



QUANDONG

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

Editorial

As indicated in the March "Quandong", which incidentally was a trifle late in coming out, and for which we apologize, it will be my job to familiarize you with what is in store for our members.

The new editor realizes that there was little time for you to read, digest and come up with ideas since the last newsletter. Hence, we have not been flooded with proposals as yet. Nevertheless, one must keep up hope and be as a farmer friend of mine told me recently, optimistic.

I presume, at least some of you want to become small or large scale nut producers. Therefore it is even more pertinent to become involved to promote your own long term interest. Involvement is the key word, as already indicated by D. Noel in the last issue.

You have chosen to become a member of a unique society, and it can only be as good as your active participation permits it to be. But - the workload must be spread out.

The Executive has resolved on a number of areas which could be covered, administered by additional small committees of involved members. I could imagine that such committees would spend only little time at the desk or telephone, and there would not too much burden be placed on the prospective volunteer. Just remember - many hands make work easy.

A fold-out will be included in this issue, asking members to sign up for some active participation. In some cases expertise will be required in others it would be routine work only. So, fill in your name under the heading which you think would suit you most. The executive will provide the terms of reference for each group.



West Australian Nutmeg Society

WANS

225 Onslow Road, Shenton Park, Western Australia.
Mail Address: P.O. Box 27, Subiaco, W.A. 6008, Australia.

Phone: (09)381 8656

BOARD OF DIRECTORS: Peter Good (President), 3414741;
Paul Sinclair (Vice-President), 3866519; Brigitta Jones (Secretary-
Treasurer), 3817564; David Noel (Publications Director), 3818656;
Edmund Czechowski,
WANS CONVENORS:

Cashew: Derek White, PO Box 249, Kununurra 6743;

Investment & Taxation: Edmund Czechowski

Little-known Nuts: David Noel, PO Box 27, Subiaco 6008

Marketing: John Mercer, 45 Bridgewater Drive, Kallaroo 6025, tel 4016031

Nutrition: Alex Sas, 52 Croydon Rd, Roleystone 6111, tel 3250101, ext 2155

Seed Supply: Milan Mirkovic, PO Box 69, West Perth

Tree Supply: Tim Lynn-Robinson, 1 Alice Drive, Mullaloo 6025, Tel 4011852

Walnut: Tom Speer, PO Box 71, Bridgetown 6255, Tel (097)-611713.

SOCIETY PUBLICATIONS:

WANS publishes its newsletter QUANDONG 4 times a year. This is devoted to news of meetings and events, details of tree and seed sources, notes about books and pamphlets dealing with nuts, reprinted short articles, notes from members, 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 receive one copy of each WANS publication as a subscription benefit.
Yearbook Editor: Dr. B. Dell, School of Environmental & Life Sciences, Murdoch University, Murdoch, W.A. 6153.

QUANDONG Editor: Otto Mueller, 86 Marlow St, Wembley 6014 3871347

Back Numbers: WANS began publishing in 1975. Back numbers of publications are still available. Some issues of QUANDONG are available only in photocopy form. Cost of each Yearbook is \$6.-, cost of a 1-year set of Quandong (3 or 4 issues) is \$2.-. Contact the Secretary for back numbers.

MEMBERSHIP

Any person or organization interested in the growing or production of nuts may subscribe for membership. Members are welcomed from outside Western Australia and overseas, as well as in W.A. Write to PO Box 27, Subiaco W.A. 6008. Secretary is normally in attendance at 225 Onslow Rd., Shenton Park, each Wednesday from 12 - 3 pm; phone is (09)-3818656. The current membership subscription rate, which runs for a calendar year and covers all publications issued in that year, is \$ 8.-.

WANS CO-OPERATIVE

Members of the Society own a limited company, West Australian Nut Supplies Co-operative Limited, a commercial organization set up to buy and sell nuts and nut products. WANS CO operates a retail store and a wholesale business at 225 Onslow Rd, Shenton Park. The retail store, called SQUIRREL NUTKIN sells nuts, nut trees, and books about nuts, and is currently open Wednesday to Friday, 9am to 6pm, Saturday 9am to 1pm. Shares in WANS CO must be applied for on the printed form available from the Shenton Park office. Shares cost \$ 1 each; limits are currently being revised, but are expected to be restricted to 50 to 250 shares per person.

