



Fact Sheet on Chilo Worm (*Chilo partellus*)

SUMMARY

The Chilo worm also known as the spotted stemborer attacks several grass species, both wild and cultivated (including maize, sorghum, pearl millet, rice and sugarcane). The larvae (caterpillars) eat through leaves when young and as they grow older, eventually bore into the stem causing it to break or die.

DESCRIPTION

Eggs

Are flat and oval (scale-like), creamy-white, about 0.8mm long, laid in overlapping batches of 10-80 eggs on the upper and underside leaf surfaces, mainly near the midribs.

Larvae

Spotted stem borer larvae (caterpillars) are creamy-white to yellowish-brown in colour, with four purple-brown longitudinal stripes and usually with very dark-brown spots along the back, which give the larvae a spotted appearance (hence the common name). When fully grown, the larva has a prominent reddish-brown head.

Pupae

Are up to 15 mm long, slender, shiny and light yellow-brown to dark red-brown in colour.

Adults

Are relatively small moths with wing lengths ranging from 7-17 mm and a wingspan of 20-25 mm. Forewings are brown-yellowish with darker scale patterns forming longitudinal stripes. In males, hind wings are a pale straw-colour, and in females, they are white.

LIFE CYCLE

Eggs are laid in batches on leaf surfaces, usually close to the midrib. They hatch after 4-10 days. Young caterpillars initially feed in the leaf whorl. Older caterpillars tunnel into stems, eating out extensively, within which they feed and grow for 2-3 weeks. When larvae are fully grown, they pupate and remain inside the maize stem. After 7-14 days adults emerge from pupae and come out of the stem. They mate and lay eggs on maize plants again and continue

damaging the crop. During the dry season, larvae may enter a state of suspended development (diapause) for several months and will only pupate with the onset of rains. Adults emerge from pupae in the late afternoon or early evening. They are active at night and rest on plants and plant debris during the day. They are rarely seen, during the day unless they are disturbed. The whole life cycle takes about 3-4 weeks, varying according to temperature and other factors. Five or more successive generations may develop in favourable conditions

PEST DESTRUCTIVE STAGE

Larvae (caterpillars) eat through leaves when young and as they grow older, eventually bore into the stem causing it to break (lodge) or die resulting in a condition called 'deadheart'.

HOST RANGE

The spotted stemborer attacks several grass species, both cultivated and wild.

Cultivated crop hosts include maize, sorghum, pearl millet, rice and sugarcane.

Wild hosts include many species of wild grasses such as Shamva grass

HOST LIFESTAGE AFFECTED

Vegetative stage or before harvest. Younger plants less than two months old are more often attacked than older plants.

HOST PLANT PART AFFECTED

Feeding by younger larvae takes place at the funnel leaves. Older larvae tunnel into the stem, and may also eat into the cob in older plants. Yield losses may exceed 20% on maize and 50% on sorghum.

DAMAGE SYMPTOMS

Damage occurs as a series of small holes in lines (pin holes) in younger leaves and/or patches of transparent leaf epidermis (window panes) in older leaves. Holes in stem caused by larvae tunnelling into the stem can result in broken stems or drying and eventual death of the growing point of the maize (deadheart).

PEST MANAGEMENT

Detection methods

Can be detected by walking through young crops looking for characteristic feeding marks on funnel leaves, the presence of dead hearts and holes in tunnelled stems.

Cultural practices

-Crop rotation with legumes like cowpeas and sugar bean can reduce spotted stem borer damage.

-Good crop hygiene through the destruction of maize residues by burning to get rid of the larvae and pupae within the stems, and early weeding and removal of volunteer crop plants prevents carry-over populations.

Chemical control

Chemical control can be achieved by applications of granules or dusts to the leaf funnel early in crop growth or full cover sprays to kill early larval instars. This method has limited effectiveness once the larvae bore into the stem.

Control chemicals:

Liquids- Karate 5EC, Bulldock 125 SC, Decis Forte, Fenvalerate, Ampilgo and

Granule- Bulldock 5GR, Combat, Cabaryl 85WP