Postharvest treatment

The following can retard or reduce symptom development:

• Refrigeration10°C without chilling the unripe fruits as that may cause injury

• Hot water dipping at 50 to 55°C for 15 minutes or hot dry air can be applied for 3 -6 hours. This varies with varieties.

• Application of heated fungicide dips

Figure 37: Fruits affected by anthracnose

Figure 38: Panicle attacked by anthracnose

Mbeere

Survey in mango farms was done in Kamurugu area (00° 44 S; 37° 39'E) at elevation of 1120 m, Gitaru Dam (00° 46' S; 37° 43' E) at elevation of 956 m and Karurumo –Ishiara (00° 28' S; 37° 41'E) at elevation of 1223 m. Mango farming in the area is typically commercial with farms ranging from one to 35 hectares. The widely grown varieties are Apple, Kent, Ngowe, Tommy Atkins, Van Dyke and Haden. In Karurumo some farmers have grown a few trees of Keitt and Gesine. Complete inventories of the most widely grown varieties are given in Table 1 as was summarized by ABD (2011).

The most common challenges facing farmers were limited varieties, diseases and pests. The most widespread diseases were powdery mildew and black spot. Apple mangoes also require spraying against rust. The pests of most economic importance were fruit fly, mango weevil and mango gall flies. The galls swell, deform and perforate the leaves before they fall-off thus reducing photosynthetic potential of the plant. The diseases and pests increase farmers' in-put costs as they require frequent spray which at times complicates their marketing potential due to chemical residue level settings for external market.

There are two channels for mango marketing, namely local and export market. The local market attracts local vendors who transport fruits to accessible urban centers. This market has not set high sanitary standards and most farmers can access it. However, this market is highly affected by glut. Most mango varieties ripen within a short span of time. Long distance movement of mango away from the local market is also costly in terms of transport and loses due to fruit spoilage on transit. The fruits for external market are inspected for certain qualities which require more intensive management.

One of the major challenges noted in dry parts of Mbeere (Kamurugu) is the loss of trees through severe droughts. Some trees in the production age (8-10 years) were noted to dry up following long dry spell.

Makueni County

In Makueni survey was conducted in Kilome area (01 58 S; 37 20'E) at 1387 m, Makuyuni (01 45 S; 37 27' E) at 1388 m, Kawala (01 56 S; 37 34'E) at 1212 m and Masongareli (02 19S; 38 08'E) at 780 m. The widely grown varieties of mango are Apple and Ngowe. In Kilome, in addition to those two varieties, farmers have Haden, Kent, Sabine, Tommy Atkins, Van Dyke and Zill. However, there is higher market demand for apple followed by Ngowe. A summary of the varieties and their totals are given Table 1 as was summarized by ADB (2011). The two varieties are mainly purchased by large scale brokers that prepare them for export. Commercial farming of mango in Makueni also involves the use of fungicides and pesticide against powdery mildew, anthracnose, fruit fly mango weevil, mealy bugs, mango gall fly, respectively