

A Note on the Suitability of Ultra Low-Volume Spraying on the Control of *Heliothis Armigera* Hubn. in Bengalgram

Several insecticides, both emulsifiable concentrates and dust formulations, have been recommended for the control of *Heliothis armigera* Hubn. on bengalgram. In case of E.C. formulations, 500 litres of spray solution per hectare is being used at present with high volume sprayers. As the flowering and pod formation in bengalgram takes place in post rainy season, water availability becomes a constraint in using high volume sprayers. The use of ultra low volume spraying with controlled droplet applicator has been established on pigeonpea (Pawar *et al.*, 1984) and large number of cultivators in pigeonpea growing areas of Gulbarga, Bidar and Raichur districts of Karnataka are using this method. An experiment was conducted to know the suitability

of ultra low volume application of insecticides with a controlled droplet applicator, at Agricultural Research Station, Gulbarga during 1988.

The experiment was laid out in a randomised block design with five replications. The crop was sown on October 27 with a plot size of 4.0 × 2 m. and a spacing of 30 × 10 cm. Annigeri-1 cultivar was used. Two applications of insecticides were made on December 29 and January 8 with controlled droplet applicator. Recommended quantities of insecticides were mixed in water so as to get 12.5 litres of spray solution to be sprayed per hectare. Observations recorded on *Heliothis* larval population, pod damage and pod yield are presented in Table.

Table. Number of *Heliothis* larvae, per cent pod damage and yield

Treatment	Qty/ha. (Litres.)	<i>Heliothis</i> larvae/5 plants	% pod damage Angular values	Yield q/ha.
Endosulfan 35 EC	1.00	4.40	12.61 (4.80)*	6.44
Quinolphos 25 EC	1.00	4.32	13.00 (5.08)	6.38
Monocrotophos 40 EC	0.5	4.36	12.98 (5.12)	6.07
Control	—	6.66	20.07 (11.85)	4.78
C.V. %		12.4	9.12	12.73
C.D. 5%		0.83	2.26	1.04

* Original figures within the paranthesis.

The results in respect of *Heliothis* larval population, per cent pod damage and yield were significant.

Among the insecticides, quinolphos recorded minimum larval population of 4.32/5 plants. It was 4.36 and 4.40 in monocrotophos and Endosulfan, respectively. However, they were all on par with each other and differed significantly from untreated control, which recorded 6.66 larvae/5 plants.

The per cent pod damage was 12.61, 12.98 and 13.00 in endosulfan, monocrotophos and quinolphos, respectively.

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They were on par with each other and differed significantly from untreated control, which recorded 20.07 percent pod damage.

Similarly, the yield was 6.07, 6.38 and 6.44 q/ha in monocrotophos, quinolphos and endosulfan and they were on par with each other and differed significantly from untreated control, which recorded the yield of 4.78 q/ha.

The present study indicates that the ULV application of insecticides are quite effective in the control of *Heliothis* on bengalgram.

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REFERENCES

- Pawar, C. S., Srivastava, C. P. and Reed, W., 1984, Ultra low-volume spraying for pigeonpea. *International Pigeonpea News Letter* - ICRISAT 3 : 48-49.

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A Note on Seasonal Abundance of Cowpea Pod Borer Complex

Cowpea (*Vigna unguiculata* L.) is primarily affected by pod borers which considerably reduce the yield. The different species of pod borers involved were *Maruca testulalis*, *Cydia ptychora* and *Lampides boeticus* (Taylor, 1964 and 1967; Nyiira, 1971; Lalasangi,

1984; Kumar, 1978 and Pandey *et al.*, 1978). With a view to study the seasonal abundance of cowpea pod borers a field experiment was conducted at the Main Research Station, Dharwad during 1987-88.