

Pests of Sugarcane

1. Early shoot borer (*Chilo infuscatellus*)



Damage symptoms

- Dead heart in 1-3 month old crop, which can be easily pulled out, rotten portion of the straw colored dead-heart, emits an offensive odour.
- Rotten portion of the straw-coloured shoot emits an offensive odour.
- A number of bore holes at the base of the shoot just above the ground level can be seen. It is major pest in the early stage of the crop.

ETL: 15% dead heart.

Management

- Grow resistant varieties: CO 312, CO 421, CO 661, CO 917 and CO 853.
- Planting in December – January escapes the incidence
- Release parasitoid: *Sturmiopsis inferens* @ 125 gravid females.
- Apply any one of the following insecticides if the pest crosses ETL.
- Carbaryl + Sevidol 4% G 12.5 kg, Carbofuron 3G 33 kg (Soil application). The granular application should be immediately followed by irrigation.
- Chlorpyrifos 1000 ml a sticker like Teepol (250 ml / 500 l of water) can also be added to make the solution stick on to the surface of the crop and it is preferable to use high volume sprayer to be most effective.

2. Internode borer: *Chilo sacchariphagus indicus*



Host range: Pearl millet, rice and sorghum

Damage symptoms

- Caterpillars attack sugarcane plants after 3 months of planting.
- Internodes constricted and shortened, with a number of boreholes
- Boreholes are plugged with fresh excreta in the nodal region.
- Frass materials are present on the affected portion

Management

- Use resistant varieties like CO 975, COJ 46 and CO 7304.
- Collect and destroy the eggs periodically
- Release egg parasitoid, *Trichogramma chilonis* at the rate of @ 2.5 cc / release / ha. Six release at fortnightly intervals starting from 4th month onwards.

3. Top borer: *Scirpophaga excerptalis*



Host range: Millets and other grasses

Damage symptoms

- Dead heart in grown up canes, which cannot be easily pulled.
- Larva bore into unfolded leaves and shows parallel row of shot holes in the emerging leaves.
- Bore holes at the top of the shoot and shows bunchy top appearance.

Management

- Use resistant variety CO 419, CO 745 and CO 6516 and tolerant varieties Co 859, Co 1158 and Co 7224.
- Small earthing up followed by trash mulching
- Collection of egg masses on campaign basis once in 4 days initiating the collection from the day of moth emergence
- Application of Carbofuran 3G 1 kg a.i/ha or Thimet 10G 3 kg a.i/ha ten days before the commencement of 3rd brood in sub-tropical India

4. Whitegrub: *Holotrichia consanguinea*



Host range: Sorghum, maize, pearl millet, chillies, bhendi and brinjal

Damage symptoms

- Yellowing and wilting of leaves.
- Drying of entire crown.
- Affected canes come off easily when pulled.
- Cause extensive damage to root and base of shoot.
- Affected canes shows lodging in the field.

Management

- Grow resistant cultivars like Co 6304, Co 1158, Co 5510
- Set up light trap to attract and destroy the adults
- Apply *Beauveria brongniortii* @ 2.5 kg/ha (1×10^9 cfu/g) entopathogenic fungal formulation along with FYM at the time of planting in endemic regions.
- Collect and destroy the adult beetles – neem, Ailanthus and Acacia

5. Termites: *Odontotermes obesus*



Damage symptoms

- Characteristic semi- circular feeding marks on the margin of the leaves in the standing crop.
- Poor germination of setts (after planting)
- Causes yellowing and drying of outer leaves first followed by the inner leaves
- Entire shoot dries up and can be pulled out.

Management

- Flood irrigation at the time of planting because it stops termite attack due to excess moisture and the optimum moisture level will revive.
- Dip the setts in imidacloprid 70WS 0.1% or chlopyriphos 20 EC 0.04% for 5min.
- Treat the soil with lindane 1.6 D @ 50 kg / ha

6. Whiteflies: *Aleurolobus barodensis***Damage symptoms**

- Yellowing of leaves and later it shows pale in color
- Leaf turns pinkish or purple and later gradually dry.
- Infested leaves look white and black dots

Management

- Avoid water stagnation and provide proper drainage facilities
- Encourage predators viz., *Chilocorus nigritus*, *Scymnus nubilus*
- Spray Moncrothophos 36 SL 2 L /ha.
- Spray fenitrothion 50 EC @ 2 lit / ha (1000 lit spray fluid)
- Spray thiamethoxan 25 WG @ 125g/ha, 750 litres of spray fluid.

7. Leaf hopper/Sugarcane pyrilla: *Pyrilla perpusilla*



Host range: Sugarcane, wheat, barley, oats, maize, sorghum, baru, guinea grass and sudan grass

Damage symptoms

- It can cause severe damage when long spells of rainy or cloudy days are prevalent.
- As high nitrogen application favours multiplication, it is also referred to as richman's pest. Symptoms are yellow leaves, covered with black sooty mould; top leaves get dried up and lateral buds germinate.

