

Chemical Control/New Products

CONTROL OF PEAR PSYLLA NYMPHS

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Abstract: Four different trials were conducted to evaluate various materials at different rates and timings to control PP on pears. Treatments were applied to single-tree plots replicated four times in a randomized complete block design. Treatments were applied with a handgun sprayer at 400 psi to the point of drip, at a spray volume of approximately 200 gpa.

Materials and Methods

Trial 1 used combinations of prebloom + summer and petal fall + summer applications for season-long pear psylla control. Application dates for this trial were 16 Apr cluster bud (CB), 7 May (PF), 2 Jul (Sum 1), and 26 Jul (Sum 2).

Trial 2 compared prebloom materials for PP control. Application dates were 19 Mar delayed dormant (DD), 12 Apr cluster bud (CB), and 17 Apr popcorn (PC).

Trial 3 compared postbloom materials for PP control. Applications were made on 7 May petal fall (PF).

Trial 4 was a single late season application comparing full, half rates and varied combinations of materials. All were applied on 2 Jul.

PP nymph counts up through 1 May were made by collecting 5 spurs per tree and examining them under magnification and counting the number of eggs and nymphs. Starting on 9 May, 25 leaves were collected from each tree and were brushed with a standard mite-brushing machine onto a glass plate. Plates were examined under magnification and the number of nymphs recorded.

Results and Discussion

Trial 1. Clusterbud and petal fall applications provided control of nymphs for approx. 6 weeks. Summer applications of half rates of Provado + Actara did not provide as good control as the half rate applications of Assail + Actara. The summer application of a half rate of Actara by itself gave very little control. Summer applications of full rates of Pyramite, Applaud, Provado and Agri-Mek provided the best control of nymphs.

Trial 2. Control of nymphs began to appear 3 weeks after CB and PC applications. All CB and PC applications provided short-term control with the high rate of Actara providing the best overall control.

Trial 3. All compounds tested provided a significant decrease in PP nymphs and adults for 6 weeks+.

Trial 4. The full rate of Provado provided the best control of nymphs. The half rate of Provado provided the least control. All other treatments were comparable.

Trial 1. Table 1.

Treatment	Rate/acre	Timing	Nymphs/spur		Nymphs/leaf					
			16-Apr	23-Apr	11-May	1-Jun	25-Jun	16-Jul	30-Jul	29-Aug
Check			4.30 ab	10.65 a	1.56 a	0.30 ab	1.76 a	1.66 bc	2.66 b	0.98 a-d
Actara 25WG	5.5 oz/acre	CB/Sum2	2.20 ab	12.05 a	0.16 c	0.08 bc	0.00 b	3.82 a	1.76 b	1.26 ab
Assail 70WP	3.4 oz/acre	CB/Sum2	2.20 ab	7.45 a	0.20 c	0.02 c	0.16 b	2.32 abc	2.24 b	0.44 cde
Provado 1.6FL	1 pt/acre	CB/Sum2	1.65 ab	2.50 a	0.16 c	0.10 bc	0.16 b	2.38 abc	2.16 b	1.04 abc
Calypso 480FL	12 fl oz/acre	CB/Sum2	4.60 a	6.40 a	0.20 c	0.10 bc	0.20 b	2.08 bc	2.16 b	0.76 b-e
Applaud 70WP	1 lb AI/acre	CB/Sum2	1.35 ab	8.60 a	0.30 bc	0.14 abc	0.20 b	2.70 abc	2.54 b	1.04 abc
Applaud 70WP	1.5 lb AI/acre	CB/Sum2	2.80 ab	10.90 a	0.48 bc	0.20 abc	0.36 b	2.42 abc	2.28 b	0.32 de
Pyramite 60WP+	13.2 oz/acre	PF/Sum2	0.60 b	5.40 a	0.60 bc	0.08 bc	0.38 b	1.74 bc	3.00 b	0.28 e
Saf-T-Side	0.25% v/v	PF/Sum2								
Calypso 480FL	4 fl oz/acre	CB,PF,Sum1	0.40 b	10.20 a	0.06 c	0.04 c	0.16 b	1.64 bc	1.76 b	1.20 ab
Calypso 480FL	12 fl oz/acre	PF	4.90 a	7.15 a	0.24 c	0.08 bc	0.26 b	3.96 a	2.58 b	0.64 b-e
Provado 1.6FL+	16 fl oz/acre	PF	1.45 ab	5.50 a	0.22 c	0.06 c	0.36 b	2.84 abc	3.02 b	1.46 a
Actara 25WG+	2.5 oz/acre	Sum2								
Provado 1.6FL	8 fl oz/acre	Sum2								
Agri-Mek 0.15EC+	20 fl oz/acre	PF/Sum2	4.55 a	8.55 a	0.62 bc	0.04 c	0.24 b	1.50 c	2.68 b	0.34 de
Saf-T-Side	0.25% v/v	PF/Sum2								
Applaud 70WP+	1.5 lb AI/acre	PF	1.55 ab	9.95 a	0.88 b	0.36 a	0.36 b	3.26 ab	1.98 b	0.90 a-e
Actara 25WG+	2.5 oz/acre	Sum								
Assail 70WP	1.7 oz/acre	Sum								
Actara 25WG+	5.5 oz/acre	PF	3.80 ab	7.65 a	0.10 c	0.06 c	0.24 b	1.58 c	5.04 a	1.54 a
Actara 25WG	2.5 oz/acre	Sum								

Means within columns followed by the same letter are not significantly different (Student-Newman-Keuls $P=0.05$).

