Agri Articles
(e-Magazine for Agricultural Articles)
Volume: 05, Issue: 06 (NOV-DEC, 2025)
Available online at http://www.agriarticles.com
©Agri Articles, ISSN: 2582-9882

Physiological Disorders of Mango and Their Management

*J. Vijay
Ph.D., Department of FLA, College of Horticulture, Nauni, Dr YS Parmar University of Horticulture & Forestry, Solan, Himachal Pradesh-173230, India
*Corresponding Author's email: jvijaykr@gmail.com

Black tip

Causes

- Coal fumes of brick kilns containing sulphur dioxide, ethylene and carbon monoxide are observed to be responsible for *black tip*.
- The damage has been noticed in the mango orchards located up to 200 metres of distance from brick kiln.
- It is characterised by depressed spots of yellowing tissues at the distal end of the fruit, which gradually increase in size, become brown and finally black.

Management

- The preventive measure is to have orchards 1.5km to the east and west and 0.75km to the north and south away from the kilns.
- Spraying of 2% sodium carbonate or 0.6% borax is recommended as control measure.

Spongy tissue

Causes

- A non edible sour patch developed in the mesocarp of mango fruit is broadly termed *spongy tissue*.
- The malady has been reported only in Alphonso.
- The peculiarity of this malady is that external symptoms of the fruit affected by spongy tissue are not apparent at the time of picking or at the ripe stage. These can be detected only on cutting the ripe fruit.
- This malady renders the fruit unfit for human consumption.
- It is a physiological disorder in which fruit pulp remains unripe because of unhydrolyzed starch due to physiological and biochemical disturbances caused by heat in mature fruit at pre-and post-harvest stages.

Management

- The use of wind-breaks for protecting the orchard from warm air during May, and use of proper precautions at post-harvest stage checks the disorder.

Mango Malformation

Causes

- Depending on the plant part affected, two categories of the malformation, vegetative and floral, have been recognized.
- In vegetative malformation, the vegetative buds in the leaf axils or at the apical meristem of the younger plants, on activation, develop abnormally as compact rosette-like shootlets, bearing tiny leaf rudiments. Many such shoots may arise to form a bunch, hence it is also sometimes known as bunchy top. The problem is not serious in the grown-

up trees. The affected new shoots on the old trees, however, become thick, stunted, and develop a whorl of small leaves.

- Floral malformation, in contrast, is very virulent and can cause the loss of the entire crop. It affects the fruit production directly by converting the panicle to a barren one. Floral malformation exhibits all sorts of symptoms, but any deviation of a part of the panicle, or all the parts of a panicle, from the normal to abnormal should be considered as a symptom of this malady. In severe form, the affected panicle, appears like a compact mass, being more green and sturdy. It bends down due to its own weight.

Management

- It is found that the application of 200 ppm NAA during the first week of October as spray resulted in considerable reduction of floral malformation.
- Early deblossoming, combined with NAA spray during October, may reduce the extent of malformation considerably.

Fruit drop

Causes

- In mango, there is a heavy drop of hermaphrodite flowers and young fruits amounting to 99% or more.
- In general, in mango 0.1% or less hermaphrodite flowers develop fruits to maturity.
- The maximum drop of fruits in ‘Langra’ and ‘Dashehari’ takes place in the first three weeks of April and differs significantly from the drops in the following weeks.
- Fruit drop is to some extent associated with the variety, as the variety ‘Langra’ is more prone to fruit drop than ‘Dashehari’.

Management

- Single spray of NAA or 2,4-D each at 20 ppm or Alar 100 ppm at pea stage of fruit gives promising results.