CHEMICAL CONTROL OF MANGO SHOOT BORER, *CHLUMETIA TRANSVERSA* WALKER (NOCTUIDAE: LEPIDOPTERA)

P. L. TANDON, K. KRISHNAIAH AND V. G. PRASAD

INTRODUCTION

Mango shoot borer, *Chlumetia transversa* Walker has been reported to cause serious damage to mango trees in Rajasthan and Uttar Pradesh (Kushwaha *et al*; 2 and Singh, 4). Its attack is noticed during the period when there is new flush on the trees and saplings. The leaves in the affected shoots get wilted and dropped followed by the complete drying of the growing shoot. The shoots are tunneled upto a maximum of 15 cm downwards from the tip. About 65 per cent of the shoots are damaged by the pest. The inflorescence is also attacked. Thus, the pest inhibits the growth of the tree and flower formation which finally lowers the fruit yield. As there has been no information on the chemical control of this pest, present investigations were carried out at the Horticulture Experimental Station, Hessaraghatta of the Indian Institute of Horticultural Research, Bangalore from 1972-74.

MATERIALS AND METHODS

Seven insecticides (Table 1) were evaluated as high volume sprays on variety Baneshan in randomized block design assigning single tree per treatment. The treatments were replicated thrice on account of the shortage of the trees of subject variety. Spraying was first taken up at the initiation of the new flush in September 1972 and December 1973 and repeated once in the first year and twice in the second year at

TABLE 1

Evaluation of insecticides for the control of mango shoot borer, Chlumetia transversa *Walker during* 1972 *and* 1973-74

Insecticides	Per cent conc.	Shoots damaged during			
		1972		1973-74	
		% age	Angular value	% age	Angular value
Carbaryl	0.2	5.83	11.20	4.54	10.08
Phosphamidon	0.05	11.78	19.51	27.77	30.93
Methomyl	0.05	20.44	26.42	27.46	31.54
Quinalphos	0.04	—	—	10.44	18.56
Dimethoate	0.06	—	—	16.59	23.30
Trichlorphon	0.05	14.18	21.88	—	—
Naled	0.05	22.55	27.46	—	—
Control	—	64.02	53.19	65.68	54.14
C.D. (0.05)	—	—	15.51	—	14.90

Contribution No. 310 of the Indian Institute of Horticultural Research, 255, Upper Palace Orchards, Bangalore-560006.

3 week intervals. Number of affected and healthy shoots was recorded after a week of final round of the treatment from 50 shoots with new flush selected from all round the tree.

Results and Discussion

All the insecticides evaluted (Table 1) were found to check the infestation of the shoot borer effectively. Carbaryl spray restricted the pest infestation to the level of 5.83 and 4.54 per cent as against 64.02 and 65.53 per cent in control (untreated check) in 1972 and 1973-74 respectively. Quinalphos and dimethoate tried only during 1973-74 were found equally good as carbaryl in checking the borer infestation.

Phosphamidon maintained parity with carbaryl in 1972 but failed to do so in 1973-74. Methomyl, trichlorphon and naled, although were significantly superior to untreated check, maintained fairly a higher infestation ranging from 14-28 per cent. It can, thus be concluded that effective protection from the mango shoot borer is possible with carbaryl sprays. Carbaryl was also found to suppress the other major pests of mango, viz., jassid, mealybug and fruitfly (Bindra, 1, Tandon *et al.*, 5 and Mathur, *et al.*, 3)

Summary

Seven insecticides, viz., carbaryl (0.2 per cent), quinalphos (0.04 per cent), phosphamidon (0.05 per cent), trichlorphon (0.05 per cent), naled (0.05 per cent) and dimethoate (0.06 per cent) were evaluated for the control of the mango shoot borer. Two to three sprays of carbaryl at 3 week intervals commencing from initiation of new flush were found to offer effective protection from the pest.

Acknowledgement

The authors are grateful to Dr. G. S. Randhawa, Director, Indian Institute of Horticultural Research, Bangalore for providing necessary facilities and encouragement.

LITERATURE CITED

1. Bindra, O. S. (1974). Recent work on mango pests and mango malformation in the Punjab. Papers presented at All India Seminar on mango and mango culture 5 pp.

2. Kushwaha, K. S., J. C. Sharma, and L. S. Sharma, (1964). A note on mango shoot borer, *Chlumetia transversa* W. in U. P. *Indian J. Ent.* **26** : 115-17.

3. Mathur, A. C., K. Krishnaiah and P. L. Tandon, (1972). Chemical control of mango mealy bug. Annual Report. I. I. H. R.,

4. Singh, S. M. (1957). A serious damage to mango shoots by the borer, *Chlumetia transversa* W. in U. P. *Indian J. Hort.* **14** : 236-8.

5. Tandon, P. L., A. C. Mathur and K. Krishnaiah, (1974). Chemical control of mango fruitfly, *Dacus dorsalis* Hendel.—*Progressive Hort.*, **6** : 11-13.