

## Chemical Control/New Products

### Control of twospotted spider mite on sweet cherry, 2002

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*Abstract:* A trial was conducted in Stockton, CA, to evaluate the efficacy of four miticides (Acramite, Omite, Savey and Mesa) for control of twospotted spider mite (TSSM) on sweet cherry. TSSM numbers were significantly reduced for three weeks and numerically reduced for five weeks by all experimental miticides compared to the untreated control. Acramite and Omite resulted in a rapid decline in the population within 10 days of application. However Mesa and Savey required about three weeks to reduce the population to the same degree as Acramite or Omite. There was not a strong rate response with Acramite. All miticides evaluated provided excellent control. Acramite and Omite appear to be more rapid in suppressing the TSSM population than Mesa and Savey. All miticides appear to be very selective for western predatory mites and thus fit well into integrated mite management programs.

### Materials and Methods

A trial was conducted on mature 'Bing' cherry trees in a commercial orchard near Linden, CA. Five experimental insecticides and an untreated control were replicated six 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 26 Aug with a hand-held orchard sprayer operating at 250 psi and delivering 400 gpa of finished spray (3.67 gal/tree). Control of motile TSSM and WPM was evaluated weekly from 22 Aug (pre-treatment sample) through 30 Sep by sampling 10 exterior and 10 interior leaves per replicate. The leaves were brushed and the motile TSSM and WPM were counted under magnification (20X).

### Results and Discussion

TSSM numbers were significantly reduced for 3 weeks and numerically reduced for 5 weeks by all experimental miticides compared to the untreated control (Table 1). Acramite and Omite resulted in a rapid decline in the population within 10 days of application. However, Mesa and Savey required about three weeks to reduce the population to the same degree as Acramite or Omite. There was not a strong rate response with Acramite. Acramite at 0.375 lb (AI)/acre provided very acceptable mite control and was similar to Acramite at 0.5 lb (AI)/acre. These miticides had little or no effect on WPM (Table 2). The slightly lower number of WPM as

the trial progressed may be due to a lack of prey more than the toxicity of the miticides to WPM. All miticides evaluated provide excellent control. Acramite and Omite appear to be more rapid in suppressing the TSSM population than Mesa or Savey. All miticides appear to be very selective for WPM and thus will fit well into integrated mite management programs.

**Table 1.** Mean number of twospotted spider mites per 20 leaves in Linden, CA - 2002

Treatment	Rate lb (AI)/acre	Mean <sup>a</sup> no. twospotted spider mites per 20 leaves					
		8/22 <sup>b</sup>	9/4	9/11	9/17	9/23	9/30
Acramite 50W	0.375	76.5 a	4.7 a	8.0 a	1.0 a	6.0 ab	4.5 a
Acramite 50W	0.500	121.5 ab	3.2 a	4.3 a	3.3 a	2.0 ab	3.7 a
Omite 30W	1.800	121.8 ab	5.5 a	7.3 a	4.3 a	0.3 a	2.3 a
Savey 50DF	0.125	119.7 ab	14.5 a	18.7 a	2.7 a	1.7 ab	2.2 a
Mesa 0.078EC <sup>c</sup>	0.015	162.8 b	19.2 a	19.0 a	2.0 a	0.6 a	4.8 a
Untreated	—	88.7 ab	64.3 b	88.0 b	19.6 b	55.7 b	12.0 a

<sup>a</sup>Means followed by the same letter within a column are not significantly different (Fisher's protected LSD, P<0.05).

<sup>b</sup> Pre-treatment sample.

<sup>c</sup> Treatment contained 0.25% Omni Supreme oil by volume.

**Table 2.** Mean number of western predatory mites per 20 leaves in Linden, CA - 2002

Treatment	Rate lb (AI)/acre	Mean <sup>a</sup> no. western predatory mites per 20 leaves					
		8/22 <sup>b</sup>	9/4	9/11	9/17	9/23	9/30
Acramite 50W	0.375	5.8 a	18.5 a	36.0 a	33.0 ab	50.8 a	8.2 a
Acramite 50W	0.500	19.8 b	30.8 ab	38.0 ab	28.0 a	53.0 a	7.8 a
Omite 30W	1.800	15.8 ab	33.5 ab	34.7 a	38.7 ab	43.7 a	6.7 a
Savey 50DF	0.125	9.0 ab	46.0 b	50.7 ab	42.0 ab	52.7 a	9.5 a
Mesa 0.078EC <sup>c</sup>	0.015	15.5 ab	32.3 ab	50.7 ab	31.3 ab	31.0 a	8.8 a
Untreated	—	9.8 ab	31.7 ab	62.0 b	61.6 b	65.0 a	22.7 b

<sup>a</sup>Means followed by the same letter within a column are not significantly different (Fisher's protected LSD, P<0.05).

<sup>b</sup> Pre-treatment sample.

<sup>c</sup> Treatment contained 0.25% Omni Supreme oil by volume.