NEWSLETTER

Quandong

WEST AUSTRALIAN NUT AND TREE CROP ASSOCIATION

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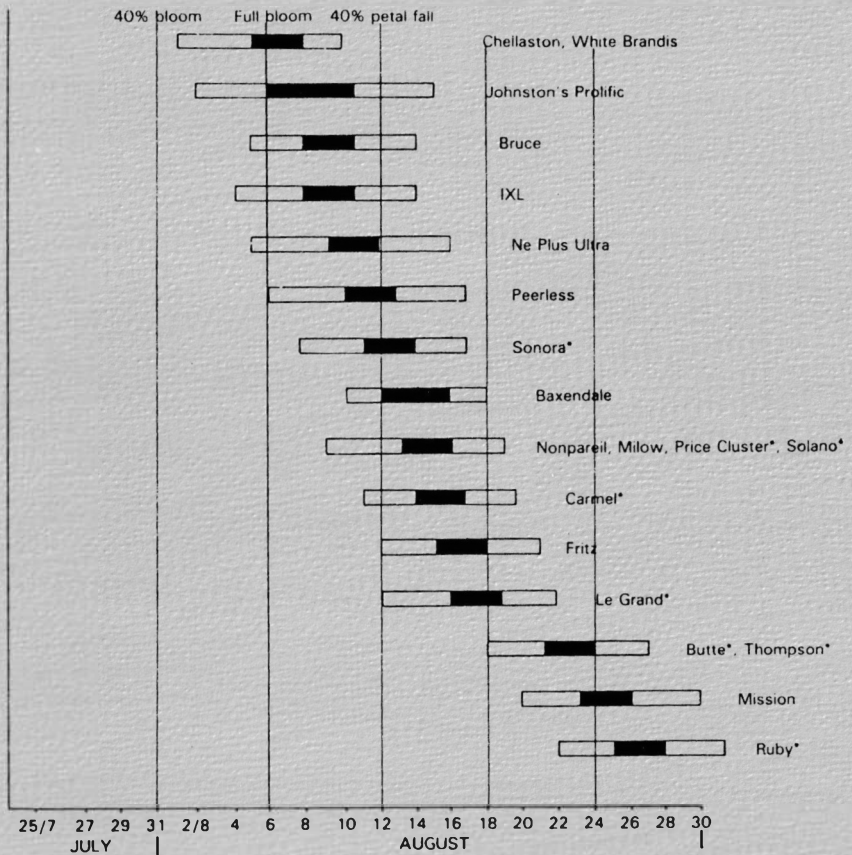

Guide to flowering periods of almond varieties.

*Estimated from Californian information. These varieties have not yet cropped in Australia

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NEXT MEETING - NUTRITION OF NUT AND FRUIT TREES

We have Mark Quenby from CSBP and Farmers to speak at our next meeting on nutrition of nut and fruit trees and leaf analysis determination.
The meeting is on: Wednesday August 7th at 7.30pm at the Naturalists Hall, 63 Meriwa Street Nedlands.

FIELD DAY

Don't miss the field day on Saturday August 20th at Murray Raynes Pecan Plantation at Harvey. Full details are on the enclosed leaflet.

QUANDONG COMMENTS

With future issues of Quandong we may be enclosing a QUANDONG COMMENT SHEET for you to return your comments to the editor.

ACOTANC 3

We now have the dates and location of the Auckland Acotanc 3 meeting. It will be held at North Shore Campus of the Auckland Technical Institute on May 22nd - 25th 1986. More details to come later.

AUSTRALIAN WILD FOODS

Carol Newton-Smith of 21 Banksia Avenue, Beaumaris Victoria 3193 is compiling a bibliography of articles and other publications about Australian wild foods and would like to hear from anybody who can suggest items for inclusion.

KIWI FRUIT GROWING

A valuable new publication on Kiwi fruit has been issued by the Manjimup office of the West Aust Department of Agriculture entitled "Kiwi Fruit - its Requirements and Potential in Western Australia" This 33 page booklet is available free from the department.

