



QUANDONG

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Newsletter of WANS the West Australian Nutgrowing Society

WANS TO BE RE-ORGANIZED

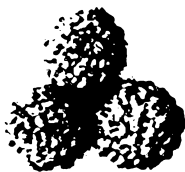
A major upheaval is underway in the structure and organization of your Society. The West Australian Nutgrowing Society had its beginnings in 1974, when it started off with 16 members. Every year since then it has expanded considerably, and membership is now in excess of 700. While it is gratifying that the Society has had such success, it means that the organization which was able to cope, in a fairly informal way, with initially small numbers, must inevitably undergo alteration to deal with the larger and larger membership list.

All members will be involved and consulted in the changes to come, and we shall be asking for help from members too. The first change will be in the Society's Executive Board. An ad hoc meeting of this executive was held on May 1 at Peter Good's home. Those present, in addition to Peter, were David Noel, Brigitta Jones, Tony Bryant, and Otto Mueller. It was decided to greatly expand the Board of Management and create a number of new Committees to deal with different aspects of the Society's business. Breaking the business down into a lot of small areas makes it possible for one or two members to deal with some function quite simply and easily (for example, acting as a reference point for overseas visitors), whereas if all the load falls on two or three members, they become overloaded and nothing gets done properly. The next issue of QUANDONG will contain a whole heap of suggested areas where such Committees could operate, and a request to members to say where they can help.

Also under review are the Society's By-Laws, and the question of Incorporation. Incorporation (that is, the Society becoming the West Australian Nutgrowing Society (Incorporated)) brings some valuable protection to the Society and those running it, and allows the Society to own property, pay staff, and carry out similar functions. However, incorporation must be approved by the State Government, and they will only do this if the Society has approved By-Laws relating to elections, keeping of records, and other administrative matters. The existing by-laws will be reprinted in a later issue of Quandong, they will be reviewed, and if changes seem desirable these will be submitted to members. Any comments would be very welcome.

This will be the last issue of QUANDONG to be edited by David Noel. The new Editor will be Otto Mueller. Otto would very much like to hear news and comments from members, and to receive articles for publication in Quandong, or the WANS YEARBOOK, which is edited by Bernie Dell. David is going overseas for three months (July to September), and during this time he expects to attend the Annual Meeting of the Northern Nutgrowers Association in Ohio, in August (David has been appointed Australian Vice-President of the NNGA).

So, Great Changes are Afoot. We are expecting YOU to be in it!



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; Carolyn Blackwell (Secretary-
Treasurer), 3975036; David Noel (Publications Director), 3818656;
Edmund Czechowski, 4476071.

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, Mullaaloo 6025, Tel 4011852

Walnut: Tom Spear, 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: David Noel, PO.Box 27, Subiaco, W.A. 6008

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 Wednes, 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.

PECAN VARIETIES

This circular produced by an Eastern States nursery firm contained such useful information that it seemed worth reprinting in full.

HUNTER PECANS

VERONA NURSERY, MUSWELLBROOK N.S.W. 2333.

VARIETIES FOR 1979.