Trial 2. Table 2.

Treatment	Form	Rate/acre	Timing	Nymphs/Spur				Nymphs/Leaf	
				3-Apr	17-Apr	24-Apr	1-May	9-May	14-May
1. Check				0.05 a	10.75 a	3.30 a	40.30 a	1.48 a	1.42 a
2. Asana	0.66 EC	1 pt	DD	0.00 b	4.10 b	7.05 a	41.95 a	0.88 ab	0.48 ab
3. Dimilin	25 WP	2 lb	CB	0.00 b	3.55 b	1.80 a	40.80 a	0.14 c	0.94 ab
4. Esteem	0.86 EC	1 pt	CB	0.00 b	4.65 ab	5.35 a	65.40 a	0.30 bc	0.70 ab
5. Pyramite+	60 WP	8.8 oz	PC	0.00 b	9.40 ab	0.35 a	33.65 a	0.36 bc	0.54 ab
	Saf-T-Side	SL							
6. Pyramite+	60 WP	13.2	PC	0.00 b	4.95 ab	1.45 a	22.80 a	0.18 c	0.38 ab
	Saf-T- Side	SL							
7. Actara	25 WG	4.5 oz	PC	0.00 b	6.35 ab	0.80 a	48.45 a	0.30 bc	1.10 ab
8. Actara	25 WG	5.5 oz	PC	0.00 b	4.85 ab	2.23 a	51.25 a	0.24 bc	0.22 b
9. Assail	70 WG	1.7 oz	PC	0.00 b	4.10 b	3.20 a	50.20 a	0.12 c	0.84 ab
10. Assail	70 WP	3.4 oz	PC	0.00 b	4.00 b	0.05 a	42.05 a	0.26 bc	0.84 ab

Means within columns followed by the same letter are not significantly different (Student-Newman-Keuls $P=0.05$).

Trial 3. Table 3.

Treatment	Form	Rate/acre	Nymphs/Spur		Nymphs/Leaf				
			1-May	9-May	14-May	14-Jun	29-Jun	27-Jul	30-Aug
1. Check			40.30 abc	1.48 a	1.42 a	0.56 a	1.35 ab	3.02 abc	1.56 b
2. Actara	25 WG	4.5 oz	80.95 a	0.42 bc	0.44 b	0.24 ab	0.48 ab	2.88 abc	0.54 bc
3. Actara	25 WG	5.5 oz	50.00 abc	0.18 c	0.18 b	0.10 b	0.88 ab	1.52 c	3.06 a
4. Assail	70 WP	1.7 oz	54.30 abc	0.16 c	0.26 b	0.08 b	0.48 ab	3.17 abc	1.08 bc
5. Assail	70 WP	3.4 oz	67.45 ab	0.06 c	0.82 ab	0.18 ab	0.47 ab	1.97 abc	0.90 bc
6. Agri-Mek +	0.15 EC	20 fl oz	54.30 abc	0.20 c	0.34 b	0.04 b	1.02 ab	3.80 ab	0.46 bc
	Saf-T-Side	SL							
7. Provado	1.6 FL	1 pt	48.10 abc	0.10 c	0.24 b	0.08 b	0.38 b	2.00 abc	0.36 c

Means within columns followed by the same letter are not significantly different (Student-Newman-Keuls $P=0.05$).

Trial 4. Table 4.

Treatment	Form	Rate/acre	Nymphs/leaf				
			2-Jul	10-Jul	23-Jul	1-Aug	27-Aug
1. Check			10.19 a	17.71 a	4.03 a	2.48 a	0.80 ab
2. Agri-Mek + Saf-T-Side	0.15 EC SL	0.25% v/v	3.97 a	6.75 bc	2.64 ab	1.36 bcd	0.45 b
3. Actara	25 WG	5.5 oz/acre	8.48 a	7.39 bc	1.84 ab	1.95 ab	1.39 ab
4. Provado	1.6 FL	20 fl oz/acre	8.67 a	3.44 c	2.69 ab	1.15 bcd	0.75 ab
5. Agri-Mek + Actara + Saf-T-Side	0.15 EC 25 WG SL	10 fl oz/acre 2.5 oz/acre 0.25