30th May

P.O Box 118
Margaret River
6285

Dear Lorna

I'm a Nut and Tree Crop Assoc. member. I am trying to obtain the Capri Fig tree. (its the inedible fig which harbours a wasp that pollinates all edible types of fig)

In the south west of the state there are some Smyrna Fig trees on which the fruit forms but falls off before it has a chance to ripen because of the lack of the Capri Fig tree with its pollinating wasps.

The WA department of agriculture tells me that some years ago when Smyrna Figs were more in vogue, that Capri Figs were quite common in metropolitan gardens. Today they don't know of any.

I've tried various tree nurseries in this state but with no success. Do you know of any Nut and Tree association members who could help me obtain the Capri Fig tree?

If not maybe my letter could be published in the news letter in the hope that a reader knows some one who could supply me with this tree.

Yours faithfully
Tony Hardy

Just a note to say that there is a Pistachio Growers Association of Australia formed. Anyone interested over in the west can join by writing to: Martin Simpfendorfer, Box 34 Paringa , South Aust 5340. Subs are $15 per year

(David McCarthy)

Mr.Bill Napier,
Quandong Editor,
WA Nut & Tree Crop Assoc.,
PO BOX 565,
SUBIACO, WA, 6008

Erik Leipoldt
30 Meldrum Way,
KOONDOOLA, WA, 6064

9.4.1985

SUBTROPICAL FRUITS A COMPENDIUM OF NEEDS AND USES

A full-sized, two-colour chart (77 - 65 cm.), outlining needs and uses of 98 subtropical fruit trees and shrubs is now available in WA.

It is the first compendium available , which gives such easy access to up-to-date information. It can help you choose the right plants for your local conditions and can be a helpful guide for nurseries when advising customers on needs and uses of lesser known fruits.

This professional chart, containing such information as: Botanical and Common Names, Tolerances, Uses of Plant, Uses of Plant Products, Fruit Characteristics, Cultural/Management Requirements, Maturity Times and Bibliography, will be appreciated by anyone with an interest in uncommon fruit trees.

COST: $10.50 ($7.50, plus $3.00 postage and handling), MAILED IN DURABLE AUSTRALIA POST CARDBOARD TUBE.

Available from: E.Leipoldt
30 Meldrum Way,
KOONDOOLA, WA, 6064

Erik A.Leipoldt, Cert. Hort.

NEW NUT PRODUCT- ALMOND BUTTER

Almond plantings and production in California continue to grow. The 1984 crop, well over half the world total, was 575 million pounds (about 260 000 tonnes). That was from about 425 000 acres, 55 000 of which is not yet bearing - an indication of the rate of planting which continues.

Every year observers wonder whether the increased production can be sold, and the answer seems to be 'yes'. This is done through continuing development of new products and outlets and overseas markets.

The latest product is almond butter, for which the market is seen as competing with peanut butter. In 1985 up to 5% of the total almond crop in Calfornia may go for peanut butter. Almond butter costs about 40% more than peanut butter, but sellers claim that its superior taste will justify the higher price.

(David Noel)

ASIAN NUTS AND FRUITS

In a Chinese grocery store in Sydney I recently came across two products I have never noticed in Perth. One was peanut paste powder (just add hot water and stir), and the other was dried persimmons.

When reconstituted, the peanut paste was not like that which is used in sandwiches, but was a thinner, more jelly-like mix with a pronounced sweet taste. It may be intended more for use in satay sauces and flavourings.

The dried persimmons were saucer-shaped, around 6cm across, quite a nice light grey colour, Each had a prominent hard button on one side, from the fruit calyx In most, the taste was delicious, although two fruits had the remains of the typical persimmon astringency. Although not common here, persimmons (fresh and dried) are one of the most important fruits in Japan and China, and could be a worthwhile fruit to develop on a large scale commercial basis.

