavily illustrated, with masses of useful references. I found the reference I had been searching for on edible tree leaves! (published in Puerto Rico)

Sections on Crops, Livestock, Processes, Designs, Health, References. The first includes a good coverage of tree and nut crops, including peanuts, winged bean, oil palm, avocado, carambola, jak fruit, mangosteen, rambutan and edible bamboo. Other sections show simple ways of processing these crops (eg. preserving breadfruit), easy to build equipment, useful growing tips (a caterpillar repellent based on chillies).

While clearly pitched at the 'Appropriate Technology' or 'Self-Help' level, this book has many lessons indeed for Australians everywhere, in the city or the bush, in the North or the South. It's beautiful!



LIKLIK BUK

A Rural Development Handbook Catalogue
For Papua New Guinea

English Edition 1977

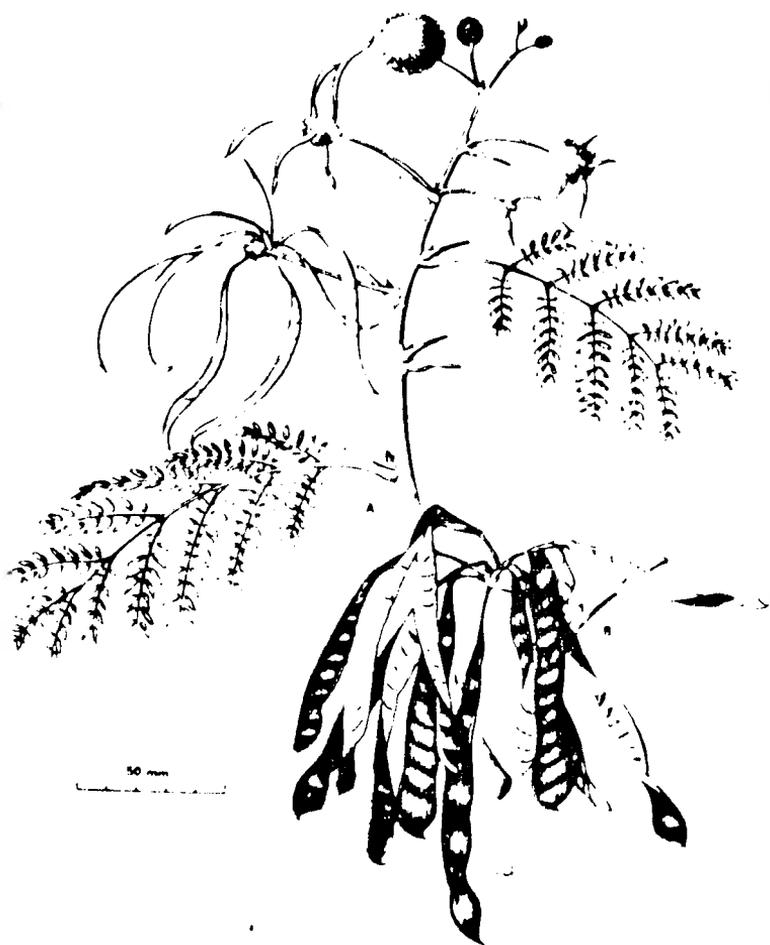
GIANT LEUCAENA

An extremely fast-growing leguminous tree useful for forage, shade, erosion control, firewood, living fence posts, poles, timber, charcoal, and pulpwood. It is different than the well-known Leucaena glauca.

Botanical name: Leucaena leucocephala

High performance varieties are being promoted in the Philippines, and seeds will soon be available in PNG. The major uses:

Forage: Produces up to twice the amount of high protein highly digestible forage as ordinary Leucaena. Amounts of 77.8 met. tonnes per hectare per year with an average of 4.6 cuttings (back to 10cm) have been reported. Converted dry weight yield was about 20 metric tonnes per hectare. In these tests it was grown in rows 50cm apart.



LEUCAENA LEUCOCEPHALA (Lamé) de Wit

Wood production: Even ordinary *Leucaena* is considered to be a moderately high volume wood producing species. It is claimed that the Giant *Leucaena* will exceed the ordinary *Leucaena* by 100-200%. Variety K-8 (Hawaiian Giant) has reached heights of over 15 metres in 6 years. Firewood yield is very high as well. The wood also makes excellent quality charcoal.

Pests, diseases, problems: Few known enemies except animals which browse and humans who cut it down or eradicate it. The main problem seems to be weevils that attack the seeds which are not as waxy and hard as those of the ordinary *Leucaena*.

