

ADVISORY FARMNOTE ON MANGO

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Pakistan is 4th largest mango producer of the World (0.8 million tons), after India (10.0 million tons), China (1.18 million tons) and Mexico (1.09 million tons). In term of research on mango, the leading countries are; USA (Florida), Australia, South Africa, Israel and Brazil. They lead all the leading producer countries in this aspect. SSHS keeps in touch with the latest research findings and recommends the following cultural practices to the mango grower during winter of any year.

- It is not necessary to stop irrigation water to mangoes for flower induction. It may on the contrary be damaging. Flowers occur by themselves if winter chill i.e., temperatures below 7.2°C occur for about 200 hours. We have 550 chill hours at Larkana, 200 at Badin and 100 at Karachi. With exception of coastal area, no water should be stopped for any length of time, in the whole Sindh and the Southern Punjab.
- Water stress causes earlier flowering, but fruit drop is too excessive throughout the fruit development stage and when there are dust storms in April or May, huge losses occur due to fruit drop and some times 50% crop comes down and is wasted forever.
- Stopping water causes additional stress in addition to winter chill. Early flowering does take place due to too much stress, but early flower are mostly males and they do not set fruit.
- Delaying flowers will ensure large number of female flowers and better fruit set. Late flowers have twice the number of perfect flowers as compared to early flowers and thus good yield is ensured.
- Flowering occurs between mean temperatures of 12°-17°C. Fruit set occurs after pollination, which takes place when temperatures rise above 17°C. If cold spell continues too long as in February and March 1998, fruit set is affected badly, but you can't do any thing about it. Orchards can be heated as is done in advanced countries, but it will be un-economical under our conditions.
- Later flowers have less incidence of malformation and yield is improved.
- Mango flower hoppers have been problem since the past few years. They would need 2-3 weekly sprays, if crop is to be saved.

- Trunk, branches, twigs and leaves lose starch, nitrogen and potash severely, during flowering, fruit set and fruit development. The best time to apply nitrogenous fertilisers will be; 1/3rd of total dose at full bloom in February and another 1/3rd can be applied within 2-4 weeks of harvest so that tree can have post-harvest flush quick enough to produce new crop on that growth. Potash can be applied in a single dose in February or in two doses in February and March with nitrogen and phosphate in November or December. Phosphates helps in root growth and active root growth occurs from October to January. Half kg urea or one kg Am-nitrate three times a year in these months and one kg potassium chloride twice a year along with first two doses of nitrogen, would meet annual requirements of a tree.
- Major mango flower diseases are anthracnose and mildew. Anthracnose could be controlled by monthly sprays from January to end September. It worsens after spring rains when fortnightly or even weekly sprays may be needed. These could be combined with insect and hopper control sprays.
- Insecticides reduce the number of pollinating insects of mango. A compromise is to be made between controlling insects and promoting pollination.
- Mango mildew is fully established in Sindh. It appears when temperatures reach 24°C and is killed at 28°C. These temperatures may last for a week or continue for three weeks. Fungicides have to be sprayed during the whole period at weekly intervals.
- New mango hybrids have been developed in India, South Africa, Brazil, USA and Israel. They are better than ours and are high yielders. SSHS (Sindh Society for Horticulture Science) will import some of promising cultivars. Those covered by patent rights can only be distributed under licence and agreements.
- Biennial varieties need special techniques to be used in February and March to make them regular. We will publish guide-lines on them.
- Farmers in future will not make money from 25-35 mango trees per acre. It has to be minimum 70-80 plants per acre. Some varieties can be 300-400 trees/acre. It needs special tree training and tree maintenance methods for high density planting. SSHS can provide training.
- Orchardists are getting only 50% money from mango contractors. They have to learn to pick, pack and market themselves. SSHS is registering suppliers of cartons, wrapping paper, labour for harvest, packing and honest fruit agents. This will help all fruit growers.

NOTE:

- * This farmnote supersedes all previous recommendations of the Agriculture Extension, as they are out-dated, obsolete and un-scientific.
- * February Newsletter will include advisory farmnote “Fruit Set in Harvest and Marketing of Mango”.