- CAPE FEAR Early pollen; precocious and prolific; suit high density planting; early Spring growth; will bear 4th year; suit high rainfall areas; Will pollinate Shoshoni, Candy, Hunter, Ideal, Tejas, Desirable and Mahan. To pollinate Cape Fear use, Sumner, Tejas, Shoshoni, Candy Hunter or Wichita.
- WESTERN SCHLEY Widely adaptable proven variety. Early to mid-season pollen; fairly precocious and prolific; 210-220 day growth season; requires irrigation for commercial production in hot, dry areas; suitable for backyard growers; will pollinate Shoshoni, Candy, Tejas, Wichita, Sumner, Hunter and Ideal. To pollinate Western Schley, use Shoshoni, Tejas, Wichita, Ideal, Sumner or Mahan.
- CHEROKEE Very early pollen; early Spring growth; very prolific and precocious; will bear 4th year; profuse lateral branching, so needs pruning and shaping; 180-200 day growing season; shells 60% kernel; suit high density plantings. Will pollinate Shoshoni, Chickasaw, Candy, Hunter, Tejas, Wichita and Mahan. To pollinate Cherokee use, Chickasaw, Candy, Sumner, Hunter Mahan, Shoshoni or Tejas.
- CHEYENNE Early pollen; early Spring growth; very precocious; highly prolific; shells 57-61% kernel; suitable for high density planting; requires irrigation to maintain heavy production; profuse lateral branching so requires shaping and pruning; suit backyard growers in drier areas. Will pollinate Shoshoni, Chickasaw, Candy, Tejas, Hunter, Wichita, Ideal and Mahan. To pollinate Cheyenne, use Shoshoni, Chickasaw, Tejas, Wichita, Ideal, Mahan, Sumner or Hunter.
- SHOSHONI Late pollen variety; precocious and prolific; vigorous upright growth; strong wide angled limbs; suitable for high density plantings; 180-200 day season; shells 50-58% kernel; requires irrigation in hot dry areas; Also suitable for high rainfall coastal areas. Will pollinate Cheyenne, Western Schley, Cape Fear and Cherokee. To pollinate Shoshoni, use Cheyenne, Chickasaw, Western Schley and Cherokee.
- CHICKASAW Late pollen variety; early Spring growth; small dense leaves; very vigorous grower; very precocious and prolific - yields second to Cherokee. Suitable for high density planting; early nut maturity; 180-200 day season; needs pruning to maintain commercial production; shell 52-58% kernel. Suit backyard growers. Chickasaw will pollinate Sumner, Cherokee, Cape Fear, Western Schley and Ideal. To pollinate Chickasaw, use Cheyenne, Cherokee, Cape Fear, Western Schley.
- CANDY Late pollen shedding; short growing season; early nut maturity; high rainfall variety; heavy and consistent bearer. Medium sized nuts with good flavour; suit backyard growers. Will pollinate Sumner, Cherokee Hunter, Cape Fear, Ideal. To pollinate Candy, use Cheyenne, Cape Fear Cherokee or Western Schley.
- TEJAS Late pollen variety; very precocious and prolific; very fast grower for hot areas with irrigation; wide strong branches; not suitable for high rainfall areas. Will pollinate Cheyenne, Cherokee or Cape Fear. To pollinate Tejas, use Cheyenne, Cherokee or Western Schley.
- SUMNER Mid season pollen shedding; late Spring growth; required long growing season; strong tree frame; very disease free and insect tolerant; commences bearing 5th to 6th year; suit backyard growers. Will pollinate Candy, Cherokee, Western Schley and Ideal. To pollinate Sumner, use Chickasaw, Wichita or Cheyenne.

HUNTER

Very prolific grower similar to Candy; suit high rainfall areas. Will pollinate Candy, Sumner, Cherokee, Cape Fear, Ideal. To pollinate Hunter, use Cheyenne, Cherokee, Cape Fear & Western Schley.

IDEAL

(Bradley)

Late pollen variety; late Spring bud-burst; early maturing; strong wide-angled limbs; holds nuts in husks more securely; smooth flavoured nuts; suitable for hot drier areas with irrigation. Will pollinate Cheyenne and Western Schley. To pollinate Ideal use Cheyenne, Chickasaw, Sumner or Western Schley.

MAHAN

Late pollen variety; commences bearing 6th to 7th year; very large nuts; tends to underfill in years of large crops; slow growing; 210-220 day nut maturity; suits all climates; good backyard variety. Will pollinate Western Schley, Cape Fear, Cheyenne & Cherokee. To pollinate Mahan, use Cheyenne, Cape Fear, or Western Schley.

WITCHITA

Late season pollen; very early bearer; very precocious and prolific; 210-220 day maturity season; requires hot climate with abundant irrigation; requires shaping and pruning; large good flavoured nuts. Will pollinate Cheyenne, Cherokee, Cape Fear, Western Schley, Ideal and Mahan. To pollinate Wichita use Cheyenne, Cherokee and Western Schley.

SUGGESTED LAYOUT

Low density and backyard orchards
40 ft. x 40 ft.

High density 15 ft. x 30 ft.
 or 30 ft. x 30 ft.
 or 20 ft. x 40 ft.

PRICES

Named Pecan Trees - \$15.00 each at Muswellbrook
Special quotes to commercial growers.

Prepayment and freight required on all orders. Advance orders accepted and payment required one month prior to dispatch. It is in the buyers interest to try to pick up trees at Muswellbrook due to large size of trees and so avoid heavy cutting back.

Trees will be packed and freighted to any State on buyers full instructions - each tree will weigh approximately 2 kg bare rooted. Orders filled strictly in order of receipt.

While every care is taken at the Nursery, we do not guarantee our trees as to variety, and buyers must accept our labelling.

