HORTICULTURE NOTE: NO 6

THE GIANT VIETNAM GUAVA

By A.E. Rogers, Horticulturist, D.P.I., Laloki

Common name: Vietnam guava
Botanical name: *Psidium guava*

WHAT THE PLANT LOOKS LIKE

The giant Vietnam guava is a small tree. The leaves are oval, can be either sharply pointed or rounded, and grow to 120 mm long and 60 mm wide. They are usually a darker green than the leaves of the common guava. Yellow veins sink into the upper surface of the leaf and stand out below. New shoots have square stems.

The flowers are white with many cream stamens and are about 350 mm across. They grow singly, or in groups of about 5, on new side shoots, especially on older parts of branches.

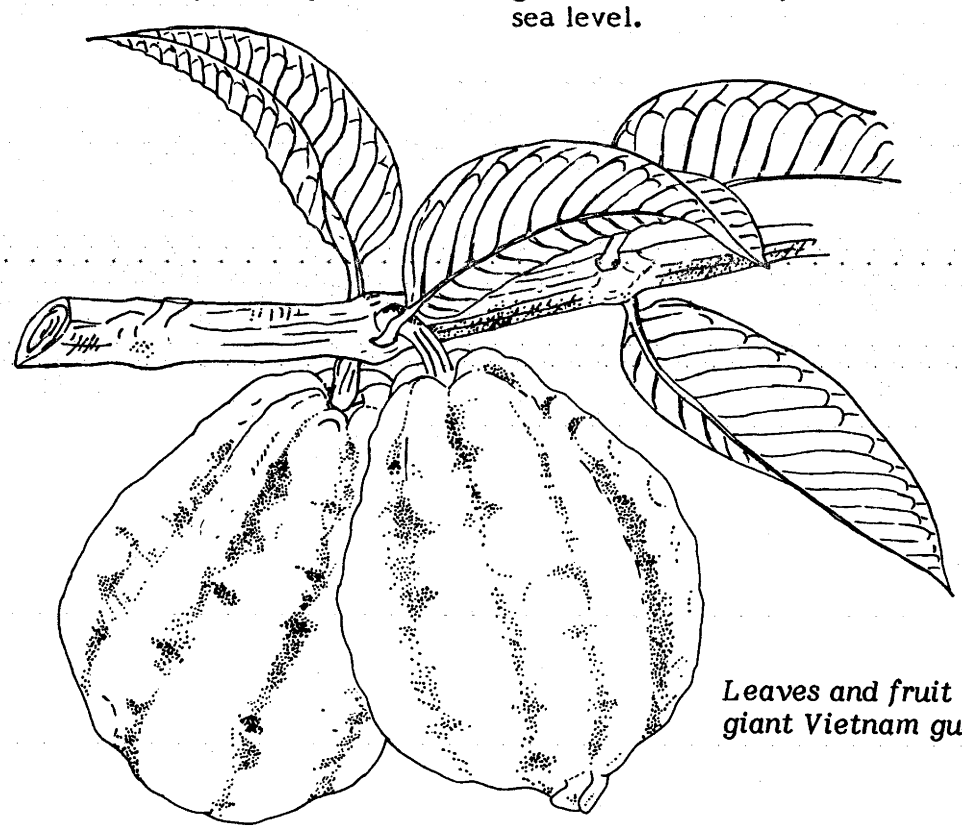
The fruits are round to pear shaped with distinct ridges. They are 75-120 mm long and light green when mature. The flesh is white, with a dry texture. It has a milder flavour than the common guava.

WHERE GUAVAS GROW

Seed of the Vietnam guava variety 'Tunkad' was introduced to Papua New Guinea from Thailand by the late Kana Aburu in July 1980. The first seedlings were raised at Keravat, Aiyura and Laloki Research Stations.

Guavas grow better in dryer conditions, though they will tolerate temporary water logging. However, long dry seasons will cause the leaves and fruit to fall off.

In Papua New Guinea, Vietnam guavas will grow at altitudes up to about 1750 m above sea level.



Leaves and fruit of the giant Vietnam guava

SOILS AND FERTILIZERS

Guavas will grow on a wide range of soils, including soils unsuitable for many other horticultural tree crops.

At Laloki, 0.2 kg of 12:12:18 N:P:K fertilizer is applied per centimetre of stem diameter per plant per year. Apply in two equal applications 6 months apart, before rain if possible. Spread the fertilizer evenly on top of the soil in a circle under the outer rim of branches as most of the tree's feeder roots are in this zone.

HOW GUAVAS ARE GROWN

Planting material

Guavas can be grown from seed, or they can be propagated by bud grafting.

Seedling guavas will grow true-to-type if the parent trees are in an isolated block away from other types of guavas. Sow fresh seed 1 cm deep. Germination takes 15-20 days. When the seedlings are 3-4 cm tall transfer them to planter bags. When the plants are 30 cm tall, they can be transplanted into the field.

Chip budding is a suitable technique if plants are to be bud-grafted onto seedling common guavas. Buds on the budwood must be swollen and ready to sprout. For an account of the technique of bud-grafting, see HARVEST Volume 8, no. 4.

Seeds and seedlings of the giant Vietnam guava are available from D.P.I., Laloki.

