

Incidence of leaf webber, *Crocidolomia binotalis* (zeller) on mustard

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SUMMARY

Studies on seasonal incidence of leaf webber, *Crocidolomia binotalis* (Zeller) on mustard revealed that the pest was active from 3rd week of November to 4th week of December. The pest population ranged between 1.10 to 9.20 larvae per plant throughout the season. A study on correlation of leaf webber with weather parameters indicated that sunshine hours (-0.4360) was negatively non significant. Whereas, the remaining weather parameters showed positive non significant correlation with larval population of the pest.

Key words :

Seasonal
incidence,
Mustard,
*Crocidolomia
binotalis*, Leaf
webber

Mustard (*Brassica juncea*) is an important oilseed crop in India and provides good source of edible oil in our country. According to Bakhetia and Sekhon (1992), thirty eight insect pests are known to be associated with different stages of mustard growth in India. Among these, the leaf webber, *C. binotalis* is a serious pest causing yield loss of 13.2 to 81.8 per cent (Reddy and Ali, 1977). Excessive use of the chemicals to control this pest not only causes the economical restrain on farmers but also produces the harmful side effects on the environment as well as human being. The best way to over come this situation is to destroy the pest at its initial stage of the life-cycle. This is possible if timely prediction of the occurrence of the pest can be made. Hence, an investigation on incidence of the leaf webber, *C. binotalis* on mustard in relation with different meteorological parameters was carried out.

MATERIALS AND METHODS

In order to study the seasonal incidence of leaf webber, *Crocidolomia binotalis* on mustard, the crop was sown at Main Oilseeds Research Station, Junagadh Agricultural University, Junagadh during *Rabi* season of 2007-08. The crop was grown in plot size of 25 m x 15 m keeping 45 cm x 10 cm spacing. The plot was divided in ten quadrates each of size 1.80 m x 1.80 m and five plants from each quadrate were randomly observed for recording

the observations on larval population per plant. The observations were recorded at weekly interval after one week of germination till the harvest of the crop. In order to study the effect of weather parameters, the simple correlation coefficients were worked out.

RESULTS AND DISCUSSION

The data presented in Table 1 revealed that the larval population of leaf webber on mustard started to build up after 2nd week of sowing *i.e.* 3rd week of November (1.60 larvae/plant). The pest population increased in

Table 1 : Seasonal incidence of leaf webber, *C. binotalis* on mustard during *Rabi* 2007-08

Week after sowing	Standard week	Date of observation	Average leaf webber larvae/plant
2	45	10/11/07	0.00
3	46	17/11/07	1.60
4	47	24/11/07	3.40
5	48	01/12/07	4.30
6	49	08/12/07	6.80
7	50	15/12/07	8.10
8	51	22/12/07	9.20
9	52	29/12/07	6.40
10	1	05/01/08	3.60
11	2	12/01/08	1.10
12	3	19/01/08	0.00
13	4	26/01/08	0.00
14	5	02/02/08	0.00
15	6	09/02/08	0.00

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Table 2 : Correlation co-efficient between weather parameters and population of leaf webber, *C. binotalis* on mustard

Insect pest	Temperature (°C)		Relative humidity (%)		Sun shine hours
	Maximum	Minimum	Morning	Evening	
Leaf webber	0.3161	0.3302	0.1020	0.1251	- 0.4360

n=14

* and ** indicate of significance of values at P = 0.05 (r= 0.514) and 0.01 (r= 0.641), respectively,

succeeding weeks and reached a peak level of 9.20 larvae/plant after 7th week of sowing (4th week of December). Thereafter, the pest population decreased slowly and disappeared at the time of harvesting. More or less similar observations had been reported by Chaudhuri *et al.* (2001).

The studies on correlation co-efficient (Table 2) indicated that larval population of leaf webber exhibited a non-significant positive correlation with maximum temperature (0.3161), minimum temperature (0.3302), morning relative humidity (0.1020) and evening relative humidity (0.1251). While, the correlation of the pest with sunshine hours (-0.4360) and wind velocity (-0.3775) non significant and negative. Similar observations were also reported by Chaudhuri *et al.* (2001) and Raçet *al.* (2003).

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