

Chemical Control/New Products

Control of European red mite in pears—2002

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Abstract: A trial was conducted in Fairfield, CA, to evaluate the efficacy of three miticides (Acramite, Pyramite and Mesa) for control of European red mite (ERM) in pears after harvest. There was no significant difference in the number of ERM among the experimental miticides and the post-harvest untreated control for the pre-treatment sample. After the application, all experimental miticides caused a significant reduction in the ERM population compared to the post-harvest untreated control. Thus the repeated in-season applications of Asana for codling moth control resulted in a secondary flare-up of ERM. Although there was no significant difference among the experimental miticides, it appears that Mesa was slower acting and slightly less effective than Acramite and Pyramite. There was a slight rate response with Acramite. All of the miticides provided excellent control of ERM.

Materials and Methods

A miticide trial was conducted on mature 'Bartlett' pear trees in a commercial orchard near Fairfield, CA. Four experimental insecticides and two untreated controls were replicated four times in a RCB design. Each replicate consisted of an individual tree with buffer trees in each direction. Treatments were applied between 8:00-10:00 a.m. on 15 Aug with a hand-held orchard sprayer operating at 250 psi and delivering 200 gpa of finished spray (2.87 gal/tree). All of the trees, except for the untreated control (season), were treated with 4.2 lb (AI)/acre of Imidan on 23 April and 1.25 lb (AI)/acre of Guthion on 28 May and 1 July to flare twospotted spider mite (TSSM) and pear psylla (PP) populations. Control of motile ERM was evaluated weekly from 12 Aug (pre-treatment sample) through 23 Sep by sampling 10 exterior and 10 interior leaves per replicate. The leaves were brushed and the motile ERM were counted under magnification (20X).

Results and Discussion

There was no significant difference in the number of ERM among the experimental miticides and the post-harvest untreated control for the pre-treatment sample (Table 1). After the application, all experimental miticides caused a significant reduction in the ERM population compared to the post-harvest untreated control. However, there was no difference among the experimental miticides and the untreated control (season). Thus the repeated in-season applications of Imidan and Guthion resulted in a flare-up of ERM. Although there was no significant difference among the experimental miticides, it appears that Mesa was slower acting and slightly less effective than Acramite and Pyramite. There was a slight rate response with

Acramite. Few TSSM or western predatory mites were observed among the treatments and their numbers are not reported. Acramite, Pyramite and Mesa provided excellent control of ERM.

Table 1. Mean number of European red mites per 20 leaves in Fairfield, CA - 2002

Treatment	Rate lb (AI)/ac	Mean ^a no. European red mites per 20 leaves					
		8/12 ^b	8/19	8/26	9/3	9/9	9/16
Acramite 50 W	0.375	28.3 b	2.8 a	1.0 a	0.8 a	0.3 a	0.3 a
Acramite 50 W	0.500	14.5 ab	3.5 a	0.5 a	0.5 a	0.0 a	0.0 a
Pyramite 60W	0.495	12.5 ab	0.8 a	0.0 a	2.0 a	0.0 a	0.0 a
Mesa 0.078	0.015	21.8 ab	13.0 a	0.5 a	8.0 a	1.8 a	1.8 a
Untreated	—	13.5 ab	76.0 b	11.0 b	43.0 b	17.5 b	10.5 b
Post-harvest Untreated	—	1.3 a	6.0 a	2.0 a	5.8 a	0.7 a	0.3 a
Season							

^aMeans followed by the same letter within a column are not significantly different.

(Fisher's protected LSD, P < 0.05).

^b Pre-treatment sample.