(David Noel)

GETTING BREAK-EVEN ON WALNUTS AFTER FIVE YEARS

An interesting article in the March 1985 issue of "Nut Grower" (California) describes how Jerry Barton, a grower with 700 acres of walnuts, achieves both cash-cost and depreciation/management breakeven point on five year old walnuts.

Barton concentrates everything on early yields, achieving up to 400 pounds/acre on 3 year old trees , 3000 pounds/acre on five year olds, and even 6000 pounds/acre on seven year olds. He pays special attention to planting preparation and water management.

The year before planting,a crop of grain is grown on the ground to dry out the soil. A backhoe is used to make a hole six feet wide and deep and nine feet long. After filling, the hole is ripped to a depth of five feet in two directions. After planting,detailed attention is paid to soil moisture content for the first few irrigations, using test holes and moisture meters. Trees are planted 30 feet x 30 feet, pruning is relativly light, and young trees are all staked with 10 foot metal piping.

(David Noel)

SOME PROBLEMS IN PLANTING EASTERN STATES NUT TREES

Alex Sas

Referral is made to deciduous nut trees, such as pecans, walnuts, chestnuts and hazelnuts, which the West Australian growers traditionally buy directly from specialist nurseries in the Eastern States, or from the local commercial general nurseries. The majority of local nurseries import their grafted nut trees from the same source in the Eastern States.The trees are field grown and sold bare-rooted. Such trees are exposed to many hazards from the day of removal from the nursery row, to the day of planting .

Deciduous trees must be dormant in the autumn before they can be lifted from the ground. In a large-scale nursery the lifting operation is done with some type of mechanical digger, such as a large blade fitted to a tractor. In a smaller nursery the trees are dug by hand with a spade. During these operations the taproot is cut, lateral and many fibrous roots are torn or broken.

This is the major shock the tree receives. If the taproot is at least 30 cm (1 ft) long or longer and some lateral and fibrous roots present, and the tree survives further exposures described below, then the tree will grow normally. However, this is not always the case. In 1981, because of the shortage of my own container grown pecans, I bought 100 bare-rooted trees from North Queensland. Many pecan trees had only about 10 cm (4 in) long taproot, one or two short lateral roots and hardly visible few, or non-existent fibrous roots. Some trees were so badly mutilated, that I had to discard them. On the remaining trees 70-80% of the root system had been destroyed.

The following procedures also may contribute to the deterioration of the trees. The trees are tied in bundles, packed, transported to the airport and loaded onto the plane to be air freighted. On arrival to the Perth airport, they are transported to the Westrail Freight Terminal, Kewdale, where there again are handled by the Dept. of Agriculture quarantine officers. The parcel is unpacked, the packing material is disposed off and the bare-rooted trees inspected and then fumigated in air-tight chambers with hydrogen cyanide. This being a highly poisonous substance, the trees are ventilated in a shed. If the trees are ventilated for too long, for example when there is a delay in picking up the trees, or there is a hot weather, an excessive drying of the roots may occur.

The plant quarantine procedure is essential as it keeps this State, hopefully, free of plant pests and diseases not already here and prevents the wider spread of those already established.

The trees are subject to further stress in their transport from Kewdale to their final destination by their owner. It is only when the trees arrive here, that their roots can be immersed in water, thus reviving the trees. In a nursery, the tree roots are covered with a moist sawdust and may wait for a buyer for several weeks.

Bare-rooted trees may deteriorate rapidly once they are removed from the soil unless properly cared for. Some of the above mentioned hazards due to exposure and handling are beyond the control of the sender in the Eastern States or receiver here. However, for the lack of an adequate root system, undoubtedly the original propagator-nurseryman is responsible. I believe, this is the main cause of slow recovery after planting and sometimes of high losses, especially with walnuts and pecans. For example, a grafted walnut with 1.5 m (5 ft) top and with only 25% of roots left, must be cut back severely

to compensate for 75% loss of roots; even then such a tree will recover slowly, if at all.