THE LONG-PLANNED VISIT OF THE PROPAGATION SPECIALIST

Mr. P. THOMSON FROM CALIFORNIA

It is clear by now, that this most ambitious project of WANS is not coming to fruition. Despite the postponement of his earlier date of visit by one year (see Vol 4/2) our Society was not able to raise enough support amongst its members. A visit like this cannot be financed by only 2 or 3 members who may have the seedling stock ready. A further attempt by the co-ordinator as well as our president to solicit outside interests or financial support interstate as well as in W. A. failed also. Perhaps in a few years' time WANS might be organized and funded well enough to attempt such an undertaking once more.

WANSCO SUPPLEMENT

There is news of an important addition to the book list of the last newsletter. TREE CROPS by J. R. Smith is now in stock as a paperback for \$ 7.95 in the Squirrel Nutkin shop, less 10% for members plus postage when mailed.

The book, which is as valuable to the nutgrower as it is revealing to the conservationist in about 400 pages confronts the reader with a wealth of information on many kinds of nuts used in widely different countries. The conviction of the author in putting his case for a permanent, non-destructive agriculture is very contagious indeed. One cannot, but fervently, hope that eventually this book will find its way into the conventional agricultural hierarchy and its wide circles of supporters.

Mrs. Jones wishes to inform our members that the arrival of new season's stock from the Eastern States is imminent.

The trees will (on account of regulations) be bare-rooted and sold at a special sale.

It is intended to advertise this widely in the "West Australian". Members are urged to look out for this announcement during the second half of July, so as not to miss out on possible specialities.

There is also the usual range of container raised nut trees available. Reduced rates are applicable for members.

Issued with QUANDONG Vol 5, No 2

NUT SOCIETIES ACTIVE

We note that the California Macadamia Society has released its yearbook Volume 24 for 1978. Interested members can obtain it at the following address: P. O. Box 666, Fallbrook, California 92028, U.S.A. No purchase price was given.

The interesting part is the amount of coverage given to the Australian aspect of Macadamia growing, manifesting itself in three separate contributions.

WANS has taken out a subscription to the Australian Macadamia Society and we will go into further detail in our next QUANDONG. However, for those who are interested we give the address: Secretary F. E. Rivers P. O. Box 73, Beerwah, Qld. 4519.

NOTES AND COMMENTS

A correspondent from the A.C.T. informs us that a possibility exists for a seed exchange with the Chinese Academy of Forestry in Peking.

It is to be done on a seed-for-seed basis through the Australian Trade Commissioner in Peking. (Although I do not know whether this is allowable under W.A. law - hence we see the need for a person or committee - see this issue's supplement.)

The seeds of well over 100 plant species are offered for exchange. Since we are primarily interested in nuts, somebody picked out the following (expert members may disagree with it):

<i>Carya cathayensis</i> Sine	<i>Pinus Bungeana</i> Zucc ex Endl
<i>Castanea mollissima</i> Blume	<i>Pinus koraliensis</i> Sieb et Zucc
<i>Castanopsis eyrei</i> Tuch	<i>Pinus sibirica</i> Mayr
<i>Fagus longipetiolata</i> Seem	<i>Pistacia chinensis</i> Bung
<i>Gingko Biloba</i> L.	<i>Pterocarya macroptera</i> Skan
<i>Gleditsia sinensis</i> Lam	<i>Pterocarya stenoptera</i> DC
<i>Juglans cathayensis</i> Dode	<i>Torreya gaudis</i> Fort et Linnel

Tim Lynn-Robinson feels that members ought to grow at least some seedling trees under Western Australian conditions. It would be highly desirable to have in 5 or 10 years' time different kinds of nut trees readily available in order to conduct then some strictly monitored performance tests. Much could be learned then, e. g. by comparing over a period of time a locally grown seedling with an imported tree from the Eastern States or a grafted specimen. Who is to tell whether the despised local seedling may not outclass in one way or another its imported or grafted counterpart.

