 doi: 10.4182/amt.2009.C15

(C15)

GRAPE: *Vitis vinifera* L. 'French Colombard'

WILLAMETTE SPIDER MITE CONTROL 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 3.5 acre portion of a mature vineyard with 8' × 12' spacing was divided into 75 plots, each 4 rows by 10 vines long. Plots were organized into a RCBD with 5 blocks of 14 treatments and an untreated check. Treatments were applied at 200 gpa on 24 Jun and 26 Jun using an air-blast sprayer. Mite populations were evaluated on 23 Jun (pre-counts), 27 Jun (3 DAT), 2 Jul (6/8 DAT), 9 Jul (13/15 DAT), 16 Jul (20/22 DAT), 23 Jul (27/29 DAT), 30 Jul (34/36 DAT), and 6 Aug (41/43 DAT). On each evaluation date, 10 leaves from the inside of the canopy were collected, taken to a laboratory and processed through 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 ($P = 0.05$).

Mite densities were low to moderate with precounts averaging 3.7 mites per leaf and the untreated checks never exceeding an average of 12 mites per leaf. All treatments significantly reduced mite densities on at least one evaluation date (Table 1). Plots treated with Fujimite and Onager maintained mite densities < 1 mite per leaf until the end of the trial. Apollo, Brigade, Prevamite (12 fl oz), and Zeal also maintained mite densities < 1 mite per leaf through 34/36 DAT. Agri-Mek and Zoro (12 fl oz) reduced mite densities at 13/15 DAT, but by 20/22 DAT effects were lost. Zoro performed better at the 16 fl oz rate and mite densities were reduced through 34/36 DAT.

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

		Average spider mites per leaf							
Treatment[1]	Rate	Pre	3 DAT	6/8 DAT	13/15 DAT	20/22 DAT	27/29 DAT	34/36 DAT	41/43 DAT
Agri-Mek 0.15EC	12 fl oz	4.3a	0.88a	1.30abc	1.17bcd	1.60bcd	4.10ef	7.60d	15.93f
Agri-Mek 0.15EC	16 fl oz	8.9a	0.80a	1.03ab	0.72abcd	2.73cd	3.65ef	2.38bc	6.08cde
Acramite 50WS	9 oz	0.5a	0.57a	0.47a	0.20a	0.45ab	1.18abcd	1.87ab	4.17abc
Acramite 50 WS	12 oz	0.7a	0.43a	0.37a	0.12a	0.72ab	1.07abcd	0.98ab	3.07abc
Prevamite SC	12 fl oz	0.9a	0.25a	0.12a	0.10a	0.27a	0.72abcd	0.88ab	3.60abc
Prevamite SC	16 fl oz	9.6a	1.75a	0.25a	0.17a	0.15a	0.88abc	1.95ab	2.83abc
Apollo 42SC	8 fl oz	2.5a	---	0.28a	0.10a	0.20a	0.33a	0.13a	1.43ab
Brigade 10WSB	16 oz	1.8a	---	0.12a	0.02a	0.07a	0.62ab	0.40ab	3.28abc
Envidor 2SC	18 fl oz	2.3a	---	2.47bc	1.92d	1.22abc	1.93bcde	1.78ab	5.02bcd
Fujimite 5EC	2 pt	2.1a	---	0.42a	0.03a	0.17a	0.43ab	0.08a	0.88a
Onager	20 fl oz	3.6a	---	0.18a	0.07a	0.15a	0.28a	0.18ab	0.98a
Zeal 72 WDG	2 oz	2.4a	---	0.57ab	0.23abc	0.22a	0.30a	0.63ab	2.43abc
Zoro 0.15EC	12 fl oz	7.9a	---	1.20abc	0.63abc	1.83bcd	3.03def	5.08cd	10.72ef
Zoro 0.15EC	16 fl oz	7.2a	---	1.43abc	1.92cd	0.72ab	2.27cde	1.88abc	9.18de
Untreated check	---	0.5a	1.92a	3.15c	3.44e	2.78d	5.12f	7.48d	11.87ef

[1]Latron 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.