Financial losses sometimes could be considerable, as the price of some nut trees is the highest of all fruit bearing trees.The air freight is also expensive, for example the present ANSETT rate from Brisbane to Perth is $8.55 per kg plus $20.96 base charge. The fee for quarantine inspection and fumigation is very reasonable.

Luckily, despite of all these possible problems many nut trees have been well established. In this State there is a good number of already bearing backyard trees, hobby nut groves and even few commercial orchards, of Eastern States origin. However, the risk of buying such trees still remains.

As a partial solution to this problem I suggest to buy locally propagated trees and to encourage our nurseries to propagate a wider range of nut species and varieties. I know of a wholesale nursery in Manjimup, which among other trees, propagates only chestnuts and almonds by bud grafting. Another leading commercial nursery in the metropolitan area produces pecans locally, but only two varieties. A specialised nursery in the Wanneroo area produces field propagated pecans and chestnuts, and also container grown pistachios and macadamias, which is very encouraging.In my Roleystone nursery, container propagated nut trees are produced with a wide range of nut species and varieties.

In buying locally produced trees the transport and quarantine associated problems could be completely eliminated and the cost per tree would be much less.

NEWER FRUITS

In some fruit stores in Sydney, in Feburary. I bought some 'Golden Acorns', a Custard Apple, and a Horned Melon or Kiwano.

The 'Golden Acorns' were small round Zucchini-like vegetables, yellow in colour. They made a nice flavoured dish when sliced and fried - sweeter and firmer than Zucchinis. They cost about $4/Kg and were said to come from Queensland. The Custard Apple, which cost $3, was also from Queensland.

The Horned Melon also cost $3, and came from New Zealand. I have since seen them in Perth, selling at $3 to $4 each. With the fruit I got a small information leaflet which said that the fruit originated in Africa, was botanically Cucumis (a true melon species), and had been developed commercially in New Zealand.

With dappled brown and yellow markings, and soft prominent spikes all over, the outside of the 15cm long, sausage-shaped fruit was quite attractive. Inside the bright green flesh and very numerous soft white seeds gave a very fresh appearance, and a texture some what like passionfruit. The flavour was good,and the fruit could catch on, although they would have to sell at a lot less than $3 each!

The name'Kiwano' is a registered trade mark. This means that the New Zealand holders of the trade mark could prevent other growers from selling the fruit under that name- It might be better to stick to Horned **Melon** or some other name.

(David Noel)

WESTERN FARMER AND GRAZIER, May 16, 1985

Nuts for money on trees

MONEY does not grow on trees but have you ever considered growing nuts as a money-making venture?

In Western Australia about 50 people grow nuts for their own use or to sell on local, national and overseas markets.

WA Nut and Tree Crop Association president David Noel says there is a strong demand for nuts because of their high nutritional value and because their low perishability makes them ideal for export.

"The United States is the major importer of Australian nuts and the devaluation of the Australian dollar means business is booming for nut growers here," Mr Noel says.

"There is a high demand for macadamia nuts at present and overseas marketers are canvassing WA producers to secure all the macadamias they can.

"At the current rate of exchange macadamia growers will get an extra 30 per cent return."

Mr Noel, who works at WA University and grows nuts on his Shenton Park property, says nut trees usually start producing four or five years after planting. Trees grown to produce nuts for commercial markets yield at least 50 kilograms of nuts a year.

"Marketing and processing companies are offering macadamia growers $1.30 to $2.50/kg for nuts in shell which means each tree produces between $65 and $125 a year," he says.

"A well-run orchard should return at least 2.5 tonnes a hectare and farmers grazing sheep or cattle on land planted with nut trees might get 1t/ha.

"It is quite profitable for farmers to run sheep and cattle under nut

trees as they keep the weeds down and fertilise the land but young trees need to be protected.

"Nut growing is not labour intensive and does not require a lot of management."

Nuts are grown for commercial markets on a relatively small scale in WA with plantations ranging from 1ha to 100ha, compared to 1000ha plantations in eastern Australia.

