

Chemical Control/New Products

USE OF NEW AND REGISTERED COMPOUNDS FOR CONTROL OF GRAPE  
MEALYBUG ON PEARS

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*Abstract:* This test examined various timings and rates of four neonicotinyl compounds compared to Imidan and Applaud. These compounds were used in combinations of clusterbud plus midsummer applications and petal fall plus midsummer applications. This was a single tree, RCB design with four replicates. Sampling consisted of counting GMB crawlers/spur until 8 May when we converted to doing timed counts of foliage as number of GMB observed/min<sup>1</sup>. The petal fall plus summer applications of Assail, Actara, Applaud, Calypso and Provado appeared to have the most effect on GMB populations in the upper canopy. The clusterbud plus summer applications were not as effective. In the lower canopy all compounds tested provided similar control late in the season.

**Materials and Methods**

This test was conducted in a block of Bartlett pear trees at CRO orchards near Rock Island, WA. Individual plots were single trees replicated four times in a randomized complete block design. Treatments were applied on 18 Apr for the first generation and 18 May for a petal fall application. The summer generation was treated on 17 Jul. Treatments were applied to drip using a handgun sprayer (400 psi) simulating a dilute spray of approximately 400 gpa.

Assail, Actara, Calypso, and Provado were the compounds tested. The rates and timings used are listed in Table 1. Mealybugs were evaluated by counting nymphs and adults on 5 spurs per plot through 8 May. From 18 May through the rest of the season three 1-minute counts were performed on the lower (ground level) and upper (from a 10 foot ladder) portion of each tree. Each count evaluated the number of GMB seen in 1 minute's time.

**Results and Discussion**

The petal fall and summer applications appeared to have the most effect on GMB populations in the upper canopy (Table 1). The clusterbud applications did not appear to have any effect. All compounds worked well.

**References Cited**

<sup>1</sup>C. A. Geiger & K. M. Daane, J. Econ. Entomol. 94(1): 291-301 (2001).

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Table 1. High

			GMB/spur				GMB/1 min count					
			10-Apr	25-Apr	4-May	8-May	18-May	24-May	19-Jun	6-Jul	23-Jul	13-Aug
1.Control	Rate/acre		0.30 a	1.15 a	0.45 a	0.10 a	15.50 a	30.08 a	43.00 a	2.80 a	9.60 a	22.50 a
2.Actara 25 WP+	4.5 oz	CB	0.60 a	0.40 a	0.30 a	0.00 a	43.50 a	29.83 a	19.70 bc	0.80 b	6.00 ab	8.17 b
Actara WP	3.5 oz	Summer										
3.Actara 25 WP+	5.5 oz	CB	0.55 a	0.60 a	3.30 a	0.15 a	43.88 a	18.83 a	23.60 bc	0.40 b	6.20 ab	6.25 b
Actara WP	2.5 oz	Summer										
4.Provado 1.6 FL +	1 pt	CB	0.95 a	0.65 a	1.05 a	0.00 a	31.44 a	19.83 a	14.30 bc	0.70 b	8.10 ab	4.34 b
Imidan 70 WP	1 lb	Summer										
5.Assail 70 WP	1.7 oz	CB,Summer	0.40 a	2.20 a	0.10 a	0.05 a	30.75 a	15.75 a	15.80 bc	0.30 b	3.80 ab	4.92 b
6.Assail 70 WP	3.4 oz	CB	0.40 a	0.15 a	0.60 a	0.10 a	19.56 a	18.58 a	15.40 bc	0.90 b	5.50 ab	10.25 b
7.Calypso 4 EC	12 fl oz	CB,Summer	8.05 a	2.30 a	3.00 a	0.25 a	40.88 a	25.42 a	33.00 ab	1.00 b	3.70 ab	4.25 b
8.Applaud 70 WP	1 lb	CB,Summer	0.75 a	0.80 a	0.30 a	0.00 a	15.63 a	13.83 a	7.30 c	0.70 b	3.70 ab	8.25 b
9.Applaud 70 WP	1.5 lb	CB,Summer	0.70 a	0.05 a	1.05 a	0.20 a	20.31 a	11.00 a	6.60 c	0.80 b	5.20 ab	8.67 b
10.Calypso 4 EC	4 fl oz	CB,PF,Summer	0.35 a	0.20 a	0.20 a	0.00 a	17.94 a	24.50 a	6.90 c	0.70 b	3.90 ab	7.67 b
11.Actara 25 WP+	4.5 oz	PF	0.20 a	0.35 a	0.45 a	0.00 a	23.69 a	31.17 a	10.70 bc	0.60 b	6.40 ab	8.92 b
Actara WP	3.5 oz	Summer										
12.Actara 25 WP+	5.5 oz	PF	0.60 a	1.55 a	0.10 a	0.15 a	28.94 a	19.00 a	12.80 bc	0.60 b	4.30 ab	6.50 b
Actara WP	2.5 oz	Summer										
13.Provado 1.6 FL	1 pt	PF,Summer	0.25 a	0.55 a	0.75 a	0.10 a	28.94 a	25.67 a	25.30 bc	0.70 b	3.70 ab	7.34 b
14.Assail 70 WP	1.7 oz	PF,Summer	0.30 a	0.60 a	1.60 a	0.05 a	44.31 a	13.17 a	10.80 bc	0.40 b	4.10 ab	4.84 b
15.Assail 70 WP	3.4 oz	PF,Summer	2.40 a	0.35 a	0.35 a	0.00 a	27.13 a	19.83 a	12.40 bc	0.50 b	4.10 ab	2.58 b
16.Calypso 4 EC	12 fl oz	PF	0.10 a	0.40 a	0.40 a	0.05 a	23.69 a	13.00 a	10.90 bc	0.80 b	6.20 ab	7.84 b
17.Applaud 70 WP +	1 lb	PF	0.00 a	1.45 a	0.15 a	0.00 a	20.31 a	21.83 a	10.60 bc	0.30 b	4.20 ab	3.25 b
Actara WP	4.5 oz	Summer										
18.Applaud 70 WP +	1.5 lb	PF	0.35 a	2.20 a	0.55 a	0.00 a	27.69 a	26.83 a	7.70 c	0.70 b	2.70 b	5.50 b
Actara WP	5.5 oz	Summer										