



QUANDONG

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Newsletter of **WANS** the West Australian Nutgrowing Society

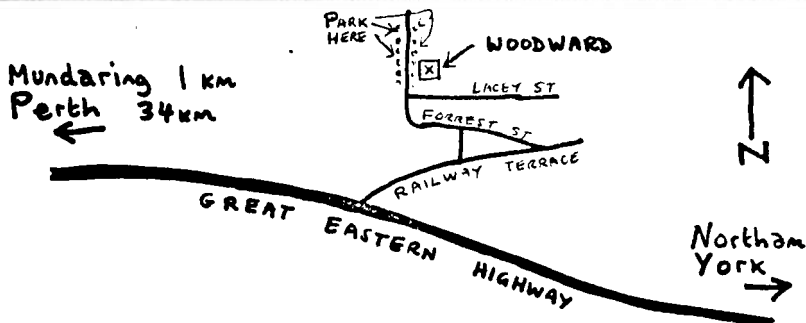
Make sure you don't miss the next field trip meeting, it should be a very good one. The Woodward family of Sawyers Valley have agreed to let us visit their orchard property on

SATURDAY JUNE 11TH at 2.30 PM

The map below shows how to get there.

Over the last 11 years, Bob and Norma Woodward have pioneered the commercial growing of pecans in this State. Born in the United States, they were familiar with this first-class nut since childhood. After settling in W.A. and buying their present mixed-orchard property, they adopted a policy of planting pecans and other nut trees among the existing fruit trees, with the idea of pulling out the fruit trees as the nut trees grew bigger and came into bearing.

Their pecan planting is now the best in the State, some of the trees are already 40 feet high. Production generally increases each year. The main varieties planted are Mahan and Nellis. The property also has walnut trees, almonds, and a macadamia, but the pecans are king.



IMPORTANT !!

Please look at the year printed with your name and membership number on the address label. If the year is 1976 or earlier, please renew your subscription straight away, as otherwise this will be the last issue we can send you. If you have renewed and the renewal has not been recorded (unless within the last 3 weeks), please let the Secretary know immediately in case a mistake has been made.

QUANDONG

is edited by David Noel and is the Official Newsletter of the

WEST AUSTRALIAN NUTGROWING SOCIETY

PO Box 27 Subiaco WA 6008

WANS

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TASMANIA - Bill Mollison, 316a Strickland Ave, South Hobart
TREE SUPPLY - Tim Lynn-Robinson (921852) SEED - M.Mirkovic, PO Box 69
West Perth WA 6005

SOCIETY PUBLICATIONS

WANS publishes a newsletter QUANDONG 3-4 times a year, devoted to news of meetings and events, details of tree and seed sources, notes on books and leaflets about nuts, reprinted short articles about nuts, and other items of interest. The major publication is the annual WANS YEARBOOK, which contains articles drawn from Australia and overseas, covering any aspect of nut horticulture and production, and is regarded as an important research journal in this area.

Members subscribe for the Calendar Year, and receive one copy of all Society publications issued in that year as a subscription benefit.

BACK NUMBERS

WANS began publishing in 1975. Back sets of 1975 publications (3 issues of Quandong and the 1975 Yearbook) are available still to members at a cost of \$6.00. Contact the Secretary for back numbers. The cost of a set of 1975 publications (same as subscription) is \$8.00.

MEMBERSHIP DETAILS

Any person or organization interested in the growing or production of nuts may apply for membership. Members are welcomed from outside Western Australia and overseas, as well as in W.A. Write to P.O. Box 27, Subiaco, W.A. 6008, Australia, or to the Secretary as above.

wansco

Members of the Society own a co-operative, West Australian Nut Supplies Co-operative Limited, a legally registered Co-operative Company set up to buy and sell nuts and nut products. Shares in the WANSKO co-operative are sold only to WANS members, each of whom is entitled by the Articles to apply for and hold between 10 and 100 shares of \$1.00 each. Members wishing to acquire WANSKO shares (currently available at par, i.e. \$1.00 each) should write to WANSKO Secretary and Director, Edmund Czechowski, at PO Box 12, Wanneroo, W.A. 6065. WANSKO will always endeavour to sell nuts produced by members, or supply nuts needed by members. Enquiries on buying or selling nuts should be directed to 'Squirrel Nutkin', 225 Onslow Road, Shenton Park, W.A. 6008 (Telephone (092)-818656).

