

Pesticide Efficacy Trials for Citrus Flat Mites on Oranges, 1988

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Because mites continue to be a problem, a pesticide efficacy trial was conducted at the University of Arizona Mesa Experiment Station in Yuma, Arizona, to evaluate the ability of various miticides to control the citrus flat mite, *Brevipalpus lewisi* (McGregor), on oranges, *Citrus sinensis* (L.), cv. Valencia. Experimental materials were compared with untreated control plots and Kelthane 1.6EC, the current product of choice.

A completely random design was used, with 4 trees receiving each treatment. Mite counts were made by examining 10 oranges in the laboratory from each tree and recording the total number of mites from the stem end half of each fruit. The mean number of mites for the 10 fruit from each plot (tree) were used in statistical analyses. This was necessary to compensate for the patchy distribution of the mite population. On the day of the test, the temperature ranged from 28^o to 43^oC. Test materials were applied with a handgun from a John Bean sprayer operating at 300 psi and a rate of 225 gal per acre.

Mite populations in the control plots remained high during the test. One day following application, all treatments showed significantly fewer mites than the untreated control plots, although Vertimec was significantly less effective than all rates of Danitol and Kelthane. One week following application, fruit from trees receiving Vertimec had significantly more mites than trees with other pesticide applications. On that day, fruit from trees having all treatments had significantly fewer mites than control plots. Fourteen days following application, all pesticide treatments showed significantly fewer mites than untreated plots, but Vertimec had significantly more mites than other pesticide treatments. Three weeks following application, all treatments had significantly fewer mites than the control plots. None of the treatments compared favorably with Danitol and Kelthane.

Average number of citrus flat mites per fruit*

Treatment and lb(AI)/Acre	Date					
	27 Jul**	28 Jul	2 Aug	9 Aug	16 Aug	
Danitol/2.4 EC	0.4 1b	0.2a	0.125a	0.025a	0.00a	0.05a
Danitol/2.4 EC + oil ^a	0.4 1b	0.2a	0.05a	0.05a	0.05a	0.125a
Danitol/2.4 EC + oil ^b	0.4 1b	0.175a	0.175a	0.025a	0.15a	0.00a
Danitol/2.4 EC + oil ^c	0.4 1b	0.175a	0.15a	0.10a	0.10a	0.05a
Vertimec 18GMS/L	0.01 1b	2.875b	1.4bc	2.30c	1.975ab	1.56ab
Kelthane 1.6EC	1.0 1b	0.05a	0.05a	0.025a	0.00a	0.00a
Control	----	6.75c	3.425d	4.725d	4.625c	4.175c

*Means in a column followed by the same letter are not significantly different (P<0.05 SNK).

**Applications made on 26 Jul, 1988.

^a oil 0.5%

^b oil 1.0%

^c oil 2.0%