

### Shaking or Brisking

Gentle shaking of branches to remove dried florets and excess moisture on inflorescence which could serve as hiding places of insect pests and favors growth of diseases.



## FRUIT MANAGEMENT

### Pest Management

- Conduct regular monitoring for presence of insect pests and diseases (Cecid fly, thrips, seed borer, fruit fly, anthracnose).



- Implement organic-based integrated pest management for pest(s) attacking fruits.

*Note: Apply only pesticides that are approved as organic by certifying authority(ies).*

### Fertilization and Irrigation

- Apply irrigation (when necessary) and organic foliar fertilizer to enhance fruit retention (32-35 DAFI) and development (45-55 DAFI).

- Irrigation should be stopped at least 1 month prior to harvest.

- Bag fruits with recommended bagging materials (old newspaper, brown paper bags, telephone directory) at 50-55 DAFI or earlier (42-50 DAFI) depending on the incidence of pest attacking the fruits.



### Fruit Harvesting and Postharvest Handling

1. Harvest fruit at right maturity stage (115-120 DAFI at dry months, 120-130 DAFI at wet season, or at least 75% sinkers using flotation method).

2. Use proper harvesting tools (harvesting pole, secateurs, plastic crates).

3. Provide ground cover in the area for fruit classification and packing. Do not allow the fruits to have contact with the ground/soil.

4. Fruits that fall to the ground during harvesting should be separated.

5. No animals should be allowed within the field packing area during harvest.

6. Smoking should not be allowed during harvesting and postharvest handling activities.

7. Workers with ailments and/or suffering from diseases should not be allowed to involve in harvesting and postharvest handling of mango.

8. Use only clean packaging materials. Organically produced fruits should not be mixed with those from non-organic farms.



### Farm Record Keeping

- Fertilizer and pesticides purchased and used.
- Nutrient and pest management applied.
- Farm operation/management activities.
- Farm operators/laborers involved in farm operations.

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# ORGANIC MANGO PRODUCTION





# GENERAL CONSIDERATIONS IN NATURAL/ ORGANIC MANGO PRODUCTION

## I. Site Selection



- Area must be suitable for growing mango with at least 3-4 months dry period.

- Preferably isolated or planted with trees along the perimeter to act as wind breaks and buffer zone from neighbouring orchards/conventional farms.

- Area should be away from mines, cemetery, dumping sites, poultry and livestock farms and other areas which are sources of biotic (e.g. bacteria) and abiotic (e.g. heavy metals) contaminants.

- Availability of clean water source.

- Well drained soil, high in organic matter and pH of 6-7.

- If the area was previously not under organic farming system, conversion period will be 3 years with farm records on field and farm history and present situation (crops, pest management, fertilization, animal husbandry).

## Soil and Nutrient Management

- Conduct soil analysis to determine soil status.

- Apply soil amendments which are only of organic source to improve soil fertility (liming, green manuring, organic compost / vermicast).



## Intercropping

- Intercrops with legumes such as cowpea and mungbean — to maintain soil biodiversity, suppress problem on weeds, conserve moisture and reduce soil erosion.

- Essential for the regeneration of nutrient-deficient soils and for providing needed protein, minerals, and vitamins to humans.

- Used as green manuring to enrich soil fertility and additional income.



## Tree Management

### Pruning

- Do sanitary pruning by removing dead, infested, overlapping branches to provide good light penetration, air circulation and reduce pest and disease inoculums.

- To have a desirable canopy shape, do a formative pruning by cutting uneven outside.



### Fertilization

- Trees should be applied with organic fertilizer to improve tree growth and vigour.

- Organic foliar fertilizer application is recommended especially during flushing stage to supplement needed nutrients.

## Pest Management

Reduce occurrence of pests through proper management and application of organic pesticides, cultural practices, like field sanitation.



*Note: Use of bio pesticides (Nimbecidine, neem seed extract, Azadirachtin, Hot Chili Powder).*

## Flower Management

### Flower Induction

- No flower induction using chemical/synthetic source.

- Indigenous practices like root pruning, cincturing treatment, mechanical stress, spraying of  $\text{Ca}_3(\text{PO}_4)_2$ , bone ash and wood vinegar (except smudging) to induce flower induction needs further verification.

*Note: Position paper for the use of ethylene as flower inducer for mango was submitted to concerned authority).*



## Pest Management

- Conduct regular monitoring for presence of insect-pests and diseases (Leafhoppers, Thrips, Flower beetles, Twig borer, Anthracnose).

Implement organic-based integrated pest management for pest(s) attacking flowers.



*Note: Apply only pesticides and control practices that are approved by the certifying authority(ies). Release of parasites / predators / attractants or pheromones dispense in traps must be properly monitored to prevent risk of ecological imbalance. This may be applied only in cases of high incidence of insect-pests to reduce population and infestation.*



## Fertilization and Irrigation

Apply irrigation when necessary (during dry months) especially at pre-anthesis to full bloom stage of flowering and organic foliar fertilizer (12 - 14 DAFI and 19-21 DAFI) to enhance flower development and fruit setting.