

BORERS

1. Stem weevil, *Pempherulus affinis*, Curculionidae, Coleoptera

Symptom of attack: Swellings of stem at the point of attack (collar region) and the plant break off from this point, when heavy winds blow.

Nature of damage: Adults feed on the bark while the young grub cuts through medullary rays, tunnels round the stem along the cambium and feed on the soft portion.

Egg : White, globular, oval eggs are laid in cavities scooped in tender nodes. The cavities are sealed with a gummy secretion.

Grub : White, apodous.

Pupa : Exarate, pupates in a pupal chamber within the stem.

Adult : Brownish weevil, 3 mm long, with two small white patches on the elytra.

2. Shoot weevil, *Alcidodes affaber*, Curculionidae, Coleoptera

Symptom of attack: Galls in the stem and petiole, defoliation.

Nature of damage: Grubs bore into stem and petiole causing gall like swelling. Adults feed on leaves, buds and tender terminal shoots.

Egg: Eggs are laid singly in the tissue.

Grub: Creamy yellow, apodous.

Pupa: Pupation inside the stem.

Adult: Dark greyish brown with pale cross bands on elytra. It is bigger than stem weevil.

3. Surface weevil, *Atactogaster finitimus*, Curculionidae, Coleoptera

Symptom of attack: Severing of seedlings

Nature of damage: Adults cut the stem of seedlings at the time of germination under rainfed condition in the black soil tract of Tirunelveli district.

Adult : Large blackish grey weevil.

4. Stem borer, *Sphenoptera gossypii*, Buprestidae, Coleoptera

Symptom of attack :Stem tunneled, stem swollen at the base and dries up.

Nature of damage : The grub burrows into the stem feeding on the internal tissues.

Egg : Laid singly on the bark of the tender stem near the ground level or half way between the base and the crown of the plant.

Grub : Grubs are 2.5 cm long.

Pupa : Pupates within the larval gallery.

Adult : Shinning, coppery brown beetle , 8mm long.