

Short Communication

Effect of Date of Sowing on the Incidence of Aphid, *Lipaphis erysimi* (Kalt.) on Mustard

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The infestation of some insect pests can be prevented by adjusting the time of sowing of crops. This helps the crop to escape the damage due to insect pests or to minimize the damage (Atwal, 1976). The aphid, *Lipaphis erysimi* (Kalt.), causes serious damage to mustard, *Barassica juncea* (L.) Czern and Coss. Study was conducted for two consecutive *rabi* seasons (1990-91 and 1991-92) to find out the optimum time of sowing of mustard crop so as to minimize the aphid infestation. The mustard variety, T-59 (Varuna), was sown in 4m x 3m plots, having row to row and plant to plant distance of 30 cm and 10 cm, respectively. There were four dates of sowing starting from 15th September to 30th October at 15-day interval, each replicated four times in randomized block design (Table 1). The plots of each date of sowing were separately maintained as protected and unprotected. In protected plots, the crop was sprayed with phosphamidon 86 WSC @ 0.03% with the help of knap sack sprayer (Butani, 1974). The population of aphids was recorded on five randomly selected and tagged plants in each plot and aphid infestation index was worked out as under :

Aphid infestation index	Aphid population/central shoot
0	0
1	1-10
2	11-20
3	21-30
4	31-50

The seed yield was recorded and the pooled data thus collected were subjected to analysis of variance.

The mean aphid infestation index (Table 1) was minimum in the protected crop (0.80) and

unprotected crop (2.03) sown on 15th October, and differed significantly over other dates of sowing under protected and unprotected conditions. The aphid infestation index was higher in protected (1.85) and unprotected (3.16) conditions under delayed sowing (30th October). This finding corroborates with that of Kalra *et al.* (1983), who observed increased *L. erysimi* infestation on mustard crop sown on 25th October, and decreased number of siliquae per plant, thousand seed weight and seed yield compared with crop sown on 25th September or 10th October.

The sowing on 15th October resulted in highest seed yield, i.e., 1677 kg ha⁻¹ and 936 kg ha⁻¹ in protected and unprotected crop, respectively.

Table 1. Effect of different dates of sowing on aphid infestation index and seed yield of mustard (*Rabi*, 1990-91 and 1991-92)

Date of sowing	Mean aphid infestation index	Mean seed yield (kg ha ⁻¹)
Protected		
15 Sept.	1.29	1136
30 Sept.	1.21	1376
15 Oct.	0.80	1677
30 Oct.	1.85	1189
Unprotected		
15 Sept.	2.64	733
30 Sept.	2.32	880
15 Oct.	2.03	936
30 Oct.	3.16	727
S.Em. ±	0.06	47
CD (P=0.05)	0.19	137

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The low yield was recorded in 30th October and 15th September, i.e., 727 kg ha⁻¹ and 733 kg ha⁻¹, respectively, in unprotected crop and 1189 kg ha⁻¹ and 1136 kg ha⁻¹, respectively, in protected crop. The low yield of crop sown on 30th October was probably due to high aphid infestation, which supports the findings of Rawat and Singh (1983) who concluded that aphid infestation in the late sown crop starts early and is so severe that crop could not be harvested. In the present study, the protected crop resulted in significantly superior yields over unprotected crop.

References

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