

## INSECTICIDAL CONTROL OF ADULTS OF *LONGITARSUS NIGRIPENNIS* MOTS INFESTING BLACK PEPPER

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*Longitarsus nigripennis* Mots (Chrysomelidae: Coleoptera), the pollu beetle has been reported to be a highly destructive pest of black pepper (*Piper nigrum* L.) in Kerala causing about 30 per cent loss in yield (Nambiar and Kurian, 1962; Pillai and Abraham 1974; Prem Kumar 1981). It is the adult of this pest which has been observed to contribute to the major part of the damage by its feeding and egg laying on the various plant parts (Prem Kumar, 1981). So control of the adult is important in preventing the ultimate reduction in the yield and hence a field experiment was undertaken to ascertain how far the insecticides tested for control of spike and berry damage were effective in controlling the adults. Results of this experiment is presented in this paper.

### Materials and methods

The experiment was undertaken at District Agricultural Farm, Calicut, Kerala. Each of the insecticides was sprayed at a concentration of 0.05 per cent on five vines of the pepper cultivar Arakkulam-munda with a rocker sprayer to the run off level when a high population of the beetle was present. Care was taken to ensure that the underside of the leaves also received the spray. Unsprayed vines served as control. Results were assessed by counting the number of beetles on 200 randomly selected leaves on each vine at different intervals after spraying upto a period of 51 days. The data were analysed using students 't' test.

### Result and discussion

All the insecticides were highly and significantly effective in the immediate control of the adult beetles (Table Figs 1 to 9). Among the different insecti-

cides those with relatively superior efficacy included endosulfan, dimethoate, methamidophos, fenitrothion and quinalphos. The system insecticides like monocrotophos, methyl demeton and phosphamidon lost their residual toxicity at a more rapid rate than the others. These observations indicated the desirability of giving an application to control the adults before the spikes make their appearance.

### Summary

A field experiment was undertaken at Calicut to determine the relative efficacy of different insecticides when applied as 0.05 per cent sprays on the control of the adults of *L. nigripennis* Mots infesting black pepper. Monocrotophos, endosulfan, phosphamidon, methyl parathion, quinalphos, dimethoate, methamidophos and fenitrothion have significant control of the adults upto 51 days application. Methyl demeton was effective only up to 7 days.

### REFERENCES

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- PILLAI, G.B. & ABRAHAM, V.A. 1974. Chemical control of black pepper pollu beetle *Longitarsus nigripennis* Mots (Coleoptera:Chrysomelidae). *J. Plant Crops*, 2 (1):34-36.
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PER CENT SURVIVAL OF ADULT BEETLES

