International Journal of Agricultural Sciences
Volume 8 |Issue 1| January, 2012 | 297-300

A CASE STUDY

Spotted stem borer, *Chilo partellus* Swinhoe- a serious pest of sorghum

R.A. BALIKAI* AND G.M. SAJJANAR
Department of Agricultural Entomology, University of Agricultural Sciences, DHARWAD (KARNATAKA) INDIA

Abstract **:** Spotted stem borer, *Chilo partellus* Swinhoe infests the sorghum crop from second week till maturity. Initially, the larvae feed on the adaxial surface of the whorl leaves, leaving the lower surface intact as transparent windows. As the severity of the feeding increases, the plant becomes ragged in appearance. When the larvae damage the growing point, typical deadheart symptom develops in younger plants (the entire whorl dries up) and also pinholes on the whorl of newly opened leaves are seen. Subsequently, the older larvae leave the whorl and bore into the stem at the base resulting in extensive tunneling. Peduncle tunneling results either in its breakage or complete or partial chaffy panicles affecting grain development. Resistance screening, sources of resistance, status of released varieties/ hybrids, economic threshold levels, mechanisms of resistance and various management options are discussed in this paper.

Key Words **:** Spotted stem borer, *Chilo partellus,* Sorghum, Sources of resistance, Management

View Point Article **:** Balikai, R.A. and Sajjanar, G.M. (2012). Spotted stem borer, *Chilo partellus* (Swinhoe)- a serious pest of sorghum. *Internat. J. agric. Sci.*, **8**(1): 297-300.

Article History **: Received :** *06.07.2011;* **Accepted :** *18.10.2011*

Spotted stem borer, *Chilo partellus* Swinhoe (Synonym: *Chilo zonellus*) belongs to the family Pyralidae of order Lepidoptera. It is called by several common names *viz.*, spotted sorghum stem borer, spotted stem borer, maize stalk borer, spotted stalk borer, durra stalk borer and pink borer. It attacks mainly maize, sorghum, sugarcane, rice and finger millet. Several wild grasses act as alternative hosts for this pest.

Biology:

The straw-colored female moth lays nearly 400-500 flattened, overlapping yellowish eggs in masses of 10-100 on the abaxial leaf surface, usually near the midrib. The eggs hatch in 4 to 6 days. The larvae move to the leaf whorl and feed on tender leaves resulting in leaf-scarification and shot holes. Third-instar larvae move to the base of the plant and bore into the shoot. The larval period lasts for 19 to 27 days. Pupation occurs inside the stem, and the adult emerges in 7 to 10 days. During the dry season, the larvae undergo diapause and survive both in harvested stems and in the stubbles left unplowed in the field after harvest. As the favourable conditions prevail, the diapause is broken and pupation takes place, and the next generation continues (Sharma and Nwanze, 1997). Minimum temperature showed significant and negative correlation with stem borer leaf injury (Kandalkar *et al*., 2002)

Nature of damage:

It infests the crop from second week till maturity. Initially, the larvae feed on the adaxial surface of the whorl leaves, leaving the lower surface intact as transparent windows. As the severity of the feeding increases, the plant becomes ragged in appearance. When the larvae damage the growing point, typical deadheart symptom develops in younger plants (the entire whorl dries up) and also pinholes on the whorl of newly opened leaves are seen. Subsequently, the older larvae leave the whorl and bore into the stem at the base resulting in extensive tunneling. Peduncle tunneling results either in its breakage or complete or partial chaffy panicles affecting grain development.

Resistance screening techniques:

Several screening techniques have been developed to screen for resistance to the spotted stem borer such as

*** Author for correspondence.** Present Address : Regional Agricultural Research Station, BIJAPUR, (KARNATAKA) INDIA