

Population Dynamics of Lady Bird Beetle (*Coccinella septempunctata* L.) on Mustard Crop

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Abstract - *Coccinella septempunctata* L. was found as a major predator of mustard aphid (*Lipaphis erysimi* Kalt.). The maximum activity of *Coccinella septempunctata* recorded in the last week of February and started declining towards the first week of March due to high temperature and maturity of the crop during the study period.

Keywords - Indian mustard, *Coccinella septempunctata* L., Population dynamics

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INTRODUCTION

Mustard is an important oilseed crop in India. It ranks second in area and production among oilseeds crops only after groundnut. There are a number of reasons and factors for low production and productivity of this crop in India. The yield losses due to insect pests are most significant. Mustard aphid *Lipaphis erysimi* Kalt. is the most important pest of mustard crop in India (Rai 1976). Mustard aphid causing 35 to 73 percent loss in yield (Rohilla *et.al.*, 1987, Bakhetia and Sekhon 1989 and Kumar 1991) and causes 6 percent reduction in oil content (Singh *et.al.*, 1987). Bio control agents like spiders, syrphids and coccinellid species are commonly present in environment. These agents have been reported as important predators for the management of aphids (Singh *et.al.*, 2001). *Coccinella septempunctata* L. is an active predator of the mustard aphid. (Sethi and Atwal 1964; Bakhetia and Arora 1993; Kumar 1991). Therefore, it was thought essential to observe the incidence of *Coccinella septempunctata* L. in Agro climatic condition of Baghpat in western Uttar Pradesh.

MATERIALS AND METHODS

Field experiment was conducted during rabi, 2022-23 at Research Farm of Janta Vedic College, Baraut (Baghpat) U.P. to record the seasonal incidence of *Coccinella septempunctata* L. on mustard crop, for this purpose field preparation was done and the crops was grown with recommended agronomical practices. Ten

plants per plot were tagged and population of lady bird beetle were counted at weekly interval.

RESULTS AND DISCUSSION

Coccinella septempunctata L. was found as a major predator of mustard aphid. The population of coccinellids appeared in the last week of January and its maximum activity recorded in the last week of February as 3.2 beetles / plant during the study period. The population of coccinellids started declining towards the first week of March due to high temperature and maturity of the crop. It was found that predator population was more when the crop was in maturing stage. (Fig. 1) Rai (1976) and Kumar (1991) found that *Coccinella septempunctata* is the important predator of the mustard aphid. Singh (1982) observed that *Coccinella septempunctata* appeared in the first week of January and its population remained at very low level up to mid February at Hisar (Haryana), there after, it started to increase reaching the peak towards mid March. Sethi and Atwal (1964) found that the lady bird beetles shows peak in population by the end of February when aphids populations is already on decline on rapeseed mustard crop. Kumar *et.al.*, (2000) reported that Coccinellids predators appeared in later half of February when the aphid population was its peak and decreased thereafter. These studies are in support of present findings with minor variation.

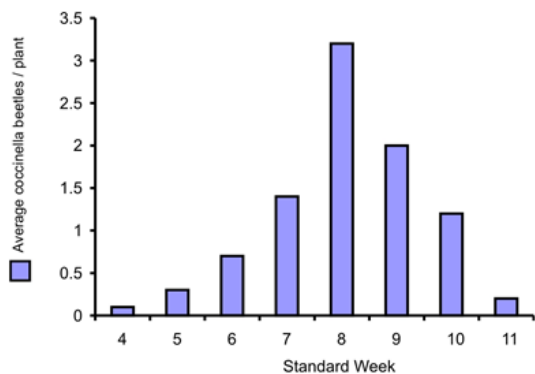


Figure 1: Population of coccinella beetles/plant

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