

MANGO IMPROVEMENT STRATEGY

Growing of mangoes for commercial purposes is widely taking roots in Kenya. However, the varieties which are being grown widely are limited to Ngowe, Apple, Kent, Tommy Atkins, Van Dyke, Haden and Sensation. Vegetative materials from the same trees are always being transferred and grafted from one place to another, putting the farmers at risk of relying on a narrow genetic base, transfer of diseases, pests and low certainty on performance of varieties in various ecological zones. In total there are over 70 potential commercial mango varieties in Kenya, but most of them have remained within the mother block plantations (conservation stands) in research institutes and prisons. There are possibilities of expanding the genetic diversity through raising of seedlings from the existing varieties, selection of intra-specific varieties and spontaneous hybrids in areas such as coastal region where mangoes have existed for centuries. There is also need for direct involvement in controlled crossing of trees with known traits for improvement.

Seedling raising: It is assumed that each seedling is likely to be a separate entity from the mother plant and other sibs, composed of certain traits which are unique. Some of such traits could be useful for commercial development and adaptation to the changing climatic conditions. This is likely to happen in areas such as Coast where most commercially planted mangoes have been raised from seedlings unlike in other areas where grafts are used. It is therefore important that planting of mangoes from seedlings are sustained to capture such diversity in taste, size, form and adaptability to climate.

Spontaneous hybrids: These hybrids are likely to occur in farms where various varieties have been planted adjacent to each other for many decades. Unless mangoes are deliberately raised from seedling, such occurrences might not be captured and developed for commercial purposes.

Controlled crossing: This offers the long term improvement strategy such that trees with known qualitative traits can be combined to produce new varieties with superior characteristics. Such crossings will cater for factors such as drought tolerance, susceptibility to diseases and preferences to fresh consumers and industries both in taste, aroma, juiciness, storability and other traits.

Variety testing for ecological conditions

In all areas where commercial varieties of mangoes are grown in Kenya, it is not easy to relate varieties with ecological conditions. The planting of mango varieties are mostly driven by access to seedlings, economic reports, social status and pest/disease tolerance. Only local varieties that have been grown for many years can be related to certain ecological conditions and that make them the most suitable materials as rootstock for grafting improved mangoes. People usually visit the nearest propagation centers and ask for grafted mangoes. Rarely are farmers guided by the data on adaptation of varieties to defined ecological conditions.