Management

- Avoid excessive use of nitrogenous fertilizers
- Set up light trap
- Detrash on 150 and 210 DAP
- Release 4000-5000 cocoons or 4-6 lakhs egg of *Epiricania melanoleuca* (Lepidopteran predator) per ha
- Conserve predators viz., *Brumus suturalis*, *Chilomenes sexmaculatus* and *Coccinella septempunctata*
- Spray endosulfan 35 EC 2 L in 1000 L water/ ha

8. Mealybug: *Saccharicoccus sacchari*



Host range: Sugarcane, reeds and some grasses

Symptoms

- Pinkish oval insects beneath leaf sheath on the nodes, with whitish mealy coating.

- Sooty mould develops on the plant. Main cane stunted; roots also attacked.

Management

- Use resistant varieties: CO 439, CO 443, CO 720, CO 730 and CO 7704
- Spray methyl parathion 50 EC or malathion 50 EC 1000 ml 1000 L water

9. Scale insects: *Melanaspis glomerata*



Symptoms

- The leaves of infested canes show signs of tip drying and unhealthy pale green colour and severe infestation causes yellowing.
- Severe desapping leads to non-opening of leaves, which also turn yellow and finally dry up.
- Infested crop losses its vigour, canes shrivel, growth is stunted and the internodal length is reduced drastically.

Management

- Use resistant varieties like CoC 671, Co 8014, Co 6217, Co 1132, Co 611, Co 6907
- Presoak the setts in 0.1% malathion solution.
- Predators: *Chilocorus nigritus*, *Pharoscymnus horni*
- Spray dimethoate 30 EC or methyl demeton 25 EC 750 ml 1000 L water/ ha at 120 and 150 days after planting after detashing.

10. Sugarcane woolly aphid: *Ceratovacuna lanigera*



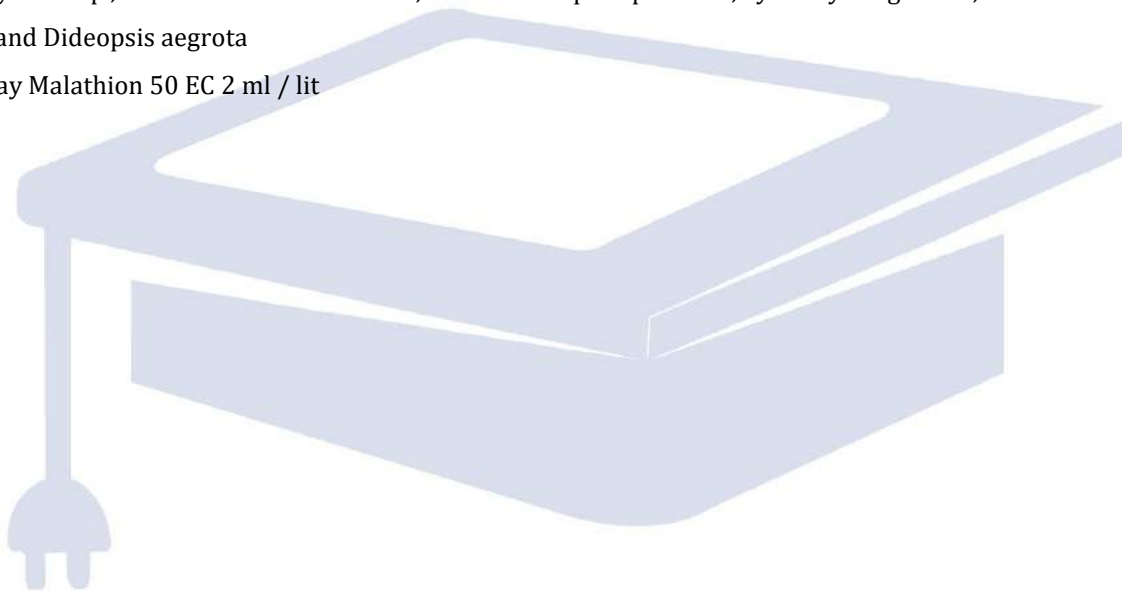


Damage symptoms

- Congregation of large number of white coloured nymphs and adults on the under surface of leaf.
- Yellowing and drying of leaves from the tip along the margins.
- Leaves become brittle and dries completely.
- Heavy secretion of honey dew leads to development of sooty mold.

Management

- Avoid excessive use of nitrogenous fertilizers.
- Encourage natural predators viz., *Diapha aphidivora*, *Ishchiodon scutellaris*, *Episyrphus baleatus*, *Chrysopa* sp., *Schymnus* sp., *Cheilomenes sexmaculata*, *Coccinella septempunctata*, *Synnonycha grandis*, *Brumus* sp. and *Dideopsis aegrota*
- Spray Malathion 50 EC 2 ml / lit



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