Mr Noel says nuts could be grown anywhere in WA but people should choose varieties which would survive without special care and attention.

"In the cooler and moister areas of the South West the best prospects are for pecan, chestnut, hazel and walnut varieties," he says.

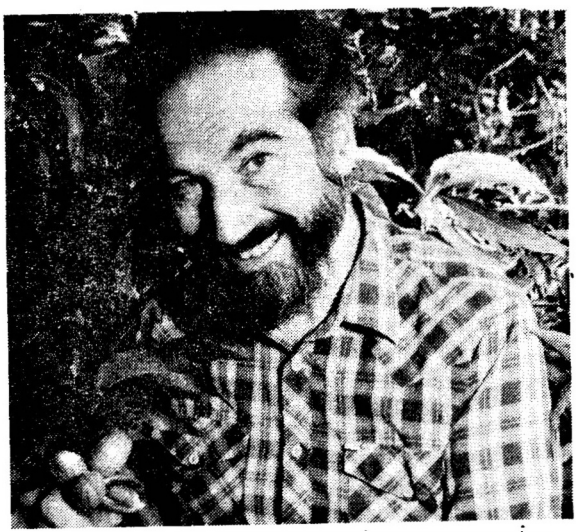
"Pecan and chestnuts will also grow in the drier inland areas although they appreciate some irrigation.

"Macadamia nuts will grow anywhere in the state as long as adequate water is available and there are no severe frosts."

CSR Ltd, through its subsidiary Macadamia Nuts Pty Ltd, is the largest individual grower, processor and marketer of macadamias in Australia.

Macadamia Nuts manager Lance O'Connor says the future for the Australian macadamia industry looks promising but he warns that if the $US weakens then sales to America will be less attractive and exporters will need to look for new markets.

By FELICITY NUTTALL



David Noel with some of the pecan nuts growing in the backyard of his Perth home.

NOTICES (Non-WANATCA Events)

CITRUS FIELD DAY, Stoneville Research Station, September 27. Ring Ag Dept (Midland) 274 5355.

ORCHARD MACHINERY FIELD DAY, Karragullen Oval, September 20. Ring Tom Price, 397 6064/5953.

BOOSTING ROOTS WITH SOLAR POWER

Many nut growers find initial difficulties in getting first year transplanted nut trees to take hold and grow. In fact nut trees which are heat-loving in the first instance, generally have the reputation of being difficult to transplant. The following techniques have improved my transplanting success with nut trees so much that I've come to regard the planting process as "easy."

Those who are familiar with greenhouse growing are very familiar with the expression, "bottom heat." That consists simply of putting heating coils in the root zone of plants in order to speed up their productivity. This results in getting better rooting of cuttings, etc. and consequently the moving of better plants to market in a shorter time can be phenomenal. Therefore, when I first noticed problems in the transplanting of nut trees, persimmons, and other difficult to transplant items, I puzzled over the ways and means of getting more heat to the root zones of the trees. The obvious answer was *Solar Power.*

The method for applying solar power to the root zone of trees is elegantly simple. My system consists of about 600 feet of five-eighths inch diameter garden hose which is laid out on the ground in a very sunny location. Water is run through the hose at about 1 gallon per minute. The water is applied to each tree via a circular trench which is dug at a distance of 1-2 feet from the tree. Water is applied during the hours of approximately 10:00 A.M. to 5:00 P.M. when the sun is relatively high in the sky. Water may be applied in the first year of transplanting from mid-May to early August.

Water may be applied approximately on 2 week intervals depending on soil moisture levels and natural rainfall. I apply about 60 gallons of water per application. Care should be given to assure that young trees are not encouraged to grow too late in the summer since winter hardiness problems may result. However if severe drought occurs in late August or September, some light watering may be necessary in those months.

