

(C16)

GRAPE: *Vitis vinifera* L. ‘French Colombard’

EVALUATION OF ABAMECTIN AND BIFENAZATE FOR CONTROL OF WILLAMETTE SPIDER MITE IN GRAPE, 2008

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Willamette spider mite: *Eotetranychus willamettei* Ewing

During the summer of 2008 a trial was conducted near Arvin, Kern Co., CA to determine the effects of miticides on the density of Willamette spider mite in grapes. A 1.2 acre portion of a mature vineyard with 8’ × 12’ spacing was divided into 28 plots, each 2 rows by 10 vines long. Plots were organized into a RCBD with 4 blocks of 6 treatments and an untreated check. Treatments were applied on 8 Jul at 100 GPA using an air-blast sprayer. Mite populations were evaluated at weekly intervals from application timing through harvest. Mite populations were evaluated on 7 Jul (pre-counts), 16 Jul (8 DAT), 23 Jul (15 DAT), 30 Jul (22 DAT) and 6 Aug (29 DAT). On each evaluation date, 10 leaves from the canopy interior were collected, taken to a laboratory and processed with a mite brush, and then evaluated under magnification to determine the total number of mite motiles (juveniles + adults). Data for each plot were converted into average mite motiles per leaf and were analyzed by ANOVA using transformed data (square root (x + 0.5)) with means separated by Fisher’s Protected LSD (*P* = 0.05).

Initial mite densities were moderate, with pre-counts averaging 7.4 mites per leaf. After treatments, mite densities in all treated plots were significantly reduced compared to the untreated check on all evaluation dates (Table 1). With only one exception at 8 DAT, there were no significant differences between high and low rates of any product on any evaluation date. Comparisons among treated plots resulted in no significant differences in the pre-counts, 15 DAT or 22 DAT. On 8 DAT, the high rate of Agri-Mek had significantly more mites per leaf than all treatments except the low rate of Prevamite. By 29 DAT, mite densities in plots treated with Agri-Mek were below 1 mite per leaf, plots treated with Acramite and Prevamite were between 1 and 2 mites per leaf, and all treated plots had significantly less mites than the untreated check at 9.95 mites per leaf.

Table 1. Effects of miticide treatments on the density of motile spider mites on grape leaves

Treatment ¹	Average spider mites per leaf					
	Pre	8 DAT	15 DAT	22 DAT	29 DAT	
Agri-Mek 0.15EC 12 fl oz	5.23a	0.54a	0.13a	1.94a	0.67a	
Agri-Mek 0.15EC 16 fl oz	2.95a	2.48b	0.50a	1.67a	0.73a	
Acramite 50WS 9 oz	9.28a	0.54a	0.46a	2.33a	1.20ab	
Acramite 50 WS 12 oz	8.60a	0.65a	0.29a	2.60a	1.10ab	
Prevamite SC 9 fl oz	9.83a	0.81ab	0.52a	1.17a	1.79b	
Prevamite SC 12 fl oz	11.63a	0.56a	0.23a	1.44a	1.19ab	
Untreated	---	4.40a	5.73c	2.42b	10.31b	9.95c

¹Latron B-1956 used as a surfactant at 0.0156% v/v
 Means in a column followed by the same letter are not significantly different (*P* > 0.5, Fisher’s protected LSD) after square root (x + 0.5) transformation of the data. Untransformed means are shown.