

Pruning and canopy management

Pruning is the removal of unwanted branches and it is done purposely to; improve light penetration, provide a strong tree structure and to open up the tree so flowers and fruit are exposed to air and light. It is also done so as to; control size and vigor, maintain yield and quality in addition to bringing neglected trees back into good condition.

The first pruning operations take place at planting. Here, any damaged or excessively long roots that would not fit in the hole are trimmed back. Also to give the tree a good start, and reduce water loss in the critical early weeks, branches are cut back by a third of their length.



Canopy Management

Harvesting

Mango is a climacteric fruit whose process of ripening begins on the tree and continues after harvest:

If picked too early, the fruit becomes wrinkled without truly ripening

If picked too late, it cannot be stored long enough to tolerate transportation over long distances.

Dormancy or Rest

Mango trees must undergo a period of rest or dormancy which is a period without any externally observable growth in mature shoots after flushing. It takes about 3 - 5 months depending on the variety. This is a pre-condition required for the successful flowering.

This dormancy may be naturally induced by low temperatures in most sub tropical environments or by soil moisture deficits under tropical conditions or both.

We acknowledge the kind financial support provided by the Government of Uganda to Ngetta ZARDI through the NARO Competitive Grants Scheme

CONTACTS

Director of Research

Ngetta ZARDI, P.O. Box 52, Lira

Email: ngettazardi@yahoo.com

Or Doi Fredrick (Farm Manager)

+256-772-651587

Email: fredrickdoi@yahoo.com



MANGO ESTABLISHMENT



IDENTIFICATION AND PROMOTION OF SELECTED
FAST GROWING AGRO-FORESTRY TREE SPECIES PROJECT
Ngetta Zonal Agricultural Research and Development Institute (NgeZARDI)
P.O. Box 52, Lira, Uganda. Phone: +256 473660052 / 473427748
Email: ngettazardi@yahoo.com

OCTOBER 2013

Mangoes

Botanical name: *Mangifera indica*

Site selection for an orchard

Mangoes need well drained and fertile soils although they can perform well in marginal soil (sand / gravel and even on oolitic limestone soils). The water table of the selected site must be well below 1.5m because if it's high, it will affect root functioning and ultimately tree productivity.

Land Preparation

Deep cultivation is recommended and organic matter should be given adequate time to decompose. Care should be taken not to disturb topsoil too much in places where soil depth is low.

Selection of mango varieties

For the dry zones of North and Eastern Uganda, commercial varieties such as Kent, Tommy Atkinson, Keitt, Parvin, and Apple mango are more suitable. These varieties are ideal because under these conditions, they bear fruits at 2 - 3 years after planting. However, it is advisable to obtain authenticated planting materials.



Kent



Boribo

Planting

- Planting should be done when the growth flushes in the seedlings have hardened.
- Leaves should be cut to half size to minimize evapo-transpiration and to reduce transplanting shock.
- Planting should be during the rainy season preferably at the beginning of the first rains.
- Dig the planting holes at least two months prior to planting and fill with top soil or compost (if possible). In loose soils, 60x60cm planting holes are sufficient while in hard soils, 90x90cm holes are recommended.
- Planting should be carried out in such a way that the stock-scion union is about 4 - 6 inches above the ground level. Grafted points should never touch the ground at all.
- Spacing of 8mx8m is recommended giving a plant density of 62 plants per acre. Nevertheless, plant spacing may be adjusted depending on soil type, mango variety, and management systems to be adopted. For example, a narrower spacing may be adopted for sandy soils; and either when there is regular pruning or if chemical growth retardants are used.
- However, when spacing is manipulated, it should be limited to intra-row spacing to adjust plant density. It is always better to have 8 meters of inter-row spacing to facilitate orchard management practices when trees grow bigger.

Mango tree management

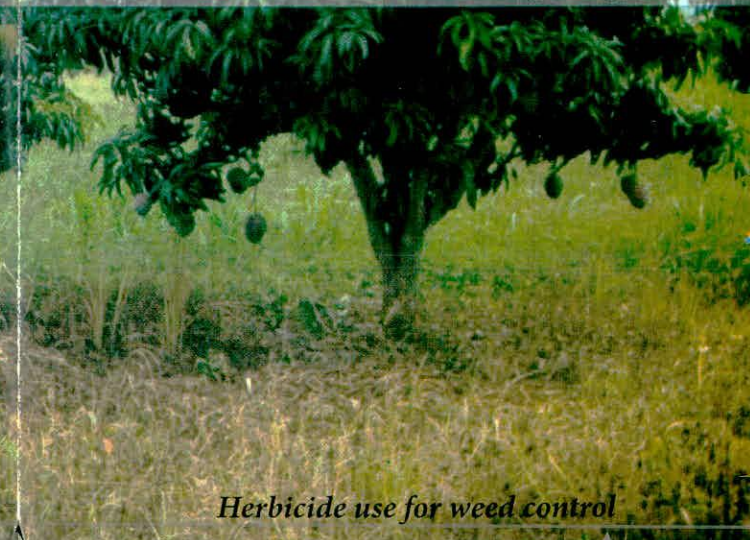
Yields of a mango tree are often very low when grown without proper management. Mango productivity depends on variety, management and the prevailing climate.

Weeding

- At the young stage of the mango trees, an intercrop can be planted to keep down the weeds. Lowly growing crops such as beans, ground nuts, and pumpkins can be used as intercrops to keep down weeds in the young crop.
- When the canopy increases, the shade certainly will increase and this will reduce the space for growing intercrops. In this case, a herbicide should be used to suppress weeds in the mango field. Intercropping ensures maximum land use and somewhat addresses the problem of land shortage.

Flushing

This refers to the emergence of new shoots on the terminals of old shoots. Major flushing takes place just after harvesting of fruits or a little later. Through flushing, leaves are produced to support fruit development in the following season.



Herbicide use for weed control