Now for the results. My water supply source in summer generally runs about 60° F which is far too cold for best growth of roots. When the water is run through the solar heater, the output temperature ranges between 80-95° F which are much more favorable temperatures for initiating root growth. (Remember, too, that you have to heat up the usually low <u>soil</u> temperatures as well.)* The effect on the trees is dynamic. Previous to my solar power era, I planted persimmon trees and found that they would not leaf out until July when soil temperatures finally got up to the growing range via natural causes. Now that I'm

harnessing solar power, I can get newly transplanted persimmons to leaf out by late May every year. Furthermore, the growth is not spindly or anemic. The new twigs are strong and sturdy and the leaves are full size and the right color. In short, with solar powered roots you can achieve in one year what otherwise might be a challenge to realize in two years!

Similar results as above can be obtained with a wide range of trees. The most noticeable increases, of course, are realized with the heat loving trees such as most nut trees, persimmons, jujubes, pawpaws, etc. One to two feet of new growth is not unusual in the first year after transplanting and three to four feet of new growth has been achieved in the second year after transplanting.

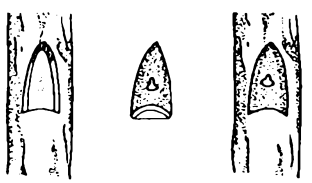
The benefits of solar powered roots are not limited to just the transplanting years. It has been established via several years of experience that elevated temperatures coupled with good moisture supply in the root zones can hasten the filling of nuts and also the dates of maturity. A good example of this is the shellbark hickory. A regular supply of solar heated water will allow the Fayette shellbark hickory to produce well filled nuts by the first week in October in southern Ontario. This performance compares well with the experience in the middle latitude of Illinois which of course is somewhat farther south.

Solar heated water may have a special application in the growing of pecans in the more northern regions. In southern Ontario it is noticed that pecans may "shut down" the filling of nuts as early as the first week of September although the frost free period often extends well into October.

The application of heated water to the root zones of pecans extends the filling period to a later date than otherwise would be the case. Moreover with mature trees which are heavy with crop, the filling of nuts can be accelerated in this manner through September-October without loss of winter hardiness in the trees.

R. D. Campbell
St. Catherines, Ontario

Figure 2. Chip budding

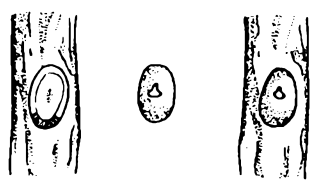


Stock prepared by removing shallow patch of bark

Bud taken from selected scion

Bud inserted in stock and ready for tying

Figure 1. Punch budding



PERSIMMONS

WHILE persimmons originated in China, development of the crop was mostly carried out in Japan, where some 1000 varieties are known.

In WA the fruit's commercial development was hampered by a lack of desirable varieties — only so-called "astringent" types were grown.

These fruits are very bitter and unpalatable till they are really squashy-ripe, which makes transporting them a problem.

The more recently available "non-astringent" varieties can be harvested and enjoyed in a hard semi-ripe form, they transport well and will provide new commercial opportunities in Perth.

Persimmons are now available in shops and markets and you should taste one.

The orange-coloured fruits look like medium-size overripe tomatoes and have a sweet jelly-like flesh in full ripeness and a distinctive flavour similar to ripe apricots.

The fruit is a favourite in Japan, where it fetches high prices. In the Himalayas the world's longest-lived and healthiest race — the Hunzas — use persimmons in their staple diet.

There the fruits are dried to extend consumption well into winter. With its high glucose and protein content the persimmon has considerable food value.

THE TREE:

A deciduous small-to-medium size tree around three to five metres, the persimmon is an ornamental addition to the home garden, with its spreading branches and weeping, or drooping, habit.

It is among the most spectacular autumn foliage trees in the metropolitan area, with its glowing bright orange, rich red, bronze and purple tonings. It is often grown for its autumn colour alone.

Orange-red fruits left on the tree to mature make a fiery show when all the leaves have fallen and this no doubt inspired the Greek name Diospyros — "God's Fires" — which is now the botanical name of the family.

