

H. Grapes (Chardonnay)

Willamette spider mite

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Spray trials were conducted in 2000 to examine the effects of several new and registered products on Willamette spider mite. The trials were conducted in a Chardonnay vineyard on Lambert Rd. (Pierson-Lambert) in Sacramento County. The vineyard is flood irrigated and the spacing is 8 x 12 ft.

Methods

The experimental design for the trials was a randomized complete block design, with four replications and four vines in each replicate. Spider mite sprays were applied July 3 and follow-up sprays for two treatments (Acaritouch and Biomite) were applied 1 and 2 weeks later. The sprays were applied at 100 gal./acre with an Echo air blast backpack sprayer. Surfactants were used where necessary.

In both trials, ten leaves per replicate were gathered once before treatments were applied, weekly after treatment for four weeks, and once again on week 8. They were transported in a cooler for examination in the lab. Leafhopper nymphs were counted using a large magnifying lens. Mites were removed using a mite brushing machine and were counted with a dissecting scope. The materials tested and the rates used are listed in Table 1.

Table 1. Treatments and rates used. (Sprayed using 100 gal. water/acre = 13.4 liters/4 reps)

Spider Mite Trial						
Product	Chemical Name	Company	Rate/Acre	Trial Rate	No. of Applics.	Surfact.
Acaritouch		Toagosei	13.3 oz.	13.9 ml	2 (7d)	None
Acaritouch		"	26.7 oz.	27.8 ml	2 (7d)	"
Biomite		Natural Plant	0.59 gal.	78.75 ml	1	"
Biomite		Products	0.59 gal.	78.75 ml	2 (14d)	"
GC-Mite	cinn. oil (20%), garlic (40%), cottonseed oil (34%)	J.H. Biotech	2 gal.	266.9 ml	1	Latron 5 oz.
Valero	cinnamaldehyde (30%)	Mycotech	1 gal.	133.5 ml	1	"
Valero	"	"	3 qts. + 5 lbs. KNO ³	100.1 ml 80 g	1	"
Danitol	fenpropathrin	Valent	8 fl. oz.	8.3 ml	1	"
Agri-Mek	abamectin	Novartis	4.5 fl. oz.	4.7 ml	1	RNA 85 1 q
Omite	propargite	Uniroyal	6 lbs.	96 g	1	"
Water	--	--	100 gal.	13.4 ltrs.	1	--

Results Spider mite populations declined the week after applying the treatments, even in the untreated vines. The first week after spraying, all treatments significantly reduced mite populations compared to water alone (Fig. 1). Mite populations in the Valero + KNO₃ treatment were significantly greater than those in six other treatments. The second week after spraying, mite populations in all treatments were similar and all were significantly lower than water alone (Fig. 2). Likewise, there were no differences between treatments in weeks 3, 4 and 8, (data not shown). The post-treatment average during the 4 weeks after spraying showed that Biomite 1x and Omite reduced mites significantly more than some other treatments (Fig. 3).

Figure 1. Effects on Mites After 1 Week - 2000

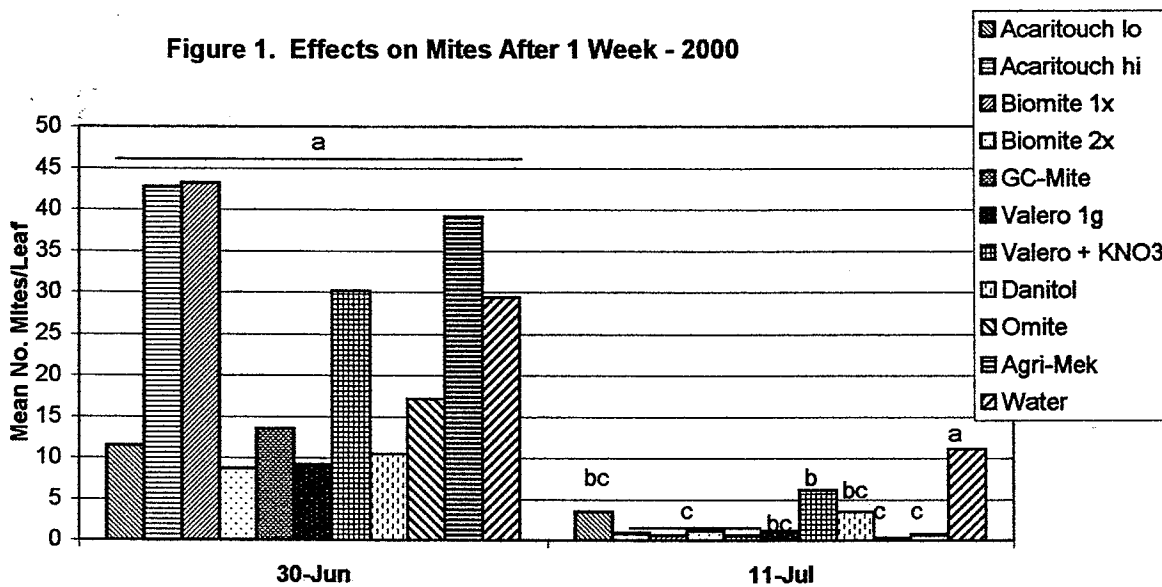


Figure 2. Effects on Mites After 2 Weeks - 2000

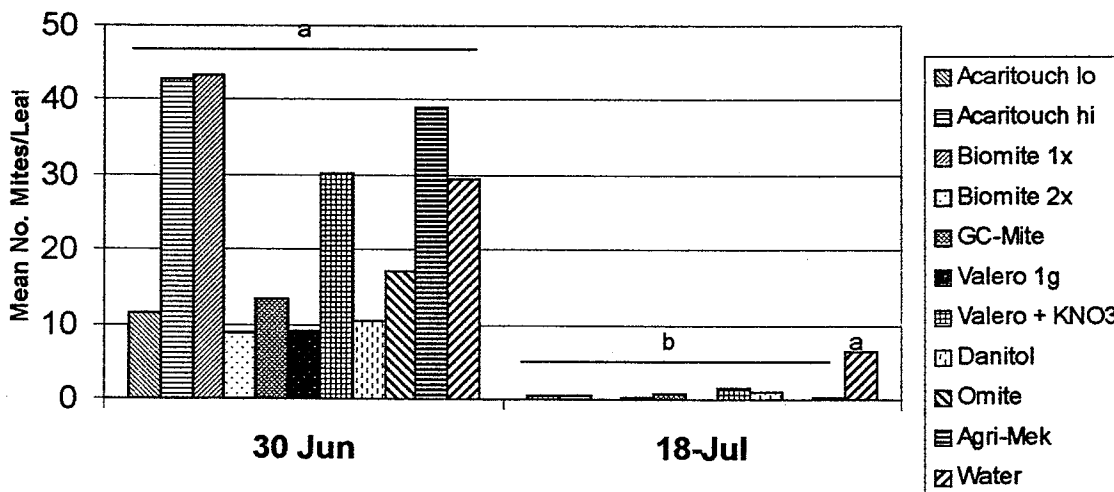


Figure 3. Effects on Mites - 4 Wk. Post-Treat. Avg. - 2000

