PACKAGE OF PRACTICES OF MANGO

Mango is considered as king of fruits. Andhra Pradesh is the second largest mango growing state in the country with an area of about 4.31 lakh hectares and annual production of 43.5 lakh metric tons. In Andhra Pradesh mango occupies 68 per cent of the total area under fruits. 24 % of the total production of mango in India is from Andhra Pradesh. The mango is grown extensively in Krishna, Vijayanagaram, Vishakapatnam, West and East Godavari, Kadapa, Warangal, Nalgonda, Adilabad, Medak and Rangareddy district.

Climate

Mango is well adapted to tropical climate. High humidity and cloudy weather at the time of flowering are not favourable as they affect pollination and fruit set and encourage diseases. Rains during flowering are detrimental to the crop.

Soils

Alluvial and sandyloams are ideal for mango cultivation. It can be grown even on lighter soils like chalkas and dubbas when properly manured. Alkaline and saline soils should be avoided. The most desirable soils for mango should be of medium texture, deep (2 to 2.5 m) well drained with low water table (below 180 cms in all seasons) and have a p^H range of 6.0 to 7.5. Mango cannot tolerate high soil salt content (not more than 0.05 %).

Manures and fertilizers

To improve the texture of soils, add adequate tank silt and FYM. Sowing of the green manure crop (20 kg sun hemp/10 kg diancha/acre) with the onset of monsoon Fertilizer and incorporating 45 days after sowing. The fertilizers schedule for mango for different ages is as follows

Age of the tree	**Nitrogen**	**Phosphorus**	**Potash**
	grams / tree		
First year	100	100	100
Second Year	200	200	200
Third Year	300	300	300
Forth Year	400	400	400
Fifth Year	500	500	500
Sixth Year	600	600	600
Seventh Year	700	700	700
Eight Year	800	800	800
Ninth Year	900	900	900
Tenth Year	1000	1000	1000

- Fertilizers should be applied through placement in circular trenches around the trunk. For the 10 years age and above trees the fertilizer should be applied at 1.5 m away from the trunk
- Manures and fertilizers should be generally done in the beginning of monsoon. Irrigation should be given after the application of fertilizers. Wherever irrigation is available it is advantageous to apply half of the recommended dose of fertilizers after fruit set.
- For the correction of micronutrient deficiency, spraying of $ZnSO_4$ 5 g , Boran 2 g and 10 g urea per liter of water is recommended at the onset of monsoon.
- Spraying of KNO_3 @ 10 g/l during November helps in opening of the flower bud and uniform flowering.

Pruning

Pruning to remove criss –cross branches may be done so that center of the tree is opened out and inner branches are exposed to sunlight. Pruning of the dried twigs and branches should be done with pruning saw during June-July. Pruning in mango encourages production of new shoots.

Intercultivation

Inter crops like vegetables, low growing field crops and fruits like Phalsa or Papaya can be profitably grown in alleys in young orchards. Red gram is not advisable as it is an alternative host to mealy bug. In old orchards shade tolerating crops like ginger, turmeric etc., can be taken.

Two ploughing in the inter spaces, once at the beginning and another at the end of the monsoon keep the orchard weed free and facilitate rain water percolation.

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Irrigation

Mango responds well to irrigation, particularly at fruit set and developmental phases. The young plants at bearing stage should be irrigated frequently.

- In bearing trees, for obtaining good flowering, irrigation must be stopped at least 2 months before flowering period. Stopping of irrigation creates stress and encourages flower bud formation.

- Irrigation should be given fruit set and thereafter at regular intervals during fruit development period, beginning from fruit set stage to full development stage.
- For better quality irrigation should be stopped 20-30 days before maturity/harvesting the crop.
- As far as possible irrigation should be give with drip system. Drip irrigation not only conservers water but also increases water use efficiency.
- For conservation of rain water, rows (in rectangular system of planting) should be along the contour in sloppy locations.

Fruit Drop

Fruit drop in mango occurs when the fruits are at pea stage of development. Moisture deficiency, nutrient deficiency and hormonal imbalance are the causes for the mango fruit drop. Fruit drop can be controlled by spraying 2,4 – D at 10 ppm or Naphthalene acetic acid (NAA) at 20 ppm twice at an interval of 15 days during the early stage (peanut stage) of fruit development.

Irregular Bearing

Irregular bearing in mango is due to imbalance in nutrient status of the plant. Balanced manuring and fertilizer application and irrigation will keep the tree healthy and vigorous and prevent the irregular bearing. Pruning of weak, dead criss cross shoots to open the canopy of the tree is suggested to regulate the bearing in old trees.

Top Working

Top working is done to replace the inferior seedling mango by know variety. The trees are beheaded upto 1.5 m height in August to September months i.e., after receding of heavy rainy. Allow 4-5 vigorous shoots to grow. Grafting on the shoots is done by veneer grafting on the shoots of pencil thickness. Once the graft is successful, remove the shoots arising from the seedling tree. Prune the new shoots to get more branches. The young shoots arising from grafts should be protected.

Harvesting and packing

Early harvest of fully developed but not matured fruit starts in April to catch the early Northern markets. However, the fruits harvested without reaching maturity will not ripen properly. Normal harvest commences when few "Patukayalu" or "Shakh" fall from the tree. In case of pickle mangoes, time of harvest is relatively more flexible and any time between stone hardening and attainment of physiological maturity. Harvesting the fruits with a long poll having

a net at the end (Gowka) or Dapoli harvester and lowering them gently on a gunny cushion minimizes the injuries. The minimum total soluble content for harvesting without sacrificing the quality is 9.0 in case of Banganpalli and 8.5 for Dashehari. For judging the maturity, fruit samples from various directions of the tree are taken and dropped in a bucket of water, the dipped fruits being indicative of correct maturity.

The fruits should be harvested with 7 cm stock and taken to the packhouse in plastic crates. Desapping of the fruits should be done by keeping the fruits in inverted position in the desapping nets for about 3-4 hours. Desapping of mango fruits prevent the sap injury on the fruits. After desapping the stock of the fruits are cut up to 1 cm. The desapped fruits are washed thoroughly in the running water to remove the dirt and other extraneous material. For export, the mango fruits are graded as per the international guidelines of the importing country. The fruits are then packed in the Corrugated fiber board baskets with stock end pointing upward to avoid injury to the fruits.