Research Paper :

Screening of sorghum genotypes resistance to earhed caterpillar

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SUMMARY

The present work was carried out to screen the sorghum genotypes against *Heliothis armigera* under field conditions. Fifteen sorghum genotypes were screened for their resistance to earhead caterpillar under field conditions. The genotypes having dense and compact earheads had highest incidence of earhead caterpillar followed by semicompact and loose earheads genotypes. The entries CSH-14 and SVD-9606 had lowest incidence of 0.45 and 0.52 larvae per earhead as well as lowest grain yield damage of 5.34% and 6.52%, respectively, were proved resistant genotypes. Whereas, CSH-5, CS-3541 and DSH-3 recorded highest number of 2.98, 2.92 and 2.85 larvae per earhead with grain damage of 44.70, 39.20 and 38.20 per cent, respectively were proved susceptible tendency.

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Sorghum [*Sorghum bicolor* (L.) Moench.] is an important cereal food crop of the world. Sorghum ranks fourth among the cereals next to wheat, rice and maize in the world. In India, sorghum ranks third in area and production after rice and wheat. Area under sorghum cultivation in the country has remained fairly stable. However, National Research Centre for Sorghum, Hyderabad projects a target of 21.7 million tones by 2020 A.D., which calls for raising the productivity (1200 kg/ha) close to global average.

One of the earliest records of earhead caterpillar occurring on sorghum was by Mally (1893), who observed larvae of *H. armigera* feeding on the milky and developing grains of sorghum. *H. armigera* is one of the most important earhead pests reported to cause as much as 37.11 per cent yield loss in sorghum (Kulkarni *et al.*, 1980).In recent years, research has provided increasing evidence that substantial yield advantages can be achieved from resistant varieties, which minimize the risk of complete crop failure and ensure greater stability in the crop yield under variable environmental conditions (Azam-Ali, 1995).

MATERIALS AND METHODS

Fifteen sorghum genotypes (compact, semi-compact and loose type of earheads) were selected for evaluating the relative susceptibility to earhead caterpillar, *H. armigera*. The entries were collected from the germplasm maintained at All India Co-ordinated Sorghum Improvement Project (AICSIP) Centre, University of Agricultural Sciences, Dharwad. Experiment was laid out in Randomized Block Design with two replications. The crop was sown on 8th July 2001 in five lines of 4 meter row length by following inter and intra row spacing of 45 cm and 15 cm, respectively. The list of entries for reaction of *H. armigera* are given in Table 1.

RESULTS AND DISCUSSION

The use of resistant varieties has been exploited as an effective method of pest control by itself and also can be integrated with other methods of pest management practices. Some varieties of different crop are found to be resistant or tolerant to particular insect pests. Growing of such varieties will help in