WANS NEWS

THE YEARBOOK

The Yearbook is out; the Yearbook is in preparation -- and so it goes on. This is a special request to all members from the Editor, asking you to sit down now and work out that article or comment that you have been meaning to send in. Articles can be long or short -- I always recall one printed in the California Macadamia Society Yearbook, which said in one sentence that macadamias were not suited to the writer's home area, full stop. While it is clearly sensible to take advantage of information published overseas, there is no substitute for local knowledge and experience, and that must come from members. Don't be shy, send it in, there is sure to be something of value in your experiences which can be shared.

THE SEED BANK

Welcome and thanks to member Mirjan Mirkovic, who has agreed to take on special responsibilities for seed supply. We hope to set up a worthwhile seed distribution programme, with the aim of sending out a small number of desirable nut seeds to a large number of members (at special rates) and to the public. It will not be practicable to hold in stock a big range of nut seeds, because many lose viability on storage, but Mirjan may be able to tell you where to order small amounts of the less usual nuts.

MEMBERS' NOTES

Bob Magnus, Pearces Creek
WOLLONGBAR NSW 2480:

I have a small nursery, I grow and graft mainly avocados, custard apples, passionfruit and litchi, but am getting more involved in other minor and unusual exotic fruits. This area is unusual in that, as well as many tropical fruits, quite a few temperate-climate plants grow well too. For instance the chestnuts I'm interested in propagating are really magnificent trees around 100 years old, and bearing excellent crops. They are growing near sugar cane, avocados, macadamias, bunya pines, and custard apple trees, altogether a very unusual combination. The reason that I'd like to propagate from these trees is that, whatever species of chestnut they are (I suspect *sativa*), they bear well and suit our humid climate; also I hope grafted trees will come into bearing much earlier than seedlings.

As far as Macadamia praealta is concerned, my experience with this tree is not extensive. We did have 2 trees on our last farm. One bore well and the other seemingly not. Lately when I've been in the rainforest collecting lawyer vines for baskets, I've occasionally seen nuts on the ground, and sometimes macadamia tetraphylla too. The praealta is quite rare now. The Ag. Dept. here have asked me for seeds to send to Hawaii. I have raised plants from seed and gave quite a few seedlings to the Research Station. The area is, sadly, being logged for the *tristania* and eucalypts, and the understorey rain forest being destroyed forever, a deplorable situation.

Chris Cook, 'Kyno'
DANDARAGAN WA 6507.

You might be interested to know that in some of the macadamia nuts I got for seed, from trees in Perth, there have been grubs present. The grubs seem to be identical to the ones that attack almonds. I think these are the carob moth larvae. In some instances the grubs have penetrated into the kernel, in others not.
(Ed.: Anyone else in W.A. had grubs in macadamias? I haven't.)

tree sources

The Table below attempts to summarize sources of nut trees within Australia. The figure within the table is the price per tree, and S means a seedling, while G means a grafted or other vegetatively propagated tree.

If you contemplate ordering trees from another State and are unfamiliar with procedures, investigate them first. Rail freight to W.A. is very expensive for small quantities, minimum around \$10. Trees brought into W.A. must normally be bare-rooted (all soil removed), and the customer is responsible for collection at the Kewdale Terminal, delivery to Agriculture Department for inspection and fumigation (minimum around \$5), and removal; this is almost impossible for someone out of Perth. W.A. members will probably find it best to use Tim Lynn-Robinson's service advertised opposite; members in other States will find it best to go to a nursery which regularly imports stock from other States.

1. Lucas			S 0.5		S 0.3		S 0.20									S		
2. Nutkin	S 3.0		S 3.0	S 6.0	S 3.0	S 3.0	S 2.5	S 6.0	S 3.0				S 3.0	S 3.0		S		
*3. Weare												✓						
*4. Brunning	G		S		G		S			G 5					G			
*5. B+M												✓						
*6. Fitzroy		✓		✓			G 6.5			G 6						✓		
*7. Limberlost	S	S		S			G			G						✓		
*8. Dawson	G 4		S 5.6	?	✓		G 18			G 12					G 20			
*9. Jandakot												✓						
*10. Shepherd	G ✓		S 2-3												S 2			
*11. Parker	G 3-5						S 4 6.9			G 10					S 5			
12. Forests			S 0.7					S 0.7					S 0.7					
*13. Mernda			S		G			S							S			
*14. Fleming	G ✓																	
15. Americana				S														
16. Langbeck							G 9			G 6.5						✓		
	ALMOND	BUNYA	CASHEW	CHESTNUT	COCONUT	GINKGO	HAZEL	JOJOBA	MACADAMIA	OAKS	PARANA	PECAN	PISTACHIO	QUANDONG	STONE PINE	TUNG	WALNUT	OTHERS