NOTES AND COMMENTS CONTINUED

There is a question by K. Lavery of P.O.Box 90, Glen Iris, Vic. regarding the propagation of hazelnuts via hardwood cutting.

If anybody knows something about this technique, maybe he would like to contact Mr. Lavery.

An enquiry is on hand concerning some rare nuts.

Does anybody know something about the Pili nut of Central America, and the Garlup or Galip nut from Papua-New Guinea?

Jojoba seems to be the "in thing" of the present. Well, all the better for the future of our whales. Plantations are established in Victoria. Nurseries take up the sale of young plants (although I think 7" containers are simply too short for raising them). My own seedlings, raised from Squirrel Nutkin seeds, had hardly a shoot (10-20 mm) yet the tap root was already at the bottom of the 12" tube. I found this out when I transferred them to the field.

Incidentally, some questions for the more experienced:

Most of my plants are a dark lush green, but a few have light green to yellowish tinge to their leaves. (Plants are in red loam on a slope and about 20 cm high.)

Will Jojoba grow at an elevation of 799 metres?

Can they stand a rainfall of approximately 750 per annum?

I, personally think they do since M. Mirkovic in Vol 4/3 describes their original habitat having 300 to 460 mm rainfall.

Member G. N. Moysse of Epping, Vic. comments that there should be a special section or grouping for the Jojoba enthusiast to collect all information and disseminate it.

Perhaps this idea could also be catered for through one of our intended committees.

Let us hear your views and make use of page C in the last QUANDONG, a special sheet, inserted for you by David Noel.

If you have any good seeds left over for disposal, send us a note. There are always enquiries along these lines to our hard-working Mrs. Jones. By the way, this is one of the aims of our Squirrel Nutkin shop, purchase and sale of seed material.

I can see already a proper seed bank committee set up.

NOTES AND COMMENTS CONTINUED

Member Nichols in Morley wrote once about his (her?) three trees, a walnut, a macadamia and a pecan in the backyard. I wonder whether they are still flourishing. Perhaps they have grown too big already and the neighbours are starting to complain.

STOP PRESS:

Thank you for your suggestion - J Turner in

Kulin 6365.

The Editor will certainly bear it in mind.

MACADAMIA GROWING IN HAWAII AND N.Z.

by G. Halliwell, Ministry
of Agriculture and Fisheries
GISBORNE

The following is a summary of a seminar given by Professor R. A. Hamilton of the University of Hawaii during his recent visit to New Zealand. In the course of the Seminar Professor Hamilton outlined the development of the Hawaiian Industry as follows:

Macadamia integrifolia is the macadamia species grown commercially in Hawaii and elsewhere in the world. To develop the Hawaiian varieties 100,000 seedling trees were screened, some 875 trees of which were retained for further selection. From these 875 only 11 were of sufficient merit to become named varieties, 7 of which have been grown as commercial cultivars, although recently only 5 of these 7 are now being planted on commercial orchards. These varieties are fairly specific to site and elevation in particular, and even now in Hawaii firm variety recommendations cannot be made for a particular site, so usually the two or three most promising varieties are planted. Once cropping performance emerges then the poorer varieties are grafted over to the better performers. It has taken 15-20 years to develop and test a macadamia variety in Hawaii.

Climatically Hawaii has a much warmer and more even temperature regime than New Zealand. Macadamias are grown over the range of 30 to 200 m in elevation with the better yielding orchards found at the cooler higher elevations. Winter temperatures range 21-29°C and summer 24-32°C with absolute variation of 13-34°C. Rainfall is in the vicinity of 1500 mm.

The Hawaiian M. integrifolia varieties have been selected under these climatic conditions and as they are, even in Hawaii, showing performance variation due to site, their chances of becoming commercially adaptable to our very different climate is slim. M. tetraphylla which comes from further south in Australia than does M. integrifolia is probably more suited to our cooler climate. M. tetraphylla has been grown in Hawaii and is sometimes used as a rootstock there. It crops poorly in Hawaii possibly due to lack of winter chilling. (I also get the impression by what Professor Hamilton said about yield performance of their M. integrifolia that Hawaii may have marginal chilling for this species as well).