For Nursery inspections, contact:

Keith Yore,
"Negoa"
Kayuga Rd.
MUSWELLBROOK 2333

Phone 065 431055 (O.H.)
065 432749 (A.H.)

All correspondence to :

Bruce MacPherson,
"Kilbeg"
BAERAMI CREEK N.S.W. 2333

Shipping & delivery: July??



This map of Suggested Areas for Varieties is the first produced in Australia and must be regarded as tentative. Further, it covers only varieties we have available at this time, and is thus a starting point. Dialogue should be held with Primary Industry Officers. The listing has taken into account that eventually there is a risk of the introduction of fungus diseases not at present in this country, but a major cost to the industry in the United States.

- | (1) <u>WESTERN</u> | (2) <u>TEMPERATE & MEDITERRANEAN</u> | (3) <u>HUMID</u> | (4) <u>SOUTH EAST</u> | (5) <u>SHORT SEASON</u> |
|--------------------|--|------------------|-----------------------|-------------------------|
| WEST. SCHLEY | WEST. SCHLEY | CHEYENNE | WITCHITA | CHEYENNE |
| WICHITA | WICHITA | CANDY | CHEYENNE | SHOSHONI |
| TEJAS | SUMNER | CAPE FEAR | SHOSHONI | TEJAS |
| CHEROKEE | HUNTER | HUNTER | TEJAS | CHICKASAW |
| SHOSHONI | CANDY | SUMNER | CHICKASAW | CHEROKEE |
| IDEAL | CHEROKEE | CHICKASAW | CHEROKEE | |
| CHICKASAW | CHEYENNE | <i>Shoshoni</i> | CANDY | |
| CHEYENNE | SHOSHONI | | HUNTER | |
| | MAHAN | | | |
| | CHICKASAW | | | |
| | TEJAS | | | |

TREE SUPPLY SERVICE

Once again, member Tim Lynn-Robinson is willing to try and obtain supplies of nut trees for members for planting in the present cool season. Tim's address and phone number are:

1 Alice Drive, Mullaloo, W.A. 6025. Tel. (09)-4011852

T R E E S O U R C E S

Here is a list of suppliers of nut trees. For some the information is not very recent. The meaning of the letters is as follows:
S=Seedling, G=Grafted, T=Sometimes.

1. Squirrel Nutkin, 225 Onslow Rd, Shenton Park, W.A. 6008, (3818656)
The Society's own shop offers 10% discount to members, all container stock. Plant anytime, but cool season best. Sells to public, will sell trees produced by members. Forwarding by rail inside W.A. minimum 5 trees. Also contact Tim Lynn-Robinson.
Almond G, Bunya S, Chestnut S, Gingko T, Hazel ST, Jobjoba ST, Macadamia S, Oaks S, Parana T, Pecan GT, S, Pistachio ST, GT, Stone Pine S, Walnut GT, S, Honey Locust S.
2. Dawson Harrison Ltd., Hale Road, Forrestfield, W.A. 6058, 4536204
Best nut range of any general Perth nursery. Most are imported from the East, only available bare-rooted in winter. Has started own propagating.
Almond G, Chestnut S, Hazel S, Macadamia G, Oak S, Pecan G.
3. Waldeck Nurseries, 217 Gt. Eastern Highway, Midland W. A. 6056
Tel. 2742339 (One of 5 Waldeck Nurseries in Perth)
Almond G, Chestnut S, Macadamia G, Pecan G, Walnut S GT.
4. Garden Valley Nursery, Albany Highway, Bedford W.A. 6112, 3992430
Has double grafted Almonds, and Pistachio rootstock.
Almond G, Chestnut S, Gingko S, Hazel S, Macadamia GT, Oaks S, Pecan GT, Walnut GT, S.
5. Frank Lucas, P.O.Box 5, Boronia, Vic. 3155, Tel. t51 1759.
All bare-root trees, mostly one season old. Minimum order 100 trees. (Excellent value).
Chestnut S, Hazel S, Oak S, Walnut S, Beech ST.
6. Weare's Nursery P.O.Box 736, Griffin N.S.W. 2680.
No recent information, try for Pistachio.
7. Buckingham and Martin, 123 San Mateo Ave. Mildura, Vic. 3500
Same as No. 6
8. John Brunning & Sons Ltd., Sommersville, Vic. 3912.
Good range of nut trees
Chestnut S, Hazel GS, Macadamia S GT, Walnut GT S.
9. Fitzroy Nurseries, P. O. Box 859, Rockhampton QLD. 4700 (272194)
Good for grafted Macadamias, Pecans, tropical nuts. Choose shipping time carefully, air-freight if possible, especially evergreens.
Cashews S, Coconut S, Macadamia G S, Pecan G.
10. Limberlost Nurseries, Freshwater 4872, Cairns, N.Qld. (551262)
Very good range of tropical plants, wholesale quantities.
Bunya S, Cashew S, Coconut S, Macadamia G, Pecan G.
11. W. A. Shepherd & Sons Pty. Ltd., Moorooduc, Vic 3933 (059-788380)
Reasonable plants, rather traditional in stock offered.
Almond G, Chestnut S, Walnut S.
12. Parkers Nursery, P. O. Box 180. South Brisbane, Qld. 4101 (2064367).
General city nursery, similar to Dawsons.
Macadamia G, Pecan G, Walnut G.
13. Forests Dep. Nursery Hamel, W.A. 6216, Supplied only within W. A. and not within the metropolitan area. Sent freight free. Small trees
Orders should be well in advance of May to August when the trees are sent out. Try for Carob next year.
Stone Pine S, Chestnut S, and other mainly forest trees.

