

TEA MOSQUITO—A SERIOUS MENACE TO CASHEW

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Though a hardy tree, cashew (*Anacardium occidentale* L.) is subject to the attack of a surprisingly large number of insect pests. No part of the tree is spared by insect pests. The tissue borer grubs of the longicorn beetle tunnel into the internal tissues of trunk and roots and kill the tree outright; the tea mosquito causes damage to tender shoots, flower bunches, tender nuts, and apples; the nut crinkler bugs attack and shrivel the immature nuts; the flower thrips produce scabs on developing nuts resulting in immature fruit drop; the apple and nut borer tunnels into tender nuts and apples; the leaf miner, leaf webber, leaf beetles and weevils damage the tender leaves; the shoot tip caterpillar nibbles the buds and bores into the terminal shoot, and the hairy caterpillars defoliate the trees.

Of the above mentioned pests, the capsid (mirid) bug, *Helopeltis antonii* sign., commonly known as "tea mosquito" is the major enemy of cashew in view of the heavy economic loss it causes to the crop. Both the adults and immature stages of the bug damage tender shoots, leaves, floral branches, tender apples, and developing nuts by sucking up plant sap. The injury made by the suctorial mouth parts of the insect on tender shoots results in exudation of a resinous gummy substance which on exposure to atmospheric air gets hardened. Within a short time the tissues around the point of entry of mouth parts of the insect, develop necrotic patches which later turn to brown and then black lesions. This is probably due to the action of some toxic principles present in the saliva of the insect, injected into the plant tissues while sucking up plant sap. The adjacent lesions coalesce and finally the tender shoot dries up. Infestation of tea mosquito on tender leaves results in crinkling or distortion and drying of leaves. In severe cases of infestation, particularly at the time of emergence of new flushes the new shoots and leaves dry up and the infested trees thus present a scorched appearance.

Quite often tea mosquito infestation on floral branches assumes severe proportions resulting in 'blossom blight' which accounts for heavy loss in yield of cashew trees. The infested floral branches develop brown scabs or lesions, which deepen further, coalesce with the adjacent ones, and finally the entire flower bunch dries up. Immature nuts infested by tea mosquito show circular depressions and in majority

of cases the infestation will result in shrivelling and drying of nuts. Such nuts are characterised by the presence of eruptive spots on them. Pest infestation in early stages of fruit-setting and development of nuts results in immature fruit drop also.

Tea mosquito is widely distributed besides cashew on a large number of host plants, viz. tea, guava, cacao, mahogany, cinchona, apple, grapes, neem, etc. Even though adequate data on the exact extent of crop losses caused by this pest in cashew are lacking, a recent observation revealed that its incidence is very high in most of the cashew plantations in the West Coast tracts of Kerala, Karnataka, Goa and Maharashtra.



Tea Mosquito

Large number of cashew trees with dried up leaves and shoots, blighted inflorescence and shrivelled nuts are a common sight in these areas. In the East Coast however this pest is not a serious problem.

The adult bug is reddish brown in colour with a black head, red thorax and black and white abdomen. The thorax is provided with a knobbed process on the dorsal surface. Tea mosquito lays eggs deeply inserted into the soft tissues of tender shoots, leaf axils, floral branches, etc. Presence of fine thread-like chorionic processes projecting outside the tissues indicates the occurrence of eggs inside. The eggs hatch out into small, orange-coloured ant-like nymphs in about 6-7



Flower Bunches: (L - R) Healthy, Partially infested and Fully infested

days. The nymphal stage comprising 5 instars is completed in 10 days. Thus the total life cycle from egg to adult works out at 16-17 days under the West Coast conditions. The build-up of tea mosquito population in the field commences with the onset of bright weather after the South West monsoon in October synchronising with the emergence of new flushes in cashew. The pest population is at its peak by mid-January when the trees are in full blossom. The adults as well as the immature stages of tea mosquito will be very active up to May and it is during this period that they cause considerable crop loss. The fact that adults and nymphal stages are capable of inflicting injury to different parts of the tree enhances the destructive potential of the pest.

Field control trials have shown that 0.05% endosulfan applied as high volume sprays, at the time of emergence of new shoots and inflorescences is effective in checking tea-mosquito infestation. The drying of tender shoots and flower bunches primarily caused by tea mosquito infestation. As such, adoption of suitable plant protection measures, before the insect has already done injury, is very important. The first spraying has to be done in October to correspond to the emergence of new flushes and the second one in December-January to synchronise with the emergence of flower bunches. A third spraying at the time of fruit-setting will be beneficial in reducing immature fruit-drop. Cost of the insecticide required for spraying one tree works out at 20 p @ 3 to 4 litres spray fluid per tree. ○



Tea Mosquito infested Tendernut with Eruptive Spots

Infested Flower Bunch with shrivelled Nut