CENTRE
FOLD-OUT

Please - read this through, indicate your interest.

Areas of suggested committee involvement or individual activity	Name and address
Fieldtrips and Meeting Organization	
Advisory committee for Tree propagation	
Seedbank, Supply and Advice	
Use of fertilizers and sprays	
Varieties records	
Club's area representatives within this state	
Importation of overseas seeds and plant material	
Nuttree records for this state	
Publishing committee and/or Publicity Officer	
Food recipes group	

The Hawaiian industry grows for a processing industry producing a very exacting high quality roasted nut. Their varieties have been selected on their suitability for processing as well as on their horticultural performance. Unprocessed nuts, because of their poor quality in this form, have very little market potential. If New Zealand were to develop an industry it would need to be along similar lines to the Hawaiian industry, particularly in respect of export and we will have to develop cultivars suited to processing.

A processing nut should have low sugar content, less than 5% and over 72% oil content. The Hawaiian varieties meet these criteria and nuts of this quality occur more frequently from M. integrifolia than in nuts from trees of M. tetraphylla. Professor Hamilton is of the opinion, however, that it will be possible to find cultivars of M.tetraphylla that have nut quality suitable for processing.

Selected varieties would need to have the following characteristics:

1. nut kernel diameter of 23 - 25 mm
2. uniform size and shape - round not oval
3. even shell thickness to facilitate husking without damage to shell
4. 10 - 20 nuts per raceme spread evenly over the whole raceme and not bunched together
5. kernel round, uniformly light coloured - white or cream not grey
6. oil content 72% + sugar less than 5%
7. crack-out of about 40%
8. high yielding tree of compact upright growth with strong crotch angles
9. will have to be tested for sugar content of kernel. High sugar contents will cause caramelising during roasting.

With regards to establishing an industry here Professor Hamilton thought that present named but untested clones should be checked for processing quality and if any of these were found suitable then a chance could be taken on any that were suitable but even then there would still be substantial risk until field performance became known. To develop a local selection would take at least 10 years.

Professor Hamilton stressed that only clonal material be used in commercial orchard plantings so that nuts of uniform quality are harvested to enable subsequent shelling and processing to be carried out. In contrast he sighted the Kenyan situation when an attempt has been made to establish an industry on seedling trees. There they now have 100,000 seedling trees but because of the nut variability from the orchards no way of satisfactorily handling the nuts produced.

The best trees come from grafting onto seedling rootstocks.

It is possible to strike macadamias from cuttings but cutting-grown trees take 2-3 years longer to come into production, achieve only 75% of the potential of grafted trees and are more subject to wind throw. For these reasons cutting-grown trees are not recommended for commercial plantings. Pests of macadamia were listed as codling moth and green shield bugs in Hawaii although neither was of much consequence and the crop was seldom sprayed.

Present prices in Hawaii were quoted as:

Retail price - processed product 1.3-1.4 cent/g = \$13 - \$14/kg.

Farmers received 90 cent/kg for unhusked nuts ex tree.

\$2.7- to \$3/kg of kernel in husked but unshelled nuts

\$5/kg for shelled kernels of No 1 grade.

Yields ranged 4 to 12+/ha (5-8+/ha on the large plantations) of nuts in the shell.

Properties ranged from as small as 10 - 20 trees up to more than 40ha. Properties with less than 8ha were part-time holdings and Professor Hamilton thought that 8-12ha or more would be needed to support a small family.

Well-grown trees begin cropping at 7 years of age and in Hawaii it took 212 days from flowering to harvest. As the tree flowered over a 5-months period, harvesting took place over a similar period, too. M. tetraphylla, by the way, has a very much shorter harvest period. Professor Hamilton said that he was impressed by the M. tetraphylla trees he had seen cropping here and thought they were the best performing M. tetraphylla he had seen anywhere in the world. If cultivars with nuts of suitable quality for processing can be found in this species he was sure that we would develop a macadamia industry based on this species.

M. integrifolia varieties have been brought into New Zealand but trees of these introductions have yet to begin cropping. It will be some years yet before the value of this species und New Zealand growing conditions can be judged.