Persimmon is a long-living, highly-adaptable tree which will succeed in sandy through to loam and clay soils. It is happy in subtropical to temperate climes, which means it can be grown from Albany to Northampton.

GROWING THE PERSIMMON:

Choose a wind-protected, sunny site open to the north or west to maximise sunlight hours. A rich soil is important — if you don't have loam, then build up the sand with copious quantities of organic materials such as well-rotted animal manure, compost, Compeat or Groganic. Feed through the growing season from August to March with Nurserymen's Brand General Purpose Garden Fertiliser or NPK Blue.

Irrigation or additional watering will be required through WA's summer. A heavy mulch of a 12cm layer of organic material will help to keep an even moisture. Pruning is required in the early years to establish an open vase-like shape. Unlike most deciduous fruits, such as peaches and plums, persimmons don't need to be annually pruned to crop successfully. When harvesting cut the fruits with a 1cm stem to aid unblemished ripening.

WHEN TO PLANT:

Trees in pots can be planted at any time. However, bare-rooted

trees — those dug up and wrapped in hessian or plastic — should be planted in winter while they are in the deciduous phase.

RECOMMENDED VARIETIES:

The non-astringent varieties Fuyu and Suruga are superior producers of high quality fruit that can be harvested green and hard and eaten immediately. Unfortunately for the home gardener with a small growing area, these two varieties need to be planted with a pollinating tree — the best pollinating variety being the astringent Dia Dia Maru.

Astringent varieties are self-fertile and so can be grown singly. Best varieties are the "flat seedless" Dia Dia Maru and Nightingale. Grafted trees start to bear in their second or third year. Yields increase from about 20 kilograms in the first crop to 100kg for a mature 12-year-old tree.

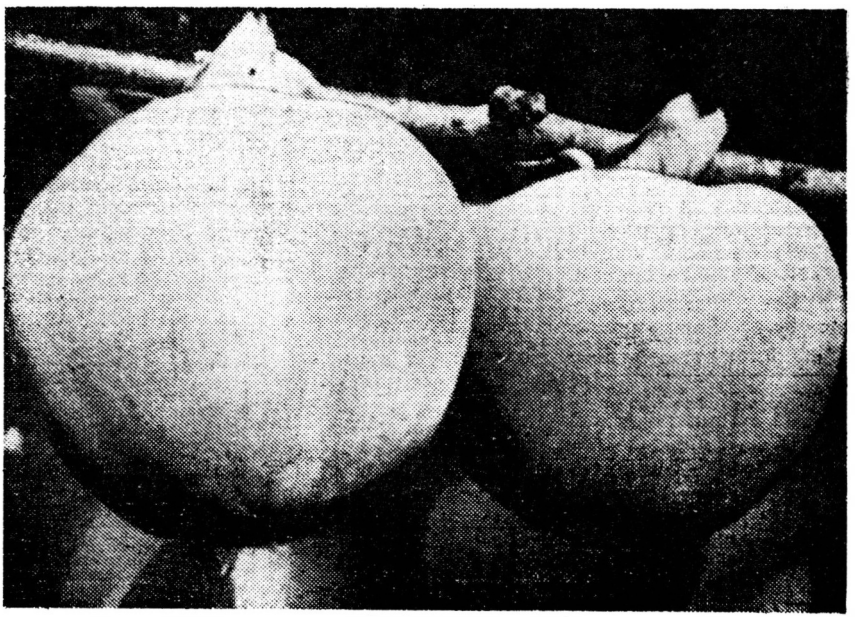
FRUIT USES:

Most persimmons are eaten fresh. However, it is possible to dry fruits in a home dryer — three to four days at temperatures of 38C are required. Place halved or quartered fruits on trays, skin side down.