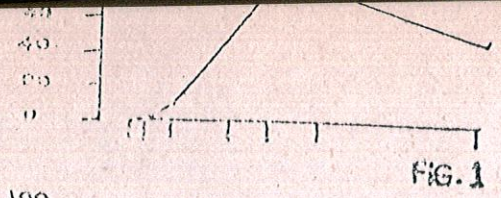


FIG. 1

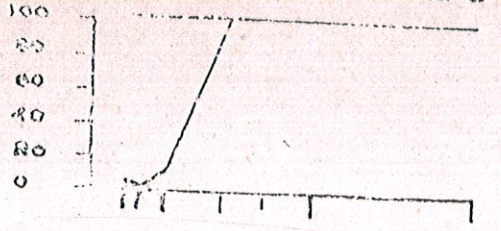


FIG. 2

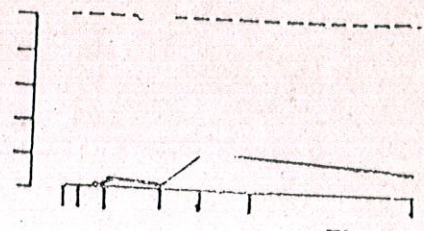


FIG. 3

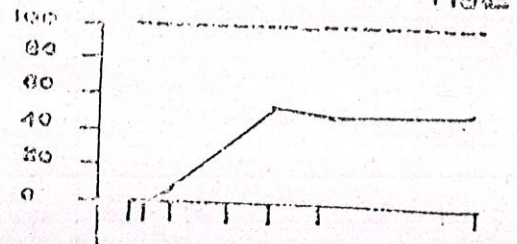


FIG. 4

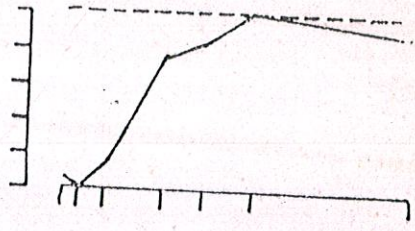


FIG. 5

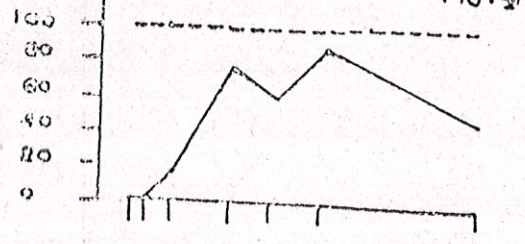


FIG. 6

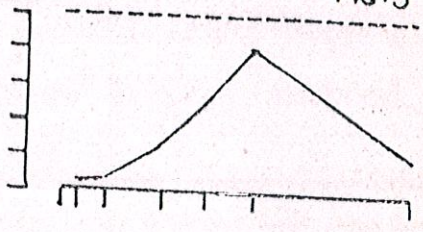


FIG. 7

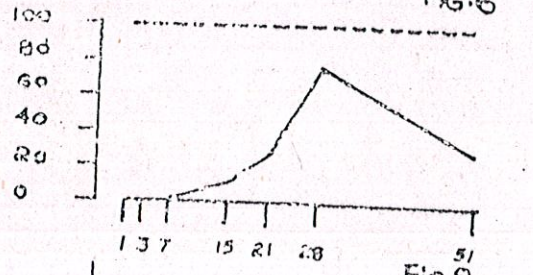


FIG. 8  
PERIOD IN DAYS

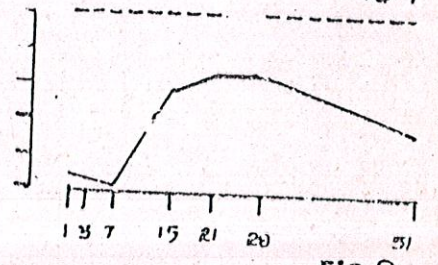


FIG. 9

——— POPULATION UNDER DIFFERENT INSECTICIDE SPRAYS  
 - - - POPULATION UNDER CONTROL

EFFECT OF DIFFERENT INSECTICIDE SPRAYS ON  
 THE CONTROL OF ADULTS OF *L. nigripennis*.  
 (LOCATION - CALICUT)

TABLE

Survival of adults of *L. nigripennis* on pepper leaves sprayed with different insecticides observed at different intervals after application

Treatments (Insecticides)	Intervals in days													
	1		3		7		15		21		28		51	
	Survival (%)	Value (t)	Survival (%)	Value (t)	Survival (%)	Value (t)	Survival (%)	Value (t)	Survival (%)	Value (t)	Survival (%)	Value (t)	Survival (%)	Value (t)
Monocrotophos	5.88	9.94*	2.93	10.58*	11.75	9.16*	5.45*	55.88	2.95*	85.29	2.95*	76.46	51.80	5.00*
Methyl demeton	4.53	9.22*	0	10.64*	13.63	8.10*	0	100	0	100	0	100	100	90
Endosulfan	2.22	11.30*	0	12.42*	4.62	12.42*	11.24*	2.22	8.98	20.61	3.98	19.99	13.32	9.47*
Phosphamidon	0	12.32*	0	12.32	9.29	9.92*	7.56*	32.55	5.89	53.48	5.89	48.83	6.25*	5.89*
Methyl parathion	3.99	9.58*	0	10.99*	15.98	8.12*	3.58*	75.99	2.88*	83.99	2.88*	100	87.99	2.47*
Quinalphos	2.70	10.72*	0	11.98*	13.91	8.59*	6.14*	59.45	5.26*	59.45	5.26*	86.48	45.93	6.30*
Dimethoate	0	12.56*	4.16	11.05*	6.24	10.60*	8.18*	25.68	6.28*	49.99	6.28*	81.24	20.83	8.77*
Methamidophos	0	11.98*	2.70	10.78*	12.70	10.78	10.80	10.30	9.45*	27.02	7.81*	75.67	29.72	7.53*
Fenitrothion	7.49	10.02*	7.49	10.02*	2.49	10.93*	5.53	57.49	4.90*	64.98	4.90*	65.00	32.50	7.45*
Control	100		100		100		100	100	100	100	100	100	100	

\*Significant at 5% level.