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PEACH: *Prunus persica* (L.), 'Batsch'

PACIFIC SPIDER MITE CONTROL IN PEACH, 2007

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Pacific spider mite: *Tetranychus pacificus* McGregor

During the early summer of 2007 a trial was conducted near Arvin, Kern Co., CA to determine the effects of miticides on the density of Pacific spider mite in peaches. A total of 160 trees were organized into a RCBD with 5 blocks of 15 treatments and an untreated check. Plot size was one row by two trees and treatments were applied on 4 Jun using a Schaben, gas-powered sprayer equipped with a hand gun at 150 psi. Applications were made at 200 gpa. Mite populations were evaluated before treatments on 31 May and 7, 14, and 21 DAT. On each evaluation date, 10 leaves were collected, taken to a laboratory and evaluated under magnification to determine the total number of Pacific spider mite motiles (juveniles + adults) and eggs. Data for each plot were converted into average Pacific spider mite motiles per leaf and average Pacific spider mite eggs per leaf, and were analyzed by ANOVA using transformed data (square root (x + 0.5)) with means separated by Fisher's Protected LSD ($P = 0.05$).

There were no differences in mite densities in the pretreatment counts (Table 1). On all three post-treatment evaluation dates, the four treatments of abamectin products—Agri-Mek, both rates of Zoro, and Abba—provided the best overall control. In the 7 and 14 DAT evaluations, Zeal, Acramite, and the two Envidor treatments resulted in mite densities higher than, but statistically equivalent to the abamectin treatments. Vendex and Onager provided some control that was statistically comparable to the Envidor, Zeal and Acramite treatments, but not as good as the top abamectin treatments. Apollo and the four treatments of oil products—415 Oil, Ecotrol, and both rates of QRD 400— performed poorly, and in most cases resulted in mite densities statistically equivalent to the untreated check. By 21 DAT, only the four abamectin treatments had mite densities that were still below precounts. Treatment effects on spider mite eggs (Table 2) paralleled the effects on motiles. Abamectin treatments provided excellent reductions in eggs through the duration of the trial. Of the remaining treatments, some resulted in significant reductions in mite densities compared to the untreated check, though in seven cases egg densities already surpassed those of the precounts by 7 DAT, and in all cases by 14 DAT.

Table 1.

Treatment/ formulation	Rate form product/acre or v/v	Mean no. of mites per leaf			
		Precounts	7 DAT	14 DAT	21 DAT
Abba 0.15EC + 415 Oil	10 fl oz + 1%	6.8a	1.5abc	2.1ab	3.2ab
Agri-Mek 0.15EC + 415 Oil	10 fl oz + 1%	7.3a	0.1ab	0.4a	2.6a
Zoro 0.15EC + 415 Oil	10 fl oz + 1%	6.8a	0.2ab	0.8a	2.8ab
Zoro 0.15EC + 415 Oil	20 fl oz + 1%	4.8a	0.1a	0.7a	1.0a
Zeal 72WDG + 415 Oil	3 oz + 1%	7.8a	2.5abcd	8.4ab	16.7abcd
Acramite 50WS + Oil	1 lb + 1%	2.9a	0.4abc	5.4ab	23.9cd
Envidor 2SC + Induce	18 fl oz + 0.25%	5.8a	0.8abc	6.8ab	10.3abc
Envidor 2SC + 415 Oil	18 fl oz + 1%	1.3a	1.9abc	12.2abc	21.1bcd
Vendex 50WP + Dyne-Amic	2 lb + 0.25%	4.6a	2.0abcd	17.5bcd	31.4cd
Onager 1EC + Induce	20 fl oz + 0.25%	6.3a	4.2bcde	19.0bcd	27.9cd
Apollo 42SC + Sylgard	8 fl oz + 0.012%	7.7a	7.8de	41.4def	33.4cde
415 Oil	2%	4.3a	4.9cde	37.8def	36.5def
Ecotrol 10EC + Induce	6 pt + 0.25%	5.6a	9.3ef	37.5cde	42.8def
QRD 400 25EC	4 pt	6.5a	8.7ef	77.5f	83.6fg
QRD 400 25EC	8 pt	8.8a	17.6f	63.3ef	73.6efg
Untreated check	---	4.2a	16.0f	64.1ef	85.8g

Means in a column followed by the same letter are not significantly different ($P > 0.05$, Fisher's protected LSD) after square root (x + 0.5) transformation of the data. Untransformed means are shown.

Table 2.

Treatment/ formulation	Rate form product/acre or v/v	Mean no. of mite eggs per leaf			
		Precounts	7 DAT	14 DAT	21 DAT
Abba 0.15EC + 415 Oil	10 fl oz + 1%	8.8a	0.2ab	0.9ab	0.9a
Agri-Mek 0.15EC + 415 Oil	10 fl oz + 1%	4.0a	0.03a	0.2ab	0.8a
Zoro 0.15EC + 415 Oil	10 fl oz + 1%	5.0a	0.1a	0.4ab	0.8a
Zoro 0.15EC + 415 Oil	20 fl oz + 1%	7.1a	0.03a	0.1a	0.6a
Zeal 72WDG + 415 Oil	3 oz + 1%	8.6a	5.6cd	13.6abcde	17.5b
Acramite 50WS + 415 Oil	1 lb + 1%	3.4a	0.4ab	6.6abc	19.8bc
Envidor 2SC + Induce	18 fl oz + 0.25%	5.6a	3.6bcd	10.4abcd	18.6bc
Envidor 2SC + 415 Oil	18 fl oz + 1%	1.9a	4.0abc	12.1abcd	29.4bc
Vendex 50WP + Dyne-Amic	2 lb + 0.25%	4.1a	3.6bcd	16.2cde	17.5bc
Onager 1EC + Induce	20 fl oz + 0.25%	4.6a	6.7cd	12.2bcde	16.3bc
Apollo 42SC + Sylgard	8 fl oz + 0.012%	5.8a	9.3cde	28.9defg	13.2b
415 Oil	2%	4.7a	7.4cd	37.4efgh	22.1bc
Ecotrol 10EC + Induce	6 pt + 0.25%	6.0a	9.6cde	29.2def	10.1ab
QRD 400 25EC	4 pt	5.2a	9.5cde	49.0fgh	24.3bc
QRD 400 25EC	8 pt	4.1a	18.2e	77.6h	23.4bc
Untreated check	---	3.3a	10.4de	63.6gh	43.3c

Means in a column followed by the same letter are not significantly different
($P > 0.05$, Fisher's protected LSD) after square root (x + 0.5) transformation of the data.
Untransformed means are shown.