Planting information: Plant seeds in seedbeds or plastic bags, or for forage directly in the field. To improve germination it is recommended that the seeds be scarified (seed coat weakened). The easiest way is to heat water to boiling, let it cool just slightly, then put the seeds in an equal volume of that water to soak for 12 hours. For maximum nitrogen fixation a suitable rhizobium should be used (DPI Rhizobium Service, Box 2417, Konedobu.) In seedbeds plant seeds no more than 4cm apart in rows 25cm apart. Transplant to permanent location at 2-4 months. If seedlings are transplanted bare-root, prune top stem back to a point where the bark has turned brown. Seed trees may be planted at a spacing of 2 x 5m. For hillside planting (erosion control and intercropping) drill in paired contour rows 40cm apart and 2-5cm apart in the row. The paired rows should be about 2m apart, centre to centre. For timber production plant at 10 x 2m with a later thinning of less vigorous trees to a spacing of 10 x 4m or 10 x 6m. For firewood plant 1 x 2m with a later thinning to desired density. Can also be planted from cuttings. (p 15)

Sources of supply of planting material: Variety K-67 El Salvador is already present in PNG, but not yet in large quantities. Small quantities of seed are known to be in the hands of Division of Botany, Lae; Wesley High School, Salamo MBP; and Liklik Buk, Box 1920, Lae. Varieties K-8 and K-28 are presently being cleared through DPI Plant Quarantine in Port Moresby. Note that the most common variety in PNG is "Peruvian", which is not as good as the above.

Fertilizer: Research at the University of Hawaii indicates that as a green manure crop the fertilizer equivalent of a year's harvested hectare of Leucaena leucocephala is estimated to have exceeded 550kg N, 225kg P₂O, and 550kg K₂O.

MEMBERS' CORNER

The International Society for Horticultural Science is holding it's congress in Hamburg, West Germany from August 29th to September 14th this year.

Jet-Stream Travel are offering a 22 day package tour ranging in price from \$2851 (departing Sydney) to \$2989 (departing Brisbane).

Please apply quickly to:

JET-STREAM TRAVEL
37 Loomes Street,
FOREST HILL SHOPPING CENTRE. 3131.
Victoria.

The Avocado Growers Association of W.A. was formed in November, 1981. If you are interested in any facet of this association please contact:

M. Keam, Secretary Treasurer,
18 St. George's Terrace,
PERTH. 6000
West. Australia
Tel. 386 4787

Black Walnut Seed.

A.H. Kay of 5 Manuka Road, BERWICK. Victoria. 3806 has written to us stating that he will have a quantity of Black Walnut seed in June and July of this year.

Year Book.

There is a special, limited offer of a choice of three Year Books from 1975-79 for \$10.00 and a 1981 Year Book for \$6.00. Also, you can buy a complete year's issue of QUANDONG for \$1.00.

Pistachio Growers

A fellow member from Victoria, David McCarthy, is keen to share his experiences in the growing of pistachios. In 1974, encouraged by Don Maggs, he planted about seventy pistachio trees, spaced at 10' X 22' on an acre of well irrigated ground. Quite a few have set good crops this year. Please write to him at Box 26, MERBEIN. Victoria.

Hazlenut Growers

Conn Constantinov of 8 Somers Avenue, MALVERN, Victoria 3144. Tel. 208196, is very interested in exchanging information on Hazlenuts. Though there is no sub-committee working on Hazlenuts, Alec Sas of 52 Croyden Road ROLEYSTONE, would probably be the best man to contact.

We have received a letter of resignation from Bethia Bryant. Her husband is recuperating from a back operation and is unable to work on their farm for another six months. Bethia is consequently very busy.

The society will miss her contribution tremendously but hope to take her up on her suggestion of starting a Regional Branch of WANATCA in the South-west in a few years time when they hope to become active members again.

We were thrilled with the letter and article response to the last Quandong. Owing to Conference details priority, we were unfortunately unable to reprint all the articles. Any which have not been printed will certainly be in the next publication. Thanks to those who communicated. Please continue to send in articles and letters.

The committee is very keen that we establish interchange between members. Please check the previous page for addresses of Hazlenut and Pistachio nut growers in particular.

Remember too, that advertisements of a reasonable size (under $\frac{1}{2}$ page) are FREE. We want you to take advantage of thi

West Australian Nut & Tree Crop Association

Incorporating the West Australian Nutgrowing Society

EXECUTIVE COMMITTEE

PRESIDENT	David Noel	3802334
VICE-PRESIDENT	Alex Sas	3975628
SECRETARY/TREASURER	Lorna Budd	4585918
YEAR BOOK EDITOR	Lois Evans	4075474
QUANDONG EDITOR	Bill Napier	3260311
	Warren Bouchet	3905311
	Milan Mirkovich	4202062
	Nola Washer	4075888
	Wayne Geddes	3213200

Executive Council meeting notes.

Briefly, the main items of interest discussed at the last council meeting held on the 6/4/82 were the composition of the executive council following the resignation of Bethia Bryant and Mr Good. It was agreed to approach Mr Reg Judd and Mr and Mrs Aitken to see if they would be prepared to serve on the council.

Also Mr Chris Newell "Microculture" who specialises in commercial tissue culture will be offered honorary membership if he will give society members free advice.

Any member who would like more details from the meeting may contact Lorna Budd.