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EFFICACY OF CERTAIN GRANULAR SYSTEMIC INSECTICIDES AGAINST THE GREEN PEACH APHID*

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Carbofuran G (0.84 kg a.i/ha), disulfoton G (Disyston = 1.12 kg, Solverix = 1.68 kg) and phorate G (1.68 kg) exhibited partial control of the green peach aphid, *Myzus persicae* (Sulzer) when applied as side-dressing 18 days after transplantation of tobacco seedlings.

INTRODUCTION

In the summer season the green peach aphid, (GPA) *Myzus persicae* (Sulzer), affects the quality and quantity of the leaves of the flue – cured tobacco. Carbofuran G(Stefanov and Georgiev 1973, Awate and Pokharkar 1978, Misra *et al.* 1980), disulfoton G (Harrison and Wooldridge, 1966; Gentry *et al.*, 1970, Stefanov and Georgiev, 1973; Bacon *et al*, 1976; Awate and Pokharkar, 1978; Misra *et al.*, 1980) and phorate G(Savage and Harrison, 1962; Harrison and Wooldridge, 1966; Stefanov and Georgiev, 1973; Awate and Pokharkar, 1978; Misra *et al.*, 1980) have been reported to give satisfactory control of GPA. Reported here are the results of a field experiment carried out at the Agricultural Research Institute, Tarnab, Peshawar in 1974.

MATERIALS AND METHODS

Field experiments were carried out in completely randomised block design with 4 replicates. Plot size for the treatments measured 9 x 1.8 m. Plants and rows (ridges) were spaced 0.5 and 0.9 m, respectively. The flue-cured cultivar, Coker-254, was transplanted on March 7, 1974.

The granular insecticides were applied manually as side-dressing at the middle level of the ridges 18 days after transplantation and incorporated in the soil. The field was then watered immediately after the application. The treatments were buffered with spacings so that no water could pass through from each other.

The effectiveness of the insecticides was based on the natural establishment of the aphids on tobacco. The densities of the aphids were counted through a 2.54x2.54 cm sq. cut hole in a paper which was placed gently over the infested leaves selected randomly. The data were analysed by the analysis of variance and means were separated by Duncan's Multiple Range Test.

RESULTS AND DISCUSSION

The results obtained are given in the following Table.

Table 1. Population density of the green peach aphid, *Myzuz persicae (Sulzer)*, following application of insecticides

S.No.	Treatment	Rate (kg a.i./ha)	Mean aphid densities/6.45 sq.cm leaf area in days (A)		
			63	77	91
1.	Carbofuran G	0.84	2.6 a	48.0	35.8
2.	Disulfoton G (Disyston)	1.12	4.6 A	36.4	23.4
3.	Disulfoton G (Solverix)	1.68	0.5 a	22.2	11.7
4.	Phorate G	1.68	4.3 a	43.9	29.3
5.	Untreated	–	10.3 b	48.9	28.0
Analysis of Variance			XX	ns	ns

(A) Mean of 12 leaves. XX = significant 0.05 and 0.01 levels of probability. Means followed by common letters are not significantly different. ns = Not significant.

*Aphididae : Homoptera

It is evident that all granular insecticides partially checked the incidence of the aphids for some time but lost their persistent effect against the aphids with the passage of time. Disulfoton as Solverix seems to be the best in comparison to the rest of the insecticides. These results could be in partial comparison with those as reviewed earlier for each of the insecticides.

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