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PEST SUCCESSION IN CABBAGE AT RAIPUR, CHHATTISGARH (INDIA)

POKHRAJ PATEL, R.N. GANGULI, JAYALAXMI GANGULI and V.K. DUBEY
Dept. of Entomology, College of Agriculture, Indira Gandhi Agric.Univ., Raipur (C.G.)

ABSTRACT: Pest succession studies conducted on cabbage at Raipur, Chhattisgarh revealed that diamond-back moth (DBM), *Plutella xylostella* and aphids, *Myzus persicae, Bravicoryne brassicae* and *Lipaphis erysimi* were the major pests throughout the cropping season. Maximum activity period of DBM and aphids were recorded during January and December, respectively. The other pests recorded were web-worm, *Crocidolomia binotalis,;* flea beetle, *Phyllotreta cruciferae,;* tobacco caterpillar, *Spodoptera litura* and Bihar hairy caterpillar, *Spilosoma obliqua* though at very low level of infestation. Natural enemies like spiders (unidentified), two species of ladybird beetle, *Menochilis sexmaculata & Coccinella septumpunctata* rove beetle, *Paederus sp.* and *Brumus* were also recorded.

Keywords : Cabbage, *Myzus persicae, Bravicoryne brassica, Lipaphis erysimi*

Studies on the pest succession on cabbage at Raipur, was undertaken during winter 2001-02. The major pests recorded were Diamond-back moth, *Plutella xyllostella,;* Aphids, *Myzuz persicae, Bravicoryne brassicae, Lipaphis erysimi,;* Web worm, *Crocidolomia binotalis,;* Flea beetle, *Phyllotrea cruciferae,;* Tobacco caterpillar, *Spodoptera litura* and Bihar hairy caterpillar, *Spilosoma obliqua. S*ome predators such as spider; lady bird beetle, *Coccinella sexmaculata;* Rove beetle, *Paederus sp.* and *Brumus sp.* were also recorded.

Diamond-back moth was observed as a major pest of cabbage with an initial population of 3.2 larvae/plant during the first week of December. Maximum activity of diamond back moth was recorded during the entire month of January with a peak population of 9.92 larvae/plant. This finding is in accordance with SACHAN and SRIVASTAVA (1972), ANONYMOUS (1972), RAJU and SIVAPRAKASAM (1989), KRISHNAIAH and JAGAMOHAN (1983) and BHATIA and VERMA (1995) who also reported that diamond back moth as a serious pest of cabbage throughout the cropping season. The larval population of webworm was negligible. Its incidence initiated in the first week of December with 1.0 larvae/plant. No webworm was noticed after this period till February but during its third week slight build up of the population was observed with a population of 0.24 larvae per plant.

Over all a low population of flea beetle, *Phyllotreta cruciferae* started in 2nd week of December and continued till last week of February. The initial population was very low (0.08/plant), later on a peak was noticed in the first week of February. The incidence of *Myzuz persicae, Bravicoryne brassicae, Lipaphis erisimi,* initiated in vegetative stage during 1st week of December with 65.8 aphids/plant feeding the under surface of the leaves, which considerably increased to a peak reaching to 100.56 aphids/plant during the fourth week of December as earlier reported by ABRAHAM and PADMANABHAN (1968). Further there was a decline in the population trend and minimum population was noticed during the month of February. Web-worm, *Crocidolomia binotalis;* flea beetle, *Phyllotreta cruciferae;* tobacco caterpillar, *Spodoptera litura* and Bihar hairy caterpillar, *Spilosoma obliqua* were earlier reported infesting cabbage by KRISHNAIAH and JAGAMOHAN (1983). Natural enemies recorded during our studies were spiders (unidentified), with an average population of 0.04 to 0.16 spiders /plant, during December to January. Two species of ladybird beetle, *Menochilis sexmaculata* and *Coccinella septumpunctat* with 0.04 to 0.24 adults /plant were active during he last week of December to third week of February but its population was quite negligible.

Table: List of insect pests and some natural enemies on cabbage crop during winter 2001.

Scientific & (Common name)	Mean pp range	Period of activity	Period of Maxi. Insect pp.
Insect pests: *Myzuz persicae Bravicoryne brassicae,Lipaphis erisimi* (Aphids)	2.52 –100.56	1st week of December to last week of February	IV week of December
Plutella xylostella (Diamond-back moth)	0.12 – 9.92	1st week of December to last week of February	IInd week of January
Crocidolomi binotalis (Web-worm)	0.60 – 1.12	1st week of December to III week of February	1st week of February
Phyllotreta cruciferae (Flea-bbetle)	0.08 – 0.76	II week of December to last week of February	III week of December
Spodoptera litura (Tobacco caterpillar)	0.04 – 0.08	III week of December to 1st week of February	III week of January
Spilosoma obliqua (Bihar hairy caterpillar)	0.08	1st week of January	1st week of January
Natural enemies *Un Identified* (Spider)	0.04 – 0.24	1st week of December to last week of February	III week of February
Coccinella septumpunctata Menochilis sexmaculata (Lady bird beetle)	0.04 – 0.24	Last week of December to III week of February	1st week of February
Paederus sp. (Rove beetle)	0.06 – 0.20	1st week of December to 1st week of January	III week of December
Brumus sp.	0.08	II week of February	II week Feb.

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