GAU Res. J. 1993. 19 (1) : 154-156

Efficacy of Various Insecticides for the Centrol of Sugarcane Whitefly (*Aleurelobus Baredensis* Mask)*

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Sugarcane (*Saccharum efficinarum* L.) is one of the most important cash as well as industrial crops in India and is liable to be attacked by insect pests right from planting till harvest. There are about hundreds of species of insects recorded as a pests of sugarcane in different countries of the world. Among them, whitefly, *Aleurelobus barodensis* Mask, is one of the serious pests of sugarcane crop. Several workers have reported control measures of sugarcane whitefly elsewhere in India. Among which Varma (1983) reported that sugarcane crop should be sprayed with 0.05 per cent endosulfan in May and June for the control of whitefly, whereas Avasthy (1977) reported that endosulfan 0.05 per cent should be sprayed with sufficient water in August or September. Chaudhary *et al.* 1985 reported that the greatest mortality of nymphs and pupae occurred in plots treated with dimethoate, domaton-s-methyl and malathion at 7 days after treatment. Sugarcane is widely grown in south Gujarat and is found heavily infested by the pest recently. Hence efforts were mede to fill up the lacuna in research information existing in the area.

The field experiment was conducted at college farm, Gujarat Agricultural University, Navsari, District - Valsad with eleven insecticides *viz.*, endosulfan 35 EC, triazophos 40 EC, acephate 75 SP, quinalphos 25 EC, ethion 50 EC, dimethoate 30 EC, phosphamidon 80 w/w, monocrotophos 36 w/w, methyl-parathion 50 EC and methyl-o-demeton 25 EC, replicated four times in RBD,during *kharif* season of 1986.

Population of eggs, nymphs and puparia of whitefly in 193.5 cm^2 area on three leaves *viz.*, top, middle and lower pertion of five randomly selected canes was recorded in each plot to evaluate the treatments.

The data were subjected to square root transformation and then finally analysed for statistical interpretation. The results in terms of mean population counts are presented in Table 1.

The data in Table 1 indicated that all the insecticidal treatments were significantly superior to untreated control in reducing the mean population of eggs, and nymphs when observation were recorded 24 hours after spraying and mean population of nymphs and puparia when recorded 7 days after spraying.

*The part of M. Sc. (Agri.) thesis submitted by senior author to Gujarat Agricultural University, Sardar Krushinagar
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TABLE 1

Population of different stages of whitefly in varieties treatments.

Sr No.	Treatments		No. of Eggs/193.5 (mean)	No. of Nymphs/193.5 m^2 (mean)		No. of Puparia/193.5 m^2 (mean)
			I	I	II	II
1.	Dimethoate	30 EC @ 0.03 per cent	*6.67 (44.43)^{a}	*18.46 (340.77)^{ab}	7.95 (63.20)^{b}	*10.38 (107.74)^{abc}
2.	Endosulfan	35 EC @ 0.1 per cent	6.70 (44.83)^{a}	21.29 (453.26)^{cd}	7.59 (57.61)^{ab}	8.66 (94.99)^{ab}
3.	Triazophos	40 EC @ 0.1 per cent	6.38 (40.70)^{a}	20.08(403.21)^{bc}	4.92(24.21)^{a}	7.62 (58.06)^{a}
4.	Phosphamidone	85 w/w @ 0.03 per cent	6.74 (45.43)^{a}	20.18(407.23)^{bc}	7.03(49.42)^{ab}	9.96(99.20)^{abc}
5.	Methyl parathion	50 EC @ 0.05 per cent	7.24 (52.42)^{b}	18.98(360.24)^{ab}	6.53(42.64)^{ab}	11.76(138.30)^{bc}
6.	Acephate	75 SP @ 0.1 per cent	7.63 (58.22)^{c}	17.64(311.17)^{a}	12.81(164.10)^{c}	9.05 (81.90)^{ab}
7.	Quinalphos	25 EC @ 0.1 per cent	6.40 (40.96)^{a}	21.38(457.10)^{cd}	7.17(51.41)^{ab}	7.81(60.99)^{a}
8.	Ethion	25 EC @ 0.1 per cent	7.50 (56.25)^{bc}	20.42(416.98)^{bc}	14.67(215.21)^{c}	10.45 (109.20)^{abc}
9.	Methyl-o-demeton	25 EC @ 0.075 per cent	6.73 (45.29)^{a}	21.52(463.11)^{cd}	9.19 (84.46)^{b}	11.82 (139.71)^{bc}
10.	Monocrotophos	36 w/w @ 0.03 per cent	7.31(53.44)^{bc}	21.13(446.48)^{c}	14.74(217.27)^{c}	13.37(178.76)^{c}
11.	Control		8.79(77.26)^{d}	23.23(539.63)^{d}	22.89 (523.95)^{d}	20.65 (426.42)^{d}
		Mean	7.10	20.39	10.50	11.05
		S.Em. ±	0.13	0.70	0.99	1.21
		C. D. at 5%	0.37	2.03	2.85	3.51
		C. V. %	3.65	6.90	18.78	21.97

I 24 hours after spraying

II 7 days after spraying

Figures in parentheses are square root retransformed values.

* Means having same letter are not significantly different at 5% level.

After 24 hours of application, the data of mean population of eggs, indicated that the treatment with triazophos 0.1 per cent was significantly superior to rest of the treatments except the treatments with quinalphos 0.1 per cent, dimothoate 0.03 per cent, endosulfan 0.1 per cent, methyl-o-demeton 0.075 per cent and phosphamidon 0.03 per cent which were at par with triazophos.

On the basis of number of nymphs, the treatment of acephate 0.1 per cent was found at par with the treatment dimethoate 0.03 per cent and methyl parathion 0.05 per cent and was significantly superior to the rest of the tratments, after 24 hours of application.

The treatment of triazophos 0.1 per cent was at par with the treatments of methyl parathion 0.05 per cent, phosphamidon 0.03 per cent, quinalphos 0.1 per cent and endosulfan 0.1 per cent was significantly superior to rest of the treatments by giving lowest i.e. 24.21 number of nymphs, when observations were recorded 7 days after spraying.

Lower population of puparia was recorded in the treatments of triazophos 0.1 per cent (58.06) and quinalphos 0.1 per cent (60.99), when observations were recorded 7 days after spraying and was at par with treatments endosulfan 0.1 per cent and asephate 0.1 per cent by giving population of puparia 74.99 and 81.50, respectively.

Looking to the above results, it is seen that all the treatments were better than untreated control. Population of all the stages was the lowest in the treatment of triazophos 0.1 per cent. Reddy *et al.*, (1985) reported that triazophos 0.1 per cent sprayed at 5 days interval was moderately effective in controlling the *B. tabaci*, on cotton crop, while triazophos as foliar spray was effective and retained their effectiveness for a satisfactory period against *B. tabaci* on cotton crop as suggested by Malamed Madjar *et al.* (1984).

(Received on 5th May, 1992)

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