Spectrum of Insect Pest Complex of Soybean (Glycine max (L.) Merrill) at Lambapeepal Village in Kota Region

Uttam Kumar, Pawan Kumar Sharma and Surabhi Shrivastava
Department of Zoology, Govt. College, Kota, Rajasthan, India

Abstract: The field studies were carried out for identification of various insect pests of soybean at Lambapeepal village agriculture farm in Kota region. Study of insect pest complex was done from July 2010 to October 2010 by direct visual counting method. The investigations reveal that maximum population of green semilooper was observed on vegetative stage of Glycine max while tobacco caterpillar was most frequent on flowering and pod stages. The order of frequency of pests at vegetative stage was green semilooper (1.2) > tobacco caterpillar (0.8) > grass hoppers (0.4) > girdle beetle and Heliothis sp. (0.2 each) > white fly (0.1). The order of frequency of pests of flowering stage was, tobacco caterpillar (3.25) > green semilooper, Heliothis sp. and grass hopper (0.8 each) > girdle beetle (0.6) > white fly (0.4) > Bihar hairy caterpillar (0.3) > pollen feeder (0.2) while the frequency order at pod stages was tobacco caterpillar (2.75) > Heliothis sp. and grasshoppers (0.8 each) > girdle beetle and hairy caterpillar (0.5 each) > pollen feeder (0.4) > white fly (0.2).

Key words: Glycine max, pest complex, direct visual counting, tobacco, beetle, India

INTRODUCTION

Soybean, Glycine max. (L.) Merrill was has been an important kharif crop in India. The most important products which are obtained from this crop are grains, oil, pulse, milk, curd, sweets, soya protein, neutrinsugget, soya sauce, etc. Soybean is also one of the important crops of Hadoti region. The farmers of Hadoti region are highly dependent on this crop as an immense source of economy. This crop is not so costly for poor who can easily use it as their economic source, food, etc. The waste product from this crop is also an important fodder for domestic animals. Its seeds contain on an average 43.2, 19.5 and 20.9% protein, fat and carbohydrate contents, respectively.

But, there are many problems in the cultivation of soybean in India as all stages of this crop are prone to heavy infestation by pest complexes (Gangrade, 1976).

MATERIALS AND METHODS

The present study was done in Lambapeepal of Kota region for insect pest complex of soybean in the year 2010. Ten plants at random were selected for the study of insect pest complex. Insect pests of different selected plants were counted through direct visual counting method. An aspirator was used for collecting, fast moving and flying insects. Population of different insect pests was recorded at weekly interval during morning hours between 7.00-8.30 a.m. without disturbing the pest fauna. The insect pest complexes were identified with the help of entomological taxonomic keys. The larvae which were not identified were cultured till their adulthood.

RESULTS AND DISCUSSION

In the present investigation, it was observed that soybean crop was heavily attacked by a variety of insect pests throughout its growth stages. Maximum population of green semilooper was observed on vegetative stage of soybean while tobacco caterpillar was most frequent on flowering and pod stages.

The order of frequency of vegetative stage was green semilooper (1.2) > tobacco caterpillar (0.8) > grass hoppers (0.4) > girdle beetle and Heliothis sp. (0.2 each) > white fly (0.1).

Bhattacharjee (1976) noticed incidence of the white fly Bemisia tabaci on soybean and reported that the pest thrive at high temperatures following monsoon showers and infested the crop from two leaf stages throughout the growing period. In present study also, the white fly was frequent in all the stages of soybean plants (Table 1).

The order of frequency of pests of flowering stage was tobacco caterpillar (3.25) > green semilooper, Heliothis sp. and grasshoppers (0.8 each) > girdle beetle (0.6) > white fly (0.4) > Bihar hairy caterpillar (0.3) > pollen feeder (0.2). While the frequency order at pod stage was

Corresponding Author: Surabhi Shrivastava, Department of Zoology, Govt. College, Kota, Rajasthan, India

305
CONCLUSION

Present finding meet with earlier observation where girdle beetle was frequent® 0.2, 0.6 and 0.5 at vegetative, flowering and pod stages, respectively. Hence many species of insect pests were reported during all the growth stages of soybean.

ACKNOWLEDGEMENT

The researchers are grateful to Prof. R. Swaminathan, Taxonomist, Department of Entomology, Rajasthan College of Agriculture, Udaipur for unstinted co-operation in identification of insect pests.

REFERENCES


