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Chemical Control of Pests of Soybean

KEYWORDS: Chemical control, Soybean pests, Satna region

Dr. Pushpa Singh
Department of Zoology, Govt. Vivekanand P.G. College, Maihar, Distt. Satna (M.P.)

Dr. Umesh Prasad Patel
Department of Zoology, Govt. Maharaja (Autonomous) College, Chattharpur (M.P.)

ABSTRACT *Soybean Glycine max (L.) Merrill is one of the most important cash crop of Madhya Pradesh. The Satna region is growing about soybean in Kharif season during last few years. Soybean is an important oil seed crop containing more than 20% almost cholesterol free oil, 40% highly valuable protein. The annual national production reached upto 18 million tones. The medicinal value is also too much. Like all other crops, the soybean is also affected by a number of Insect pests reducing the yield. A number of Chemicals were used for the control of pests but even then no 100% surety can be given for pest free crops.*

INTRODUCTION

Due to extensive cultivation of soybean and without proper crop rotation practice, the insect pests attack are too much. About 41 insect pests are known to attack the soybean standing crop starting from sowing to harvest and even in the stored conditions (Bhattacharjee, 1980' Kapoor et al. 1971 and Shrivastava et al. 1972). Out of which only 5 major insect pests were studied during the present investigation. Some are directly responsible for spreading the diseases to the plants, leaves etc. some cut the plants as whole and other devour the various parts of the crop (Wang et al. 1998). A majority to the pesticides are of broad spectrum, which may be used right from crop germination at least upto the critical period, even then no surety of pest free crop has been attained. The side effects of chemicals are also too much, the phytotoxic effects of chemicals are also to be considered.

MATERIALS AND METHODS

The present study was carries out at Satri Village of Satna district (M.P.) India during the year 2010-11. The cultural practices accompanied by ploughing, manuring and irrigation were done as per need.

Five insect pests were studied in detail. They were Sap Sucker, Girdle Beetle, Cricket, Leaf miner and one foliage feeder. The control measure were studied during present study.

RESULTS AND DISCUSSION

It has been observed that all the pests are damaging the crop. Control measures, specially includes those methods, which have to be adopted by man. The control of insects is mainly done by chemicals. Three chemicals (Insecticides) were have to be adopted by man. The control of insects is mainly done by chemicals. Three chemicals (Insecticides) were applied Cypermethrin 25 EC, Endosulfan 35 EC and Monocrotophos 36 SC. It was concluded that Monocrotophos showed best result in the control of sucking insect pests. It was proved on the pest Aphis gossypii and number recorded in each plot showed much better result. In sap. Suckers the Monocrotophos was best insecticide while the Cypermethrin was next best. Endosulfan showed least effectiveness. In the case of foliage feeders the Cypermethrin showed best result. It was proved on Gryllus (Field crickets) and the data recorded proved significantly that the Cypermethrin was best chemical for the control of field crickets, the Monocrotophos next best while Endosulfan proved least effective. For the control of borers, though all the three chemicals applied showed significant and good result, but the Endosulfan was comparatively better. Its effect is slow but longer toxicity have been noticed. Where as after 15 days all the insecticides showed sudden declination in their efficacy the Endosulfan maintained its efficiency for more longer period.

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