Nuts of M. tetraphylla cultivars which do not reach processing quality are quite pleasant consumed raw but have poor shelf life and quickly become rancid if not stored under refrigeration. If stored below 4°C will keep for 12 months ore more. Fresh macadamia nuts can be frozen for storage as well. Nuts of this quality would be suitable for gate sales or home garden use. The possible gate sales market would probably supplied by the produce off 10 ha of trees.

Reproduced by courtesy of:
The Journal of the New Zealand
Tree Crops Association

NUT DISPLAY SECTION IN AGRICULTURAL SHOW

It appears that another step in the right direction is being taken with the introduction of an edible nut section during this year's Margaret River and Districts Agricultural Society Annual Show. It is even more pleasing for our Society to be asked to provide a judge for the exhibits in that section. The judge will be Mr. Ken Rouw from Cowaramup. The classes chestnuts, almonds, walnuts, pecans, madadamias and quandonges will appear in the show's schedule on Saturday, November 10, 1979. Any member in that region who would like to compete should put nuts aside now and advise the Secretary of the Margaret River & Districts Agricultural Society, c/- P. O. Witchcliffe, W. A. 6286 of their intention.

As the message about tree crops as an alternative is being spread through our activities and sheer necessity, we will hopefully see more of these displays in future. Members can help in this new way of promoting our cause by displaying, and for those with more experience, acting as judges.

LIST OF NEW MEMBERS

The Society welcomes the following members who have joined us since publication of the list in the 1978 yearbook.

- 663 P.S. Nolan, 714 Yiluk St, Tom Price 6751
664 P. Korsten, 25 Madeline St, Glen Waverley 3150
665 R. W. Paech, 208 Adelaide Rd, Murray Bridge 5253
666 L. D. Strange, "Pine Ridge", Cobar 2835
667 J. Fleming, Jarrahdale Rd, Mundijong 6202
668 Jean Griffiths c/- Treeton Organic Farm, P.O. Cowaramup 6284
669 N. E. Smith, 33 Beaufort Rd, Albany 6330
670 B. Hayne, Tilmore Lodge, Kilburn Rd, Parkerville 6553
671 V. Jackson, Christian Outreach Centre, Kress Rd,
Mt. Tuchekei (MSF 624) via Gympie 4570
672 N. Staton, 14 Helen St, Applecross 6153
673 David Sandilands, P.O. Box 945, Civic Square A.C.T. 2608
674 Lloyd L. Collar, P. O. Box 40, Telfer 6762
675 U. Pretl, 205 Hamersley Rd, Subiaco 6008
676 Mrs. M. Vermeer, Bonney Downs Station, Nullagine 6758
677 P. A. Cogan, 155 Bridge St, Port Melbourne 3207
678 D. G. Watts, 54 Burke Drive, Attadale 6156
679 G. H. + H. E. Genders, RMB 9030, South Coast H'way, Albany 6330
680 B. E. Mac Pherson, "Kilbeg" Baerami Creek, 2333
681 Subiaco City Library, Corner Bagot-Rokeby Rds, Subiaco 6008
682 Geoffrey Cook, 3 Lilika Road, City Beach 6015
683 Max Shorten, 43 Ann St, Malandan 4885
684 Tony Judge, c/- 26 Alexandra Cres, Bayview 2104
685 Ernest H. Williams, c/- P.O. Lower King River, via Albany 6332
686 Ian James, 79 Derby Rd, Shenton Park 6008
687 G. Watson, MS 21, Kalbar 4309
688 Sylvia M. Walton, Box G 498, GPO Perth 6001
689 Mrs. Fay Davey, "Fioresse" 133 Gooseberry Hill Rd, Gooseberry Hill
690 Mr. M.J. Haxel, c/- RAAF base, Fairbairn A.C.T. 2600
691 Mr. & Mrs. R. P. Harrington, P.O.Box 124, Armadale 6112
692 Hans Peter de Vries, Olympic Ave, Mt Clear, Ballarat 3350
693 Mr. & Mrs. W.E.Tims, Inalpa Way, Duncraig 6023
694 Mr. N. P. Psarros. Ministry of Agriculture, 2 Achamon St,
Athens, Greece
695 David Bicknell, 14 Carey St, Bridgetown, 6255
696 Mr. & Mrs. C. Harrison, 49 Edinbridge St, Kenwick 6107
697 M. L. Warner, 40 Potts St, Melville 6156
698 Stan Stepan, P.O.Box 44, Yarloop 6218
699 Murray J. Hudson, 44 Grant St, Cottesloe 6011
700 Dr. J. A. Streeton, 376 Albert St, Melbourne 3002
701 Mrs. E. Kammerman, Box 26, Minnipa 5654
702 E.J. Ey, 5 Hamilton Ave, Pt. Lincoln 5606
703 A.C. Kalotas, P.O.Box 213 A, Alice Springs 5750
704 M.F. Morrow, Lightbody's Rd, Portland 3305
705 G. Joyce, Lot 346, Booth St, Collie
706 Clive Willis Jones, Box 24, Wiluna 6646
707 Mr. V. Beaumont, 9 Chester Court, Orelia 6167
708 Mr. R. D. Spence, 1 Drew Rd, Ardross 6153
709 H. G. Birkett, 22 Wollaston Cres, Bunbury 6230
710 Wade O'Rafferty c/- P.O. Balingup 6253
711 Sh. A. Wynniatt, P.O.Box 8, Inman Valley 5211
712 R.W. Skinner, Hart St, Lesmurdie 6076