14. Mernda Heights Nursery, Monbulk Rd. Olinda, Vic. 3788 (7511280)
General stock, have had good bulk prices for chestnuts.
Chestnut S, Hazel G, Oaks S, Walnut S.
15. Flemings Fruit Tree Nursery, P.O.Box 1, Monbulk, Vic. 3793 (7566106)
Specialize in large fruit tree orders, often grown to contract.
Almond G, Walnut SG.
16. Americana Nurseries, MS 76 Kinka Beach, Yeppoon, Qld. 4703 (396217)
Offer Coconut in large quantities.
Coconut S.
17. Langbecker Roses, P.O. Box 381, Bundaberg, Qld. 4670.
Specialize in pecans, also have litchis.
18. Freshford Nurseries, Highbury 5089 S. A.
Pecan S, Walnut G.
19. Bob Magnus Nursery, Pearce's Creek, Wollongbar NSW 2480
Bunya S, Chestnut GS, Macadamia S, Oaks S, Tung S, Candlenut S.
20. Hunter Pecans, Verona Nursery, Muswellbrook N.S.W.
Correspondence to: "Kilbeg", Baerami Creek, NSW 2333.
See main part of this QUANDONG
21. Kevin B. Lavery, P. O. Box 90, Glen Iris 3146, Vic.
Offers Jojoba Seedlings in bulk at reasonable prices.
22. Alex Sas, 52 Croydon Road, Roleystone 6111, Tel. (09-3975628)
offers a variety of grafted Pecans, Jojoba seedlings, Pistachio
rootstock and others. Can be visited weekends.

Cautionary notes:

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 the Agricultural Department for inspection and fumigation (minimum around \$5) and removal; this is almost impossible for someone outside Perth. W.A. members will probably find it best to use Tim Lynn-Robinson's services. Members in other States will find it best to go to a nursery which regularly imports stock from other States.

Not all plants listed will be in stock always, conversely, nurseries may have small amounts of species not listed. Also, with popularity of nut-growing increasing more nurseries in your areas might stock them.

Deciduous trees (almond, chestnut, ginkgo, hazel, oaks, pecans, 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 the 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, but situation is improving. Hardshell almonds best in W.A., 2 varieties needed for pollination.

The Oyster or Kweme Nut

By R. J. M. SWYNNERTON, B.A., Dip. Agric., A.I.C.T.A., Agricultural Officer,
Tanganyika Territory.

The Oyster or Kweme nut (*Telfairea pedata*) is indigenous to Eastern Africa. It is a tall climbing plant with a slender woody stem, reaching a height of 50 to 60 feet. It is dioecious, the male and female inflorescences being borne on separate plants. The fruits or gourds have several marked ridges along their length, and attain a size of 1½ to 2 feet or more in length, and about 8 in. in thickness.



[Native method of growing Kweme Nut.

When ripe the fruits burst through contraction of the ridges, throwing out the seeds together with the pulp in which they are embedded. Each fruit contains from 70 to 150 large, flat, and nearly circular seeds, each about 1½ in. in diameter, the name "oyster" nut being derived from their shape.

USES AND COMPOSITION.

The nuts are utilized for confectionery purposes, being palatable either fresh or roasted as a table nut or in the making of sweets and cakes. They may also be used for pickling or be converted into soups. An analysis of the nuts shows the fibrous husk to be 11 per cent by weight, the shell 38 per cent, and the kernel 51 per cent. The husk contains an intensely



Gourds of the Kweme Nut.

bitter substance, but this is removed chemically by the planters before sale.

