

Chemical Control/New Products

EVALUATION OF NEW MITICIDES FOR CONTROL OF SPIDER MITES IN PEAR

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Three trials were conducted in WA to evaluate four new miticides for control of twospotted spider mites, *T. urticae*, on pears. Two handgun plots consisting of single tree reps, randomized four times in a RCB design, were conducted—one at Chief Wenatchee CRO orchards south of Wenatchee and one at Darrell Harndon orchards near Cashmere, WA. A large block airblast trial was also located at the CRO location and consisted of single blocks of 10 trees long by 3 rows wide. Handgun plots were sprayed using a piston pump type sprayer operated at 400 psi and applying a dilute spray of 400 gpa. The airblast trial was sprayed with a “Rears” 3-point hitch mounted sprayer calibrated to apply 100 gpa. The handgun CRO trial was sprayed on 29 Aug, the Harndon plot on 15 Sep, and the airblast CRO on 31 Aug. Mites were sampled by picking 25 leaves from each of the four replicates in the handgun plots and from four locations from the middle of each block in the airblast trial. The leaves were brushed with a standard mite brushing machine onto glass plates, and eggs and actives were counted on half the area of each plate. Data were subjected to ANOVA and means for the individual count dates were separated using Student-Newman-Keuls at $p=0.05$. Overall means were separated using Post Hoc LSD.

Results. Treatments, rates, and mite counts are given in Table 1 (Harndon), Table 2 (CRO handgun), and Table 3 (CRO airblast). In the Harndon plot, all of the treatments reduced mite numbers below that found in the control plots by one week after treatment. Two weeks after application, all of the treatments continued to give excellent control. There were no significant differences between any of the treated plots, however.

In the CRO handgun plot, all of the treatments significantly reduced mite numbers below that found in the control four days after application. All of the compounds were still giving good control four weeks after application. Overall means showed that V-1283 at both rates, Agri-Mek®, and the high rate of GWN-1725 gave the best control, however these were not significantly better than the other treated plots with the exception of the high rate of UCC-D234. All of the treated plots were statistically better than the untreated control.

In the airblast trial at CRO, all of the compounds reduced mite numbers by two weeks after application. Three weeks after application, only UCC-D234 significantly reduced mite numbers below those found in the control. By the last sample, all of the treated plots had fewer mites than the control.

Conclusions. All four of the new miticides gave good control of twospotted spider mites and were as effective or more effective than the standards. Although none of the new miticides

are yet registered on pears, the respective companies are actively pursuing registration. Any or all of these compounds may be valuable tools for pear growers needing to control spider mites.

Table 1. Mite numbers per leaf¹ on Harndon plot

Treatment	Rate	15-Sep	19-Sep	22-Sep	28-Sep	Overall ²
Control		25.20a	3.44a	12.64a	8.78a	a
UCC-D234	0.75 lb/acre	13.94a	1.46a	1.20b	0.32b	b
UCC-D234	1.0 lb/acre	21.58a	0.56a	0.56b	0.12b	b
Pyramite®	10 oz/acre	23.68a	0.36a	1.02b	0.96b	b
Agri-Mek®	16 fl oz/acre	24.92a	0.16a	0.94b	0.44b	b
Savey®/Vendex®	6 oz+2 lb/acre	10.76a	0.36a	0.60b	0.14b	b
V1283	0.188 lb/acre	16.30a	3.62a	1.50b	1.22b	b
Agri-Mek®	12 fl oz/acre	15.70a	0.34a	1.04b	0.28b	b
BAJ 2740	11 fl oz/acre	10.10a	2.54a	2.06b	0.48b	b
BAJ 2740	18 fl oz/acre	17.48a	0.46a	0.30b	0.22b	b
Kelthane®	8 lb/acre	23.57a	1.06a	2.16b	1.04b	b
GWN-1725	35 fl oz/acre	8.68a	1.46a	1.12b	0.26b	b

¹Means in columns followed by the same letter are not significantly different according to Student-Newman-Keuls ($p=0.05$). ²Overall average means (Post Hoc LSD).

Table 2. Mite numbers per leaf¹ on CRO handgun plot

Treatment	Rate	28-Aug	01-Sep	08-Sep	18-Sep	26-Sep	Overall ²
Control		14.22a	13.60a	6.74a	3.26a	3.94a	a
UCC-D234	0.75 lb/acre	2.64a	3.62b	1.04b	0.12b	0.70b	bc
UCC-D234	1.0 lb/acre	18.96a	1.90b	1.78b	0.06b	0.24b	b
Pyramite®	10 oz/acre	5.32a	1.48b	0.88b	0.36b	0.34b	bc
Agri-Mek®	16 fl oz/acre	4.26a	0.96b	0.54b	1.02b	1.12b	bc
V1283	0.09 oz/acre	3.88a	0.14b	0.20b	0.02b	0.06b	c
V1283	0.188 oz/acre	3.24a	0.82b	0.40b	0.12b	0.08b	c
Agri-Mek®	12 fl oz/acre	5.10a	1.16b	0.18b	0.30b	0.12b	bc
GWN-1725	25 fl oz/acre	6.34a	0.42b	0.58b	0.12b	0.20b	bc
GWN-1725	30 fl oz/acre	12.80a	0.98b	0.04b	0.14b	0.42b	bc
GWN-1725	35 fl oz/acre	1.70a	1.22b	0.28b	0.12b	0.16b	c

¹Means in columns followed by the same letter are not significantly different according to Student-Newman-Keuls ($p=0.05$). ²Overall average means (Post Hoc LSD).

Table 3. Mite numbers per leaf¹ on CRO airblast plot

Treatment	Rate	30-Aug	05-Sep	12-Sep	20-Sep	27-Sep	Overall ²
Control		8.58a	7.26a	7.54a	4.24a	6.56a	a
UCC-D234	1.0 lb/acre	3.70a	0.76a	0.08b	0.12b	0.02b	c
V1283	0.188 lb/acre	9.72a	5.58a	1.16ab	0.40b	0.14b	bc
BAJ 2740	18 fl oz/acre	8.46a	6.90a	2.98ab	0.86ab	0.22b	bc
Savey®/Vendex®	6 oz + 2 lb	9.26a	2.80a	0.78ab	1.32ab	1.58b	bc
Agri-Mek®	10 fl oz/acre	9.20a	3.42a	2.76ab	2.60ab	1.52b	b

¹Means in columns followed by the same letter are not significantly different according to Student-Newman-Keuls ($p=0.05$). ²Overall means (Post Hoc LSD).