Research Paper :

Seasonal incidence of insect pests and their natural enemies on maize

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International Journal of Plant Protection, Vol. 4 No. 2 (October, 2011) : 402-405

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SUMMARY

The higher number of shoot fly eggs per leaf was noticed during the month of September, March and April (3.00 eggs/sq cm leaf area). The higher number of pin holes due to stem borer was noticed during the months of August and lower during the months of December and June. Similarly, maximum deadhearts due to stem borer were noticed during the month of July (62%) and minimum during the month of June, December and January (32%). The peak population of aphids was observed during the month of April, but least activity of aphids was recorded during the months of November and December. The peak activity of hairy caterpillar was noticed only during the August irrespective of different dates of sowing. Higher larval population of cobworm was noticed during April, while lower population was during June. Correspondingly, maximum damage by cobworm was during February and minimum damage was observed during June.

Biradar, S.R., Kotikal, Y.K. and Balikai, R.A. (2011). Seasonal incidence of insect pests and their natural enemies on maize. *Internat. J. Plant Protec.,* **4**(2): 402-405.

Key words : Seasonal incidence, Maize pests, Resistance, Susceptible

Received : *July, 2011*
Accepted : *September, 2011*

Maize (*Zea mays* L.) is one of the most important cereal crops in the world's agricultural economy both as a food and fodder crop. Maize grains are used for human consumption, as feed for poultry birds and livestock, for extraction of edible oil and also for starch and glucose industry. The countries with large maize growing areas include Argentina, Brazil, China, Hungary, India, Indonesia, Italy, Mexico, Philippines, South Africa, Rumania, United States and Yugoslavia. It was introduced to India from Central America in the beginning of seventeenth century. It is a miracle crop with very high yield potential. In India maize is grown over an area of 8.26 million ha with an annual production of about 19.31 million tonnes and an average productivity of about 1900 kg/ha.

Important maize growing states in India are Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra, Karnataka, Punjab, Rajasthan, and West Bengal. In Karnataka, maize occupies an area of 9.60 lakh ha with annual production of about 27.20 lakh tonnes and an average productivity of 2833 kg/ha (Anonymous, 2009). Presently, maize cultivation is gaining importance in Karnataka particularly in rainfed tracts of northern and southern transitional zones due to its increasing demand as animal feed and raw material for industry. Therefore, there is a need to explore the possibilities of increasing the productivity through better understanding of constraints in its production.

MATERIALS AND METHODS

Field experiment was conducted to seasonal incidence of insect pests and their natural enemies on maize at the Agricultural Research Station, Bagalkot. The crop was raised by staggered sowing at monthly interval over an area of 5 guntas in ARS, Bagalkot during 2008-09 to record the incidence of pests at fortnightly interval through out the year. On 15th day for shoot fly, 30th day for aphids, 45th day for stem borer,60th day for armyworm,75th day for cob worms and hairy caterpillars. Similarly, the natural enemies were also collected on maize pests, by confirming their feeding habit and host-range. Incidence of the stem borer, aphids, shoot fly, armyworm, cobworm and hairy caterpillar was recorded