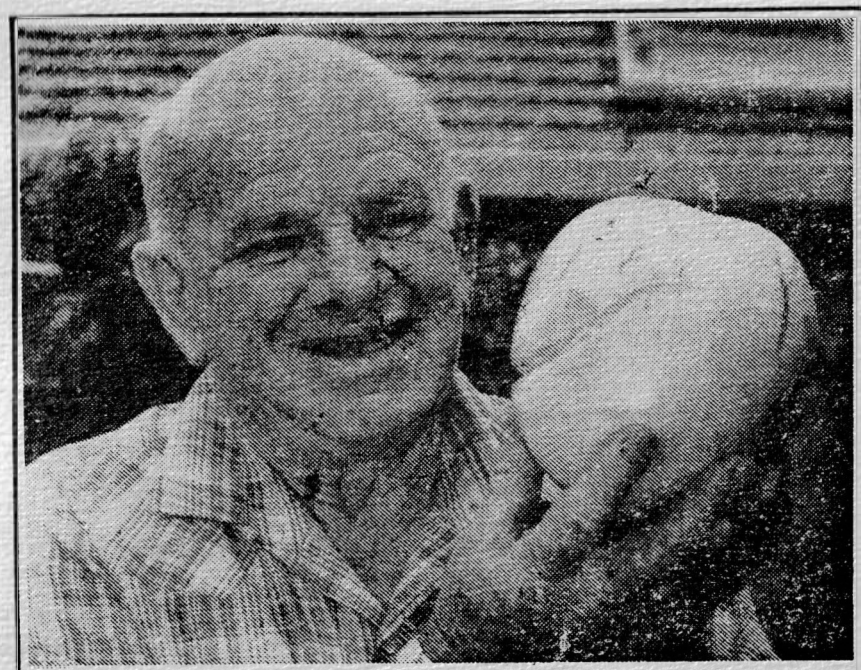
Persimmon pulp can add a delightful flavour and moist texture to fruit cakes.

For Persimmon Mousse the ingredients are 1½ cups persimmon pulp, ¼ cup diced orange, ½ cup diced, canned pineapple, ¼ cup sugar, 1 tblsp lemon juice, 1 cup evaporated milk (whipped). Combine the persimmon pulp with the remaining ingredients and fold in the whipped milk. Pour into a mould or ice tray and freeze. Serve icy cold with whipped cream.

NEVILLE PASSMORE



Persimmons.



Oh! Oh! Pepino

THE pepino being held up by Mr David Murray, of City Beach, (above) weighs in at well over 1kg. It was grown in his brother's garden at Safety Bay.

The pepino came from a bush planted last November when the plants first appeared on the WA market. They were featured in *The West Australian* at the time.

The Murray brothers are hobby gardeners and this monster was the first one picked, although there are 16 others of various sizes on their two plants.

Neville Passmore, who wrote about the pepino in one of his articles on exotic fruits, says that the fruit is unusually big. Pepinos are best eaten when slightly over-ripe, otherwise they have a bitter taste.

NOTICES (Non-WANATCA Events)

ORD RIVER IRRIGATION AREA TRIP, August 16-18: details Tom Price, Hills Orchard Improvement Group (09) 397 6064 or 397 5953.

West Australian Nut & Tree Crop Association.

PO Box 565, Subiaco

EXECUTIVE COMMITTEE 1985

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CALENDAR OF EVENTS 1985

(General Meetings are held quarterly at the Naturalists' Hall, No. 63 Meriwa Street, Nedlands, at 7.30 pm on Wednesdays)

AUG 7	Wed	General Meeting (Mark Quenby : NUTRITION OF NUT & FRUIT TREES)
SEP 24	Tue	Executive Committee
OCT 20	SUN	Field Day (Murray Raynes' PECAN PLANTATION, HARVEY)
NOV 6	Wed	Annual General Meeting (Charles Peaty : TREE PLANTING IN CHINA AND ARABIA)
DEC 17	Tue	Executive Committee

Members wishing any matter to be considered at an Executive Committee meeting should contact the Secretary by 2 days before the meeting.

Current Subscription Rate : $20.00 per year (includes all publications); Students $10.00.