HORTICULTURE NOTE No. 16

Mango Field Management; Planting and Care of Young Trees

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Site selection

The mango is a lowland tropical fruit, though trees grow and bear well up to about 1100m above sea level. Mangoes should be field planted on well drained, flat or gently undulating sites. Though mangoes will grow on a wide range of soils, growth is best on deep sand or gravel to loam soils with pH 5.5 to 7.0. Where possible mangoes should be grown in areas where there is a pronounced dry season each year. Areas such as the Papuan coast, Markham valley and Rabaul shoreline have become established mango producing areas because they are dry for at least three months each year.

Varieties

There are a number of commercial mango varieties available in Papua New Guinea. The best material is available from Laloki Research Station. There is also the long or Totapuri mango grown widely in the Gazelle peninsula. The varieties available from Laloki are shown in Table 1:

Field planting

The planting holes are dug somewhat deeper than the planting bags (say 60cm) in order to avoid bending the growing root tips. At the bottom of the hole a small quantity of up to 100 grams of rock phosphate is added, and this is covered with a thin layer of soil and pressed down. The young tree is then placed into the hole and soil is packed tightly around the roots and tamped down until the entire hole is filled. If the soil is not compacted then many trees may die after transplanting.

Fertilizer application

The recommended rates of fertilizer are as follows:

Tree age(yrs)	1	2	3	4	5	6	7	8	9+
NPK kg/year	0.1	0.2	0.3	0.4	1.0	1.5	2.0	2.0	2.5

NPK fertilizer is applied half at the beginning of the rainy season and half at the end, usually October and March in Papua New Guinea, although there is

Table 1: Mango varieties available from Laloki

Variety	Fruit shape	Skin colour	Fibre	Eating quality	Anthracnose resistance	fruit size (g)
Kensington Pride	ovate to slightly oblong	yellow with pink blush	moderate	excellent	low	470
Banana Callo	long oblong	yellow	low	very good	low	270
Glenn	oblong-ovate	orange/yellow pink blush	low	very good	moderate	460
Irwin	ovate to slightly oblong	bright red	low	excellent	low	330
Nam Dok Mai	ovate to slightly oblong	yellow to orange yellow	n/a	n/a	n/a	300
Carabao	oblong, rounded base, apex blunt	yellow	low	excellent	n/a	240
Totapuri	banana shaped	green	low	excellent	n/a	580

some variation with locality. The best fertilizer to use is 12:12:17: +2. With young non-bearing trees more frequent applications can be given. Care should be taken not to give too much nitrogen as this can result in excessive vegetative growth at the expense of flower and fruit development. Nevertheless adequate nitrogen should be given to young trees to promote canopy development.

Pruning

To ensure the correct tree shape some formative pruning can be carried out. The usual procedure is to detip the young tree when it is two metres tall. From this three branches are allowed to develop, and when these are a further metre tall they are detipped again and three secondary branches are allowed to develop as illustrated (figure 1).

Pruning of older trees is done as little as possible but all dead branches and excessive growth in the middle of the tree should be removed. As the tree bears its fruit on the outside removal of growth in the middle does not affect yield. It also allows air circulation through the tree which reduces the incidence of fungal disease.

Control of flowering

It is advisable to remove flowers from young grafted trees until they have reached adequate size (usually in the second season after planting).

Irrigation

It is best to plant trees at the beginning of the rainy season to ensure they are not affected by drought until roots are established. Young trees (less than two years old) will probably benefit from irrigation during the dry season.

Time to reach bearing age

Grafted trees should start to bear in the third or fourth year after planting. Seedling trees will take about eight years to come into bearing.

Pest and disease control

For information on pest and disease control see Horticulture Note No. 18

For further information contact your Regional Horticulturist:

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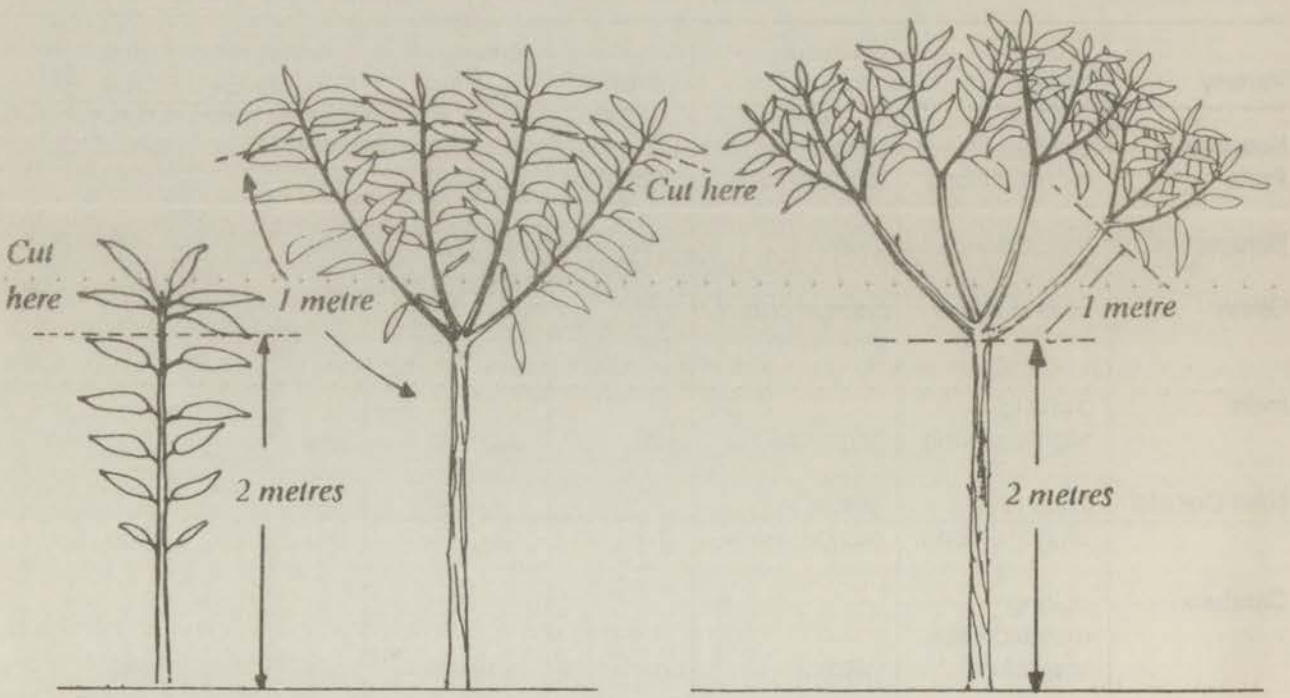

Figure 1. Pruning of young mango trees