Plant spacing

Trees should be planted 4 m apart within the rows, and 6 m apart between the rows.

Pruning

Tree training should start 4-6 months after planting, with the removal of low hanging branches. When trees reach 3-4 years of age, large branches may be removed completely. This will encourage small branches, which bear the fruit, to grow. Do not prune back young branches as this discourages fruiting. Old branches should be thinned out gradually to produce many fruiting branches.

Irrigation

Trickle irrigation and under-tree sprinklers are ideal for guavas. 25-50 mm per week of irrigation water may be needed if there is no rain. A good supply of water is particularly important during flowering and fruit set.

Mulching

Mulching with grass clippings is a good method of controlling weeds around the trees. It also helps to keep the soil moist. Cultivation should be avoided as this causes suckering from cut roots. Keep inter-row areas grassed to avoid erosion.

HARVESTING, STORING AND YIELDS

At Laloki mature fruit have been harvested 9 months after seedlings were transplanted to the field or 13 months after the seed was sown. Most plants have given small quantities of fruit 12 months after transplanting.

The problem with the common guava in the Port Moresby area is that the yield is usually low, but it varies a lot. They fruit once per year, normally during April. Yields of the Vietnam guava appear to be greater than the common guava and the Vietnam guava plants flower and fruit throughout the year. Average fruit weight is 300 g with some weighing over 500 g.

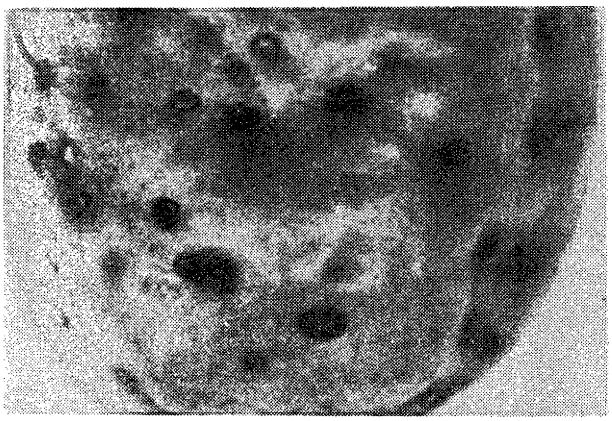
It is difficult to judge the maturity of the Vietnam guava, as the fruit do not change colour much on the tree. It is recommended that fruit be harvested when they are pale green or slightly yellow, or when they become slightly soft to touch. Fruit may be stored for a few days at room temperature.

Guavas are recognised as a particularly good source of vitamin C and a good source of niacin and vitamin A.

The Vietnam guava is very popular with people at Laloki because of the large size of the fruit and the thickness of its flesh.

PESTS OF GUAVA

Pests which may be a problem are *Amblypelta* bugs, leaf eating caterpillars and grasshoppers. At Laloki, *Amblypelta* bugs are the only serious pests. They suck the juices from the fruit. Puncture holes made by *Amblypelta* develop into black hardened wounds a few centimetres in diameter.



Amblypelta *damage on a giant Vietnam guava*

Amblypelta can be controlled by spraying with 0.05% Orthene. To mix enough solution for a 15 litre knapsack, mix together:

10 g Orthene 75% SP 15 litres water

Add wetting agent as recommended by the manufacturer. Do not harvest the fruit until at least 3 days after spraying.

Grasshoppers can cause serious leaf damage during the wet season. To control caterpillars and grasshoppers, spray with 0.1% Carbaryl. To mix enough solution for a 15 litre knapsack, mix together:

20 ml Carbaryl 15 litres water

Add wetting agent as recommended by the manufacturer. Do not harvest the fruit until at least 24 hours after spraying.

If any insect pests become a major problem, you can contact your nearest D.P.I. entomologist for advice. The addresses of all D.P.I. entomologists appear in all 'Entomology Bulletins'.

DISEASES OF GUAVA

Pestalotia and *Gloeosporium* fungi have been found on fruit at Laloki. However, they seem to be secondary infections which enter the fruit on wounds caused by *Amblypelta*. *Cephaleuros virescens*, an alga causing red rust, has also been found on the leaves and fruit during the wet season.

For advice on how to control these diseases, contact the Plant Pathology Section, D.P.I., P.O. Box 417, Konedobu.

FURTHER READING

Rogers, A.F. (1982). Citrus bud grafting at Laloki. *Harvest* 8 (4): 156-160.

FURTHER INFORMATION

For further information and advice on fruit and vegetable growing contact the Area Horticulturist in your region. The addresses for the Area Horticulturists are as follows:

New Guinea Islands Region
Lowlands Agricultural Experiment Station,
P.O. Keravat, E.N.B.P.
Tel: 926251 or 926252

Momase Region
Bubia Agriculture Research Centre
P.O. Box 73, LAE
Tel: 424933

Papua Region
D.P.I. Laloki
P.O. Box 417, KONEDOBU
Tel: 281068

Highlands Region
Kuk Agricultural Research Station
P.O. Box 339, MOUNT HAGEN
Tel: 551377

Copies of this Horticulture Note can be obtained from: The Publications Officer, Publications Section, D.P.I., P.O. Box 417, KONEDOBU.

(Illustration: Isako Esekia, U.P.N.G.)