NOTES:

*-Recent information not supplied
G-Grafted S-Seedling
✓-Have had at some time

(Continued on page 9) →



ALMOND GROWING

DEPARTMENT OF AGRICULTURE
VICTORIA

Leaflet H 216

G. D. Godden, Horticultural Adviser, Melbourne, and J. E. Kenez, Horticultural Instructor, Melbourne.

Yearly production of almonds in Australia is about 1,000 tons of nuts in shell, and this quantity is only about half of present Australian consumption.

About 90 per cent of the Australian crop is grown in South Australia. In that State in 1970 there were about 2,900 acres of almonds in production and another 1,900 acres of non-bearing trees.

In Victoria almonds are mostly planted as windbreaks on headlands only and there are very few established commercial groves. In the present situation when many fruit-growers concerned with slackening prices of most tree-fruits are looking for alternative crops, the possibility of almond production may be worth considering.

Climate and soil

While the almond is a fairly hardy tree and its cultural needs are not as exacting as those of some other fruit trees, it has specific climatic and soil requirements to produce regular economic yields.

The flowering period of the main almond varieties is in July and August. If during this period the weather is cold and showery — as it is in most districts in Victoria south of the Dividing Range — pollination and fruit-setting is restricted, resulting in poor yields. Furthermore, cool and wet conditions during spring will encourage the spread of fungus diseases in the higher rainfall areas.

For these reasons, in southern Victoria, establishment of commercial almond groves can only be considered in the rather limited sheltered localities, where the winters are relatively mild and where there are no severe spring frosts. In the northern half of the State climatic conditions suitable for almonds are more common, and production could be considered where irrigation water is available. However, in areas where frosts occur during the flowering period, potential yield could be seriously reduced.

Almonds will grow satisfactorily on a wide range of soil types, as long as the subsoil has adequate drainage. The tree has a vigorous root system and it will not tolerate waterlogged soil conditions, even for short periods. Shallow topsoils over heavy clay subsoils are quite unsuitable.

Similarly to other kinds of stone fruits, almonds are susceptible to crown gall and armillaria infections and also to



Squirrel Nutkin

225 Onslow Road Shenton Park

Tel. 81 8656

- PRICE LIST - MAY 1977

***** SQUIRREL NUTKIN'S OWN PACKS *****. All in heat-sealed clear plastic packs, sold at standard prices of 20c, 45c, 90c, \$1.80 or \$3.60, with weights as given in the table below. Also bulk 1Kg packs at prices shown. Squirrel Nutkin does not charge for packing, instead it offers these sealed packs for reasons of freshness, convenience, and hygiene.

*** NUT TYPE ***	----- PACKET COST -----					WEIGHT 1Kg
	20c	45c	90c	\$1.80	\$3.60	
Almond kernels raw		100g	200g			
" " roast		90g	180g			
" " blanched		90g	180g			
" " sliced		80g	160g			
" " slivered		80g	160g			
Almonds in shell		200g	400g	800g		\$2.25
Brazil kernels		100g	200g			\$4.50
Brazil in shell		200g	400g			\$2.30
Bunya in shell	4		18			
Candlenut kernel		55g				
Candlenut in shell	8					
Cashew kernels		80g	160g	320g		\$5.50
Chestnut in shell		100g	200g	400g		\$4.40
Chestnut dried skinned		160g	320g			
Coconut dessicated		250g	500g			
Coconuts whole -- 55c each						
Ginkgo in shell		25g	50g			
Hazel kernels raw		120g	240g	480g		\$3.80
Hazel kernels roast		90g	180g	360g		\$5.00
Hazel meal		95g	190g			
Hazel in shell Hunza		180g	360g			\$5.00
Hazel in shell Italian		225g	450g			\$2.00
Macadamia kernels raw		25g	50g	100g	200g	
Macadamia in shell						
Nutmegs whole	6					
Olive kernels		25g	50g			
Peanut kernels raw	90g	200g	400g			\$2.00
Peanut in shell roast	100g	250g	500g			\$1.80
Pecan kernels raw		25g	50g	100g	200g	
Pecans in shell		125g	250g	500g		\$3.60
Pine kernels raw		50g	100g			
Pistachio roasted		60g	120g	240g		\$7.50
Quandong in shell	10					
Walnut kernels raw	50g	125g	250g			\$3.60
Walnut in shell		270g	540g			\$1.70