- 713 Chris Bennett, 5 Carew St, Deewhy Sydney 2099
 714 Wilfried Lehre, 23 Elfreda Ave, Sorrento 6020
 715 A. J. McDonald, "Kaleno", Cobar 2835
 716 Noel Delamare, 22 Aberdare Rd, Shenton Park 6008
 717 R.A.K. Palme, 7 Seaborne St, Parkerville 6553
 718 Peter Adams, 3 Elizabeth Cres, Bunbury 6230
 719 Raymond Purt, 4 Glyne St, South Perth 6151
 720 Central Library, Dept. of Agriculture, 3 Treasury Pl, Melbourne
 721 M. C. Williams, Shenton Rd, Burekup 6227
 722 L.C.Uren + B.T. Kennedy, P.O.Box 83, Paracombe 5132
 723 Jean Payne, Cockmanninga, Box 185, Denmark 6333
 724 P.C.Ryan, Box 65, Broome, 6725
 725 Sally S. Robinson, 28 Matong St, Hendra 4011
 726 L. Steel, 71 Boyce St, Glebe 2037
 727 Stephen Macey, "Nereman", C/- Towamba P.O., Via Bega 2550
 728 Helen Klimas, P.O.Box 86, Newdegate 6355
 729 Judy Reynolds, Orana House, Parker St, Northam 6401
 730 K.R. & R.Moller, M.S. 221, Maryborough 4650
 731 Chief Librarian CSIRO, Central Library, 314 Albert St, E Melbourne
 732 P. Bridgewater, 17 Third St, Bicton 6157
 733 M.R.Albany, 6 Etna Place, Rossmoyne 6155
 734 M. Cann, 14 Hume Rd, Thornlie 6108
 735 J.S. Cockerill, 61 Westmacott St, Esperance 6450
 736 Ferret Cycle Co Pty Ltd, Box 229, P.O. Victor Harbour 5211
 737 Rob Gandy, "Eungella", Blue Krob, via Nimbin 2484
 738 N.C. Downs, 8 Goodwood Drive, Springvale 3171
 739 R.K.Ashon, 59 Christie St, St. Leonards 2065
 740 Robert Ward, 8 Ayton Way, Duncraig 6023
 741 Bart Lebbing, P.O. Wokalup 6221
 742 I.&R.A. Mannering, "Waimangarara", Postmans Road R.D. 1
 Kaikoura, New Zealand
 743 Ridley Bell, 91Murray Road, Croydon Vic. 3136

*A summary regarding the Society's participation
 in the annual Garden Week at Perry's Lakes
 will be given in the next issue of "Quandong".*