

Major Insect Pest of Sorghum

(* Ankita Yadav¹, Narendra Deshwal², Mohd. Monish³ and Vijendra Kumar Verma⁴)

¹Ph.D. Scholar, Department of Entomology, SKRAU, Bikaner, Rajasthan (334006)

²Ph.D. Scholar, Department of Genetics and Plant Breeding, SKRAU, Bikaner (334006)

³Research Scholar, Department of Entomology, MPUAT, Udaipur (313001)

⁴Ph.D. Scholar, Department of Soil Science, IARI, New Delhi (110012)

*Corresponding Author's email: ankitaya705@gmail.com

About 30 insect species have been found attacking sorghum, but only 14 species are considered to be, or will probably be, of economic importance and are discussed in this report. The pests are presented according to the stage of crop growth when damage occurs

1. Shootfly: *Atherigona variatocata*

Marks of Identification (Egg)- white, cylindrical, distal somewhat flattened Adult - Whitish grey fly

Symptoms of damage- The maggot bores inside the stem and cuts the growing point. Central shoots dried and produce “dead heart” symptom. The infested plant produces side tillers.



Figure 1. Shoot fly

2. Stem borer: *Chilo partellus*

Identification of the pest (Larva) - Yellowish brown with a brown head and prothoracic shield. Adult - Moth is medium size, straw coloured.

Symptoms of damage Withering and drying of central shoot - “dead heart” Red mining in the midrib Bore holes visible on the stem near the nodes. Tender folded leaves have parallel “shot hole”



Figure 2. Stem borer

3. Pink stem borer: *Sesamia inferens*

Identification of the pest

Egg - Bead like laid in rows within the leaf sheath.

Larva - Pinkish brown with dark head.

Adult - Straw coloured moth with white wing

Symptoms of damage Central shoots dried and produce the dead hearts.



Figure 3. Pink stem borer

Management

<p>Cultural practices</p>	<p>1.Shootfly</p> <ul style="list-style-type: none"> • Take up early sowing of sorghum immediately after the receipt of South West or North East monsoon to minimise the shoot fly incidence. • Plough soon after harvest, remove and destroy the stubbles. <p>2.Stem borer</p> <ul style="list-style-type: none"> • Sowing the lab lab/cowpea as an intercrop to minimise stem borer damage (Sorghum: Lab lab /cowpea 4:1) • Set up of light traps till mid night to monitor, attract and kill adults of stem borer, grain midge and earhead caterpillars <p>3. Pink stem borer</p> <ul style="list-style-type: none"> • ETL: 2 / earhead • Set up of light traps till mid night to monitor, attract and kill adults of stem borer, grain midge and earhead caterpillars. • Set up sex pheromone traps at 12/ha to attract male moths of <i>Helicoverpa armigera</i> from flowering to grain hardening. Two applications of NPV at 10 days interval at 1.5 X1012 POB along with crude sugar 2.5 kg + cotton seed kernel powder 250 g on the earheads is effective in reducing the larval population of <i>Helicoverpa</i>.
<p>Chemical control</p>	<p>1.Shootfly</p> <ul style="list-style-type: none"> • Spray one of the following for an area of 120 m2 nursery • Methyl demeton 25 EC 12 ml/ha • Dimethoate 30 EC 12 ml/ha • Neem Seed Kernel extract 5% • Soil application of phorate 10 G 18 kg/ha or carbofuran @ 33.3¹¹kg/ha at the time of sowing <p>2.Stem borer</p> <ul style="list-style-type: none"> • Mix any one of the following insecticides with sand to make up a total quantity of 50 kg/ha and apply in the leaf whorls: • Phorate 10 G 8 kg/ha • Carbofuran 3 G 17 kg/ha • carbaryl 50 WP 1.00 kg/ha (500 l spray fluid/ ha) <p>3. Pink stem borer</p> <p>Apply any one of the following on 3rd and 18th day after panicle emergence Carbaryl 10 D 25 kg/ha, Malathion 5 D 25 kg/ha, Phosalone 4 D 25 kg/ha</p>

References

1. Meksongsee, B., & Chawanapong, M. (1984, July). Sorghum insect pests in South East Asia. In *Proceedings of the International Sorghum Entomology Workshop* (pp. 15-21).
2. Sharma, H. C., & Nwanze, K. F. (1997). Insect pests of sorghum: biology, extent of losses, and economic thresholds. *Plant resistance to insects in sorghum*, 9-23.
3. Young, W. R., & Teetes, G. L. (1977). Sorghum entomology. *Annual Review of Entomology*, 22(1), 193-218.