**** MISCELLANEOUS ****

"NUTBROWN" Nutcrackers (loop type, U.K.) \$2.60 each

ORDERING DETAILS.

For mail orders, please list your requirements on the back or front of this list, according to space, or write a separate list. Add 20% of the total for estimated postage, any excess will be credited. WANS members will be given 10% discount. Remittance must be sent with order. Each order will include a new copy of the list. Unfortunately many items become unavailable for a while, and prices change. Unless requested otherwise, a closely similar item will be substituted for ones not in stock.

**** CANNED GOODS ****

ALMOND kernels. Blue Diamond cocktail almonds: Roasted, salted \$1.20 (170g);
Barbecue \$1.20 (170g); Onion garlic \$1.20 (170g); Cheese flavour
\$1.20 (170g); Smokehouse \$1.20 (170g).
"Ole" nitrogen-packed fried salted almonds \$1.05 (150g).
CASHEWS. "Ole" fried, salted cashews \$1.15 (150g); "Trumps" salted cashews
\$1.20 (160g).
CHESTNUT products. "Faugier" Chestnut puree (unsweetened) \$1.35 (440g);
"Faugier" Chestnut spread (sweet) \$1.70 (500g).
COCONUT products. "Yeo's" Coconut jam \$0.45 (170g); \$0.99 (510g); "Angel
Flake" coconut flakes \$1.05 (100g); "Margarita" sweetened coconut
juice \$0.85 (229ml); "Leecan" coconut milk \$1.00 (340g).
GINKGO (White) nuts. "Ma Ling" shelled & boiled \$0.99 (12oz).
MACADAMIAS. "Menehune Macs" dry roasted macadamias \$2.20 (141g).
MIXED nuts. "Ole" fried salted mixed nuts \$0.90 (150g); "Trumps"
deluxe mixed \$1.20 (160g); "Trumps" mixed with peanuts
\$0.90 (160g).
PEANUTS. "Eat-eazi" curried peanuts \$0.55 (110g); "Eat-eazi"
boiled smoked peanuts \$0.50 (125g); "Trumps" toasted
peanuts \$0.72 (160g); salted peanuts \$0.75 (160g);
"Nobbys" salted peanuts \$0.60 (150g); \$1.60 (500g);
"Ole" fried salted peanuts \$0.65 (150g).
"Bibo" peanut oil \$1.65 (750ml).
PISTACHIOS. "Champion" dry roasted pistachios \$0.95 (100g).
WALNUTS. "Diamond walnut kernels \$0.60 (200g); "Yangtze Bridge"
roasted salted walnuts \$0.80 (200g); "Ten Ho" amber
coated walnuts \$0.85 (200g).
WATER CHESTNUTS. "Tung Chun" water chestnuts \$0.69 (10oz);
"Southseas" water chestnuts sliced \$0.99 (540g). "Pearl River"
water chestnuts \$4.95 (3005g).


**** GLASS JARS & BOTTLES ****

"HUNZA" raw nut pastes. Almond paste \$3.50 (375g); Apricot kernel paste
\$2.20 (340g); Brazil nut paste \$3.60 (375g); Cashew paste \$3.20
(375g); Hazel nut paste \$2.90 (375g); Peanut paste \$2.00 (375g);
Walnut paste \$3.50 (375g).
PEANUT PASTE "Kraft" crunchy or smooth peanut paste \$0.64 (200g); \$0.95
(375g); \$1.75 (780g). "Eta" peanut paste \$0.95 (375g); \$1.80 (775g).
CHOCOLATE HAZELNUT SPREAD. "Amico" \$0.80 (130g); \$1.70 (230g).
"Nocciolata" \$1.20 (198g).
"NORGANIC" cold-pressed nut oils. Almond oil \$2.15 (170ml); Apricot kernel
oil \$2.20 (170ml); Coconut oil \$1.60 (200ml); Peanut oil \$2.60
(500ml); Walnut oil \$1.90 (170ml).
PEANUT OIL. "Chefol" peanut oil \$1.55 (750ml); "Biba" refined oil
\$3.80 (2250 ml).
"HAYWARDS" pickled walnuts \$1.20 (269g)