The kernels contain oil to about 60 per cent of their weight, or about 35 per cent of the whole nut. The oil when extracted is of a yellowish colour with a brownish fluorescence; it is practically odourless, of low acid value and, though somewhat viscous, is liquid at room temperatures,

SEED NUTS AVAILABLE FROM SQUIRREL NUTKIN

The WANSO shop has available an unusually large range of nuts for planting at the moment, including some items never before offered in Australia. These include Tiger nuts (*Cyperus esculentes*), Jojoba (*Simmondsia californica*), Quandong (*Santalum acuminatum*), Sandalwood (*Santalum spicatum*), California Black Walnut (*Juglans hindsii*), Carob (*Ceratonia siliqua* - as beans), Marula (*Sclerocarya caffra*), also walnuts, chestnuts, almonds, cork oak, etc. Prices vary, but in most cases a small packet can be supplied for \$1.00.

depositing stearine on standing. It belongs to the class of non-drying oils, and possesses a pleasant, slightly sweet taste. The fatty acids of the oil include stearic, palmitic and telfairic acids and an unidentified hydroxy-acid. The oil saponifies readily. It would be suitable both as an edible oil and for soap manufacture, while the oil cake remaining after expressing the oil from the kernels could probably be used as a stock feed and should be valuable for cows in milk.

The nuts are much valued by natives for cooking, and are in great demand by mothers, who partake of them directly after parturition, causing early contraction of the pelvis and enabling them to regain

tree, over which it eventually trails in a dense mass. Germination takes place in about a week. The climber commences bearing in the second year, and in the third year will produce from 10 to 30 gourds. In the plains it is liable to be attacked by white ants, and so may die after five or six years; but in the mountains, at elevations of over 3,000 feet, though it is slower to come into bearing and does not bear so heavily, it will continue to bear for 15 or 20 years. A good rainfall is desirable.

In the last four years several planters in the Western Usambara Mountains have taken up the cultivation of Kweme nuts, and the first plantations are now in bear-



A young Kweme Nut plantation.

their strength rapidly so that they may resume their normal duties within a day or two. The nuts also have valuable lactogenic properties, and, among the Wasamba, failure on the part of the husband to supply a pregnant wife with Kweme nuts may be a just cause for divorce.

CULTIVATION.

Kweme nuts are widely cultivated by natives, who plant a seed about 15 feet from the foot of a suitable tree and, as it grows, lead it up into the branches of the

ing. In order to save space and lift the climber off the ground, it has been necessary to construct trellises about 6 feet high over which to train the plants. The upright posts are erected 4 to 5 yards apart and are connected with cross bars set at right angles to each other. For this purpose wattle poles have been used, but have proved expensive, since it has been necessary to purchase them at 10 cents per pole. It is estimated that the cost of clearing the land and buying, transporting and erecting the poles is about Sh. 1,500 per hectare. Wattle is now being

TREE PROPAGATION AIDS

Squirrel Nutkin also has available specially-made deep tree planting bags in two sizes, 7"x18" (10c ea. or \$9.50/100) and 10"x24" (16c ea. or \$15.00/100). The smaller size will hold a tree 2 years old or 2 ft high, the larger ones a tree 3-4 years old and up to 4 ft high. Also available at a special low price is Osmocote 280 slow release fertilizer in 1 Kg packs at only \$2.00 (our own packing). This very safe fertilizer can be used right with fresh seeds or transplants.

grown on these plantations, and when these trees are available the cost of erecting the trellises should not be much more than Sh. 600 to Sh. 700 per hectare.

The seed is grown in situ, a double row being planted every 30 yards at a spacing of 2 yards between seeds and 4 yards between double rows. The double rows of plants are then trained in opposite directions, and finally meet and interlace with those from adjacent double rows. Weeding is necessary for a year to eighteen months after planting, but once the trellises are properly covered, a dense shade is formed which allows of little weed growth. Close planting is carried out so that, when flowering commences after eighteen months, a large proportion of the male plants may be cut out. Many of the female flowers fail to set. The fruits that develop hang down below the trellises and ripen about five months after the flowering.

Yields of two to three tons per hectare are expected, though a small plantation of about a quarter of a hectare has given indications that as much as seven tons per hectare might be obtained.

