

INTEGRATED MANAGEMENT OF MANGO MEALYBUG



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Mango is cultivated over an area of 7987 ha with production of 137281 metric tonnes in Punjab. Mango mealybug, *Drosicha mangiferae* is an important insect pest of mango. Earlier it was considered as pest in central India, Uttar Pradesh and Bihar only, but now it is widespread in northern states of India. Besides mango, it also feeds on *ber*, citrus, *phalsa*, fig, grapevine, guava, *jamun*, litchi, mulberry, peach, plum and pomegranate and on many ornamental plants, particularly *Alstonia scholaris* (*Satpatia*). There is only one generation of this pest during the year. The gravid females crawl down the trees during end May and enter the soil about 8-15 cm deep for egg laying. The female bugs excrete whitish foam (**Fig. 1**) in which she deposit about 400-500 eggs within 7 to 16 days and dies soon after oviposition. The eggs remain in diapause from end May to December and start hatching in early December which continues till January. Just after hatching, the minute newly hatched pink to brown coloured nymphs (**Fig. 2**) crawl up the tree. There are three nymphal instars. First instar nymphs are found from January to third week of March. Third instar females are found from March to middle of April. The nymphs and adult females (**Fig. 3 and 4**) are flat, oval, waxy-whitish insects which are sometimes mistaken as fungal growth. Adult females are wingless whereas males (**Fig. 5**) are crimson red coloured bugs with two dark brownish black wings. Total life cycle ranges between 67-119 days in case of males and 77-135 days in case of females.

DAMAGE

Young nymphs and adult females suck the sap from twigs, leaves, flowers and fruit from January to June. After hatching, the nymphs start crawling up the tree trunks and suck the cell sap from young shoots, twigs and fruits in clusters. The attacked twigs get dried from tip downwards (**Fig. 6**). Mealybugs are very active on bright sunny days. Adults and nymphs feed produce honeydew on which sooty mould grows and makes the leaves black and sticky. This lowers the strength of tree as well as production of fruits. The young fruits also become juiceless and drop-off prematurely. During heavy attack, the whole tree look blackish in colour and tree retain absolutely no fruit. Males are harmless.

MANAGEMENT

1. Dig or plough the soil under tree canopy during summer to kill the eggs by exposing them to predators and high temperatures.
2. Remove the weeds in the orchard in December–January, especially under tree canopy.
3. To prevent the nymphs from climbing the trees, put slippery band (**Fig. 7**) around the trunk by mid December. Slippery band is 15-20 cm wide sheet of alkathene and is applied 3 feet above the ground by securing both upper and lower edges with 1-3 nails. The lower end of the band should be covered with compact soil so as to prevent the nymphs from climbing up the tree trunk underside the band. Clean the alkathene sheet with moist cloth occasionally to keep it smooth and slippery.
4. Cut any branches that touch the ground or that are touching any nearby plants/trees.



Fig. 1: Eggs in whitish foam



Fig. 2: Newly hatched nymphs



Fig. 3: Adult females



Fig. 4: High population of females on mango trunk



Fig. 5: Adult male



Fig. 6: Dried twig due to sap sucking by female



Fig. 7: Slippery band around tree trunk