**** FOIL PACKS ****

"OLE" foil pouches, nitrogen filled for freshness. Fried and salted.
Cashews jumbo \$0.35 (50g); \$0.65 (100g); Mixed nuts \$0.45 (100g);
Peanuts \$0.33 (100g).
"BLUE DIAMOND" Smokehouse almonds \$0.17 (22g); \$0.65 (100g).
"ETA" Smokehouse almonds \$0.70 (100g).
"PLANTERS" salted cashews \$1.47 (150g); filberts \$1.47 (150g)
"CONIMEX" Peanut saté sauce mix \$0.75 (75g); Santen coconut sauce mix \$0.70
(30g).

**** CELLOPHANE PACKS ****

"FLAVOR TREE" sunflower nuts and sesames \$0.20 (25g).
"FUJIYA" crunchy peanuts (riceflour coated) \$0.75 (100g).
"FINLAYS" Beer nuts \$1.05 (500g).
"PLANTERS" salted peanuts \$0.80 (375g).
"HUNZA" Almond meal \$0.90 (125g); \$1.75 (250g). Hazelnut meal \$0.90 (125g);
Raw cashew pieces \$1.10 (250g).
"CHAN YEE JAI" Almond cakes \$0.75 (75g). 

APPLICATION FOR SHARES

To the Directors,



West Australian Nut Supplies

CO-OPERATIVE
LIMITED

wansco

PO BOX 27, SUBIACO, WA 6008, AUSTRALIA

Regd. Office - 98 Herbert Road Shenton Park

Please send all applications to: WANSKO
SHARE REGISTRY - PO BOX 12, WANNEROO 6065

Sirs,

I request you allot to me

..... ordinary Shares in the Company, of one dollar
(Nominal Value)

cash and I tender herewith the sum of \$

..... in full payment thereof.

This application is unconditional and I authorise you to register me as the holder of the above shares or any smaller number that may be allotted to me and I agree to be bound by the Memorandum and Articles of Association of the Company.

Dated at this

day of 19

Signature

Name in full

Address

OFFICE USE ONLY

Agreed to allot shares as per
minute dated

Entered in Register of Members

Share Scrip Issued



weak or overlapping branches and to prune sufficiently to ensure that there is ample good new fruiting wood for a good crop each year.

Irrigation and fertilisers

Under the present economic conditions, when growers have to face constantly rising costs, high yields are essential, and new development in fruit growing is best considered where water is available.

With almonds, at least supplementary irrigation is most desirable during the growing season to ensure that the nuts fill well and do not shrivel; also, that the developing fruit buds for next year's crop are not affected by shortage of moisture after harvest.

Water may be applied by furrow or flood irrigation or by sprinkler or trickle irrigation, according to the amount of water available or other considerations. As almonds will not tolerate saline conditions, location and the quality of the water must be good.

The growing of cover crops between rows will help retain soil fertility. Superphosphate at the rate of 1 to 2 cwt an acre should be applied to ensure good growth of the cover crop. For mature trees apply about 1½ lb of sulphate of ammonia, or equivalent, yearly. For young trees smaller quantities will be sufficient.

Control of pests and diseases

The main disease affecting almonds is 'shot-hole', which can be controlled by spraying with Bordeaux mixture 10:10:100. This is made up with 10 lb bluestone and 10 lb fresh Limil* mixed in 100 gallons of water. Bordeaux should be applied in the autumn at leaf fall and again at bud swell. Where mites are a problem apply one or two miticides during summer.

Damage by birds (parrots, cockatoos and crows in particular) has in the past resulted in the complete loss of almond crops, particularly where they are grown as wind-breaks or smaller groves. Birds will attack almonds any time from blossoming to harvest. Buds may even be pulled off by birds in winter before bud-burst. If there are heavily timbered areas, which provide a haven for the birds close to the grove, risk of damage will be greater than in open country. Scare guns provide a measure of protection, but are not entirely satisfactory.

