Non chemical management practices

- Harvest mature fruits much earlier than usual. This means, before they are fully ripe
- Orchard sanitation which involves removing debris like fallen fruits and burying them
- Ploughing orchard after fruit harvest to expose hibernating adults
- Undertake general cleanliness and destruction of the weevils on the bark during August if the trees are few, bag the fruits with cloth or try paper bags for protection
- The infested bark should be washed with kerosene emulsion
- Sticky bands should be applied at the upper end of the tree trunk to prevent the migration of weevils to branches for egg laying on fruits during February
- Clean junctions of branches on trunk prior to flowering (October) to disturb the resting weevils
- Keep the tree basins clean to prevent the hiding of adult weevils
- Vapour heat treatment of fruit for specified period at 46°C for 280 minutes kills the weevil inside the stone

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Organic management practices for mango nut weevil

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Introduction

Mango nut weevil: *Sternochetus mangiferae* **(Curculionidae: Coleoptera)**

Mango nut weevil also called mango stone weevil/seed weevil is a major pest in south India and northeastern India. This species is distributed in nearly all of the world's mango-growing regions. Sweet variety fruits are more liked by stone weevil. It is monophagous (feeds only on mango) and is considered most serious pest of mango. It affects the foreign exports and germination of the nuts and this pest is of quarantine importance.

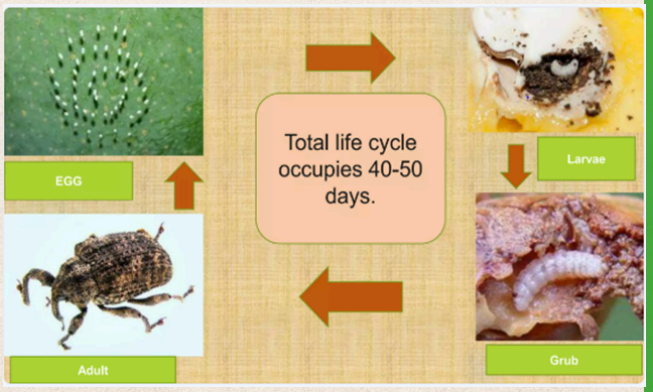
Identification characters

Adult weevil is about 6-8 mm in length, greyish brown in colour and stoutly built. Antennae are 10 segmented and elytra are convex. Adult is dark brown with a short snout. A full grown grub is legless, fleshly and yellow with dark head.

Life cycle or biology

The mother weevil selects a place on the developing fruit, makes a boat or crescent shaped shallow depression by scooping and then lays a single egg and covers it with a transparent liquid secretion. Single female lays about 15 eggs singly. The egg hatches within a week. Grub is white, thick, fleshy and legless. Inside the stone it feeds on the cotyledon, moults 5 times in about 5 weeks and pupates inside the stone. As a fruit develops, the tunnel gets healed up. The adult emerges in about 7 days within the stone and feeds on developing seed. This hastens the maturity of infested fruit. Life cycle is completed in 40-50 days and only one generation is completed in a year.

Biology/life cycle



Nature of damage and symptoms

The mother weevil selects a place on the developing fruit, makes a boat or crescent shaped shallow depression by scooping and then lays a single egg and covers it with a transparent liquid secretion. The newly hatched grub immediately tunnels in a zig-zag manner through pulp, endocarp and seed coat until it reaches cotyledons and the seed coat hardens afterwards. Inside the stone it feeds on the cotyledon and pupates inside the stone. As a fruit develops, the tunnel gets healed up.

Symptoms:

·Ovipositional injuries and eggs on marble sized fruits
·Tunneled cotyledons
·Fruit drop at marble stage
·'T' shaped marking on marble sized mango fruits
·Adult weevil feed on mango leaves, tender shoots or flower buds

Damage symptoms