BANANA

Musa spp.

Cultivar:

Dwarf : Jahaji (Dwarf Cavendish)

Medium tall : Chenichampa, Malbhog, Bar Jahaji

Tall : Pura Kal (KachKal), Manohar, Jati, Bhimkal

Soil:

Well drained friable loam soil with adequate organic matter is ideal

Propagation:

It is propagated by sword suckers. Select healthy sword suckers and uproot with corm. Trim all the roots without damaging the buds. Give a slanting cut to the pseudo stem 30 cm above the base of the sucker. Weight of such planting materials should be around 1.5 kg to 2.0 kg. Old tissue culture hardened plants (Dwarf Cavendish) of 45-60 days can also be used as planting materials.

Planting:

Planting is generally done in pits. Double planting (2 plants/pit) with a spacing of 1.8 m x 1.8 m for Jahaji gives higher yield.

For High density planting, 3 suckers per pit at 2 m x 3 m (5001 plants/ha) spacing should be planted. Pits should be filled up with 18 kg FYM along with top soil. Planting should be done 30 cm apart in the pit.

Size of Pit: 45 cm x 45 cm x 45 cm and 1 m^3 for high density planting

Spacing: Dwarf cultivars: 1.8 m x 1.8 m

Dwarf cultivars: 1.4 x 1.4 m (without ratooning)

Medium tall cultivars: 2.1 m x 2.1 m

Tall cultivars: 2.4 m x 2.4m

High density planting:

Jahaji: 1.0 m x 1.2 m x 2.0 m (6250 plants/ha)

Bar Jahaji: 1.2 m x 1.8 m (4629 plants/ha)

Malbhog: 1.0 m x 1.2 m x 2.0 m (6250 plants/ha)

Time of planting: March – May

Manure and Fertilizer:

1. 12 kg FYM/plant, 110 g N/plant, 33 g P_2O_5/plant and 330 g K_2O/plant FYM should be applied in the pits at planting time and full amount of P_2O_5 at 3rdmonth after planting.

Apply nitrogen and potassium of 100% RDF in splits as 22:49.5, 33:82.5, 33:99 and 22:99 g per plant at 3rd, 5th, 7th, 9th month after planting.

2. For Integrated Nutrient Management of banana, 12 kg FYM/plant, 55 g N/ plant, 33 g P_2O_5/plant, 330 g K_2O/plant and 25g each of *Azospirillium* and Phosphate Soluble Bacteria (PSB) per plant should be applied.

3. For High Density Planting, 18 kg FYM, 165 g N, 50 g P_2O_5, and 495 g K_2O should be applied for 3 plants in each pit.

In the case of Jahaji, K_2O may be increased up to 550 g/plant. In case of Barjahaji 200 g N/plant in three splits (3rd month, 5th month and shooting stage) should be applied.

Soil application of different micronutrient mixture of B (6 g), Zn (9 g), Cu (6g) and Mo (1 g) per plant for Borjahaji is beneficial. Micronutrient mixture of B, Zn, Cu& Mo at the same rate for Chenichampa and B & Zn mixture for Jahaji increase the production.

Irrigation: 3 irrigations per month during dry periods

Drip cum fertigation:

1. Drip irrigation at 75% EpR during November to March can be applied for banana cultivar 'Barjahaji' with Benefit: Cost ratio of 5.72.
2. 75% recommended dose of N and K (82.5 g N and 247.5 g K) can be applied through drip.

Intercultural:

De suckering: Remove all the suckers till shooting and allow only one sword sucker after shooting to set as a ratoon crop.

Weeding: Remove weeds as and when required. Gramoxone @ 1.5 kg/ha should be applied to check weed growth.

Grow one crop of cowpea and incorporate it in soil followed by hand weeding at 30 days interval up to shooting stage.

Crop Cycle:

In a banana plantation one main crop followed by 2 ratoons should be allowed. However, in Kachkol, 5 ratoons can be taken.

For high density planting, after harvesting of the main crop, new plantation should be done in between the rows. Preparation of the pits for planting should be done before harvesting of the main crop.

Plant Protection:

1. **Corm borer** and **Nematodes:** Healthy corms free from nematodes should be selected as planting materials. In case of infected suckers, the infected portions should be scraped out with a sharp knife. In such corms, Fluensulfone 2 GR (Nimitz) granules should be applied @ 40 g per corm after dipping in mud slurry.

2. **Leaf & Fruit scarring beetle**: Cover the bunch with 17-GSM non-woven polypropylene bag at the time of emergence of inflorescence to protect the bunch from fruit scarring beetle. Remove the bag just before harvesting.Spray Thiamethoxam 25 WG @ 100 g/ha.
3. **Bunchy Top:** To check the spread of the disease, the aphid vector should be controlled by application of Oxydemeton-methyl 25 EC @ 0.05% g ai/ha against banana aphid. Imidacloprid 17.8SL @ 0.3ml/1 ltr of water.
4. **Panama disease** or **Banana wilt:** Soil drenching with 1.0% Bordeaux mixture or Azoxystrobin 23% SC @ 1ml/ltr or Trifloxystrobin 25% WP @ 1-1.5g/ ltr or water is effective.
5. **Sigatoka leaf spot:**Spraying of Azoxystrobin 23% SC @ 1ml/ltr or Trifloxystrobin 25% WP @ 1-1.5g/ ltr water at first appearance followed by 4 sprays at 30 days interval.

Harvesting:

The bunch is harvested when the ridges on the surface of the skin change from angular to round, i.e., after the attainment of ¾ full stage. The dwarf bananas become ready for harvest within 11 to 14 months after planting, while tall varieties require about 14 to 16 months to harvest.

Yield:

The yield of bananas depends on a number of factors such as variety, plant density, management practices etc. Tall varieties usually yield 15-20 t/ha. Dwarf varieties like Dwarf Cavendish yield 30-40 t/ha.

Benefit: Cost ratio: Main crop: 4.1

Ratoon crop: 6.5