Harvesting

In Australia nuts are usually harvested by knocking them from the tree when mature and gathering them on hessian mats or off the ground. In California, tree shakers and catching frames or sweepers are used successfully. With the increasing cost of harvest labor, such mechanical harvesting methods should be considered, if the scale of operation warrants the capital outlay. As some of the husks will still be green and the nuts have a high moisture content, they must be 'cured' in a kiln or air dried in the sun. The husks should be removed before curing, bagging and marketing. Any nuts which cannot be de-husked are rejected.

*Registered trade name.

Proper handling and grading of the nuts is most important as small sized or low quality lines can only be marketed at discounted prices.

Economics

Some fruitgrowers in suitable localities may consider planting almonds as hedgerows, or on one or two acres as a side line.

However past experience shows that on such a small scale, production and harvesting are often neglected and the grower has difficulties when trying to sell small quantities of low quality nuts.

A commercial almond enterprise should be of at least 20 to 30 acres. This scale will make it economic to use efficient methods of production, harvesting and handling. According to practical experience, one man should be able to handle at least a 20 acre grove with additional labor for harvesting.

It is estimated that development costs of an almond grove would accumulate to about \$1,500 an acre during the first four years, excluding the cost of the land, but allowing for the installation of drainage and spray irrigation. Production on a commercial level would start in the fifth year and from then on the initial outlay would be gradually repaid. According to local experience in northern Victoria, with good management and favorable seasonal conditions, under full irrigation, mature almond trees may yield as much as 16 to 20 lb of nuts in shell. Based on this yield, the following estimates could be made on costs and returns.

The price of almonds varies with the variety, the quality and the season. At present, growers receive at least \$0.30 net a pound of nuts in shell; for the papershell varieties, somewhat higher returns can be expected. Based on 108 trees to an acre (20 ft by 20 ft planting distance) gross returns could be between \$520 and \$650 an acre. With an estimated total production cost of about \$350 an acre (including all labor costs, with hand labor for harvesting and about \$150 for overhead expenditure), there could be a yearly net return of about \$220 to \$300 an acre. According to this estimate, under favourable conditions, there could be a net return between \$4,400 and \$6,000 in a 20 acre almond grove. With increased acreage, there would be a reduction in overhead costs, and net returns could be correspondingly higher. Higher returns could also be obtained by closer planting.

All fresh and dried almond kernels imported to Australia are liable to a duty of 15 per cent of the value of the produce. This duty applies to all countries with the exception of New Zealand and the Territory of Papua and New Guinea. At present about 87 per cent of the total import is from the U.S.A.

This duty was imposed by the Tariff Board to maintain a satisfactory price level and thus to stimulate almond growing in Australia.

Department of Agriculture, Victoria

Tree sources (continued)

Addresses and details of suppliers. Please read these carefully if you intend to order direct.

(Tel. 751 1759)

1. Frank Lucas, PO Box 5, Boronia, Vic. 3155. All bare-root trees, mostly one season old. Minimum order 100 trees. (Excellent value).
2. SQUIRREL NUTKIN, 225 Onslow Road, Shenton Park, W.A. 6008. The Society's own shop, offers 10% discount on trees to members. All container stock, plant any time, but cool season best. Sells to public, will sell trees produced by members. No forwarding facilities, for this contact Tim Lynn-Robinson (below). Tel. 818656.
3. Weare's Nursery, PO Box 736, Griffith NSW 2680. Information ex CSIRO.
4. John Brunning & Sons Ltd, Somerville, Vic. 3912. Good range of nuts.
5. Buckingham & Martin, 123 San Mateo Ave, Mildura, Vic. 3500. As (3).
6. Fitzroy Nurseries, PO Box 859, Rockhampton, Qld. 4700 (272194). Good for grafted macadamias, pecans, tropical nuts. Choose shipping time carefully, air freight if possible, especially evergreens.
7. Limberlost Nurseries, Freshwater 4872, Cairns, N. Qld. (551262). Very good range of tropical plants, wholesale quantities.
8. Dawson Harrison Ltd, Hale Rd, Forrestfield 6058. (696204). Best nut range of any general Perth nursery. Most are imported from East, only available bare-root in winter. Has started own propagating.
9. Jandakot Field Nursery, Muriel Rd, Jandakot 6164. Specialize in West Australian natives.
10. W.A. Shepherd & Sons Pty Ltd, Moorooduc, Vic. 3933 (059-788380). Reasonable plants, rather traditional in stock offered.
11. Parkers Nursery, PO Box 180, South Brisbane 4101. (2064367). General city nursery, similar to Dawsons.
12. Forests Dept. Nursery, Hamel 6216. Supplied only within W.A. and not within metropolitan area. Sent freight free. Small trees.
13. Mernde Heights Nursery, Monbulk Rd, Olinda, Vic. 3788 (7511280). General stock, have had good bulk prices for chestnuts.
14. Fleming's Fruit Tree Nurseries, PO Box 1, Monbulk, Vic. 3793. (7566105) Specialize in large fruit-tree orders, often grown to contract.
15. Americana Nurseries, MS 76 Kinka Beach, Yeppoon, Qld 4703 (396217). Offer coconuts in large quantities.
16. Langbecker Roses, PO Box 381, Bundaberg, Qld 4670. Specialize in pecans. (also have figs)