Not only is the erection of trellises expensive, but this method is only suitable for the mountains, where they will not be destroyed by white ants. In order to eliminate trellises a trial is being carried out to see whether the Kweme nut will

bear when trailed along the ground. The fear is that the fruits may be destroyed by insects or vermin or that they may rot when in contact with the ground, though this latter difficulty may be overcome by raising the fruits.

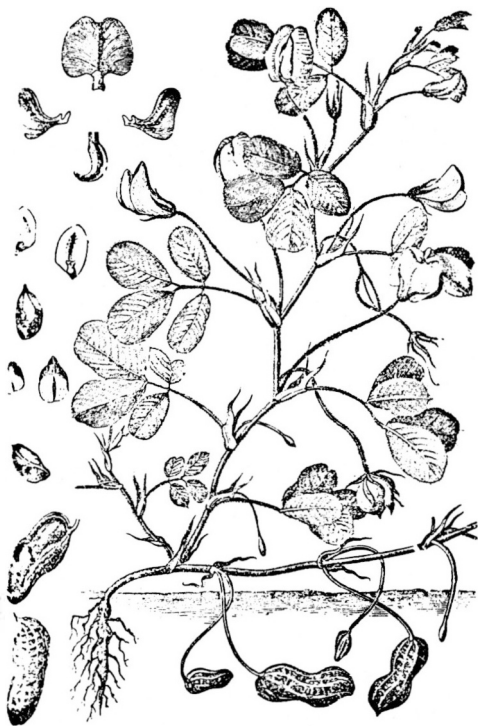
PREPARATION AND MARKETING.

When ripe the fruits are allowed to burst in the plantation, the seeds being picked up from under the trellises. After treatment to remove the bitter principle in the husk the seeds are laid out in the sun to dry. In wet areas, or where the fruits are liable to ripen into a rainy period, a simple, artificially heated drying shed is necessary. Care must be taken, however, to ensure that the temperature does not rise so high as to melt and decompose the oil in the seeds.

Sufficient quantities of nuts have not been available yet to test the market fully, as seed requirements for fresh plantings have been heavy. However, a consignment of ten bags of nuts sent to Europe in June, 1936, fetched £100 per ton. There has been a good inquiry from Europe, and a sample sent to the Empire Exhibition at Johannesburg has resulted in numerous inquiries, but no regular market can be established until supplies increase. It will then be necessary to evolve a cheap method of rapidly, thoroughly and cheaply decorticating the nuts.

IN A NUTSHELL (No. 19)

The Tiger or Chufa nut (botanically *Cyperus esculentes*) is a tuber which grows on the roots of a grass-like sedge. It is cultivated in Spain (where the nuts are used to make a drink called Horchata de Chufa) and in other subtropical and tropical countries, as a food item. The dried tubers are similar to an almond in taste. Plants can be grown from tubers by soaking them till they swell and planting in a damp situation -- they will grow in marshy areas. The plants are a relative of a weed called Nut Grass and grow very easily as an annual.



Pea Nut or Earth Nut.

The land is prepared by deep ploughing, and the distance between the rows generally set at 3 feet apart. Selected kernels are used for seeds. These are slightly cracked, and set along the rows at intervals of two feet, two together, and covered about an inch deep. It takes 30 to 50 lbs. of earth nuts to plant an acre. Weeds are kept down and the surface prevented from setting hard. Cultivation ceases when the flowering organs have penetrated the soil and when the vines have spread sufficiently to keep down the weeds.

The crop should be harvested before the first frost. For this purpose the tap-roots of the plants are cut deeply with the hoe, or if the field be large, a plough with the mould board removed and with a "sword" or long-cutting flange welded to the point is run down each side of the row. The plough is run deep enough to cut the tap-root without disturbing the pods. Some dig the plant up by the aid of a close-pronged fork, and the root portion, with the pods adhering, is exposed to the sun to dry. When wilted, the earth is shaken off the roots of the plants, which are loosely stacked round a pole six or seven feet high, in small stacks which will not heat. After a few weeks the nuts may be picked off the vines and stored in a dry and well-aired place, prior to being screened and sorted for marketing. Where the dry vines are not consumed by stock they should be returned to the ground.

The green and unripe pods are less oily than the ripe ones and more easily digested; they are pleasant eating when roasted.

An average yield is about 10 cwt. per acre, or about 50 bushels weighing 25 to 30 lbs. according to the plumpness of the kernels. The wholesale market value runs from 2½d. to 3d. per lb.