CAUTIONARY NOTES. Prices given are only indicative. Not all plants listed will be in stock always, conversely, nurseries may have small amounts of ones not listed. Deciduous trees (almond, chestnut, ginkgo, hazel, oaks, pecan, pistachio, tung, walnut) are normally sent after leaf fall, when they stand up to journeys, drying-out, better. Container-grown stock always plants out with fewer losses, but not permitted interstate. Tropicals from interstate are best sent packed in moss or peat, air freighted - expensive but may be cheaper in long run as fewer losses. All nurseries are sometimes unable to supply forward orders due to unexpected stock losses. Very difficult to obtain specific pecan varieties, often have to take pot luck. Hardshell almonds best in W.A., 2 varieties needed for pollination.

TIM LYNN-ROBINSON will do his best to arrange importation, fumigation, and forwarding of large and small orders of nut trees for WANS members. Contact him at:

1 ALICE DRIVE, MULLALOO 6025 ; TELEPHONE (092)-921852

Send remittance with order; adjustments for freight, Tim's costs, etc. will be made at time of delivery. No supplies guaranteed, only best effort for same. Trees from East mostly arrive June, or July.

TRAVELS WITH TIM - PT. 5

TIM LYNN-ROBINSON

..... 'Trawalla', a pecan plantation owned by one of the biggest private growers of pecans in North America, the Stahmann family. Mr. Dean Stahmann, who is rather hard to get hold of, and whose residence is in Tocwoomba, has already planted some 1600 acres of pecans, and these are truly a sight to see. These trees, stretching as far as the eye could see, ranged up to 5 years old, and were as even as you could wish. We could see that one or two already had clusters of nuts. The property lies on a long bend of the Gwydir River and has an average 40 ft of friable chocolate soil. Apparently a lot of time and care went into the choice of property, searching all over Australia.

There was a street of clean white cottages on the property for the staff, which was quite large. We decided that we would leave our talk with the manager, Graham Falls, till the next morning, as we had several times nearly got bogged down looking for him around his sheds. It was a tremendous rain, and there were patches of water visible down some of the rows of trees.

We apologised to Graham the next morning for the mess we had made, but he seemed unconcerned, as if it was all part and parcel of management in that area. I learnt that Graham had graduated in Rural Economics at one of the New South Wales universities, and his home town was Glen Innes. The place was a credit to him. There wasn't a weed to be seen, and unlike macadamias, row crops can be grown in between pecan trees. At 'Trawalla' soya beans had been grown very profitably and, by the look of the plants, very professionally. There was a massive and impressive amount of machinery everywhere inside and outside a huge machinery shed, where skilled mechanics were working on bulldozers and disc ploughs; you name it, and it was there. This was undoubtedly a highly professional operation, and the way the trees were looked after, it would soon be grossing millions of dollars:

20 trees/acre, 50lb/tree = 1000 lb nuts/acre (Conservative)

At 60c/lb in shell = \$600/acre.

Over 1600 acres = \$960,000/year, and increasing!

Expansion is continuing, but one must remember the costs involved and the years of accumulated expertise. There are numerous risks involved, too, and I heard that some of the areas could have been hit by floods, which can play havoc with the levelling, irrigation channels, and the trees themselves.

Irrigation has come from the Gwydir River itself, but there have been grumblings by authorities and others. So Mr. Stahmann decided that he would put bores down in every field of pecans, ready for the day when he is told that he cannot have river water.

I was told that they had altered some normal American practices to suit the local climate, and that they would have liked to use some of the newer American varieties, but can't import them easily. The two main varieties used at 'Trawalla' are Wiclitaw and Western Schley, as these are good cross-pollinators. They were trying to import some of the newer ones, which all have Indian tribe names like Sioux, Cherokee, etc.

It was very noticeable that cultivation was done right up close to the trees, and I asked Graham whether there wasn't a risk of root and trunk damage. This led him to tell me an interesting point about pecans. Their root system consists of a large central tap root and a considerable surface feeder root system. On cultivation of the young tree, you chop

up the feeder roots on the surface and make them go deeper, which later in its life makes it a hardier tree, less susceptible to stress. The pecan produces tremendous foliage and crops of nuts, which takes a good deep root system to feed properly to be able to produce a well-filled kernel, vital for a top quality product. Moreover, stresses of any kind tend to reduce the quantity of the crop.

Pecans will grow with little water once established, but Graham did stress that it needs a power of water (irrigation) to produce large quantities of good-quality nuts. I won't go into figures of amounts of water, as it varies with soil, climate, etc. Graham also told me that Dean Stahmann had 90 acres of older trees at his Toowoomba property, under trickle irrigation, and these were producing very well; but unfortunately we could not get back to Toowoomba to see them.

After somewhat regretfully leaving the expert lushness of Trawalla with its chocolate soil, we had Narara Research Station (just out of Gosford, N.S.W.) on our list as having 40-year old pecans of different varieties, so we headed once again for the coast.

We were truly let down, though, at Narara, as although the 40-year old pecans were still there, they were regarded only as shade trees for the staff members' cars. We also found a total lack of interest in nut tree crops, and I was told the reason was that there was no commercial pressure to do any research into these crops. Some work had been done on seed grafting of macadamias at Narara, some years back, but that's all.

We did wonder whether it was going to be the same story at Orange Research Station, but were pleasantly surprised to find a great interest being shown in nuts; they had a small walnut arboretum, but this was still only recently established. This collection included a walnut variety sent by a Mr. Scrivener of Manjimup, Western Australia. John Salvestrin, who took us on our tour, gave us his opinion of how the varieties were shaping up (but saying it was too early for anything conclusive). The Franquette variety that the Schlepss were using in the Owens Valley didn't seem to be shaping up so well and seemed to suffer from Black Spot, much more so than the others. A variety Concord was making very good growth, and at 2 years old already had fruit of a good size. Other varieties here were Tuwinga, Eureka, and Pinn I. None of these were receiving irrigation at this stage. John told us that black walnut rootstock was used, and that he found the double cleft graft the most successful providing both parent tree and rootstock were at peak sap flow.

Our final 'port of call' as far as nuts were concerned was Merbein Research Station just out of Mildura in Victoria. Here we were introduced to Mr. Don Maggs, who told us the story of the pistachio, which, along with the walnut, is a very ancient nut tree crop.

(..... To Be Concluded)

IN A NUTSHELL (No. 11)

The nut plant with the greatest claim to hardness must surely be the pistachio, which has an incredible record of temperature resistance. Native to Central Asia, which is subject to exceptionally large temperature changes, the pistachio has survived extremes of -50°F and $+150^{\circ}\text{F}$. It will also make do with very little rainfall, as little as 4 inches per year. A relative of the cashew, the mango, and Poison Ivy, the pistachio is the only member of the genus Pistacia which has edible nuts.

" WEEKEND MAGAZINE "

ABC TELEVISION recently filmed a segment on the Society's activities, for showing on the programme 'WEEKEND MAGAZINE'. This programme is screened all over Australia, and is sure to arouse a lot of interest in nut growing. Date of the showing is not known at the time of going to press, but is likely to be at the beginning of June. Look out for it -- it comes on on Sunday Evening.

The film was shot at the SQUIRREL NUTKIN shop, at the Woodwards' farm in Sawyers Valley, east of Perth, and at David Noel's home in Shenton Park. The reporter was Sharon Sullivan of the ABC.

In other recent media events, Bob Woodward spoke about pecan growing on ABC Radio's Saturday gardening programme, and David Noel spoke about the Society on John Harper-Nelson's program, also on ABC Radio. There is also likely to be a series of interviews on nut growing (and nut eating!) on the University of Western Australia's new FM station, 6UWA-FM.

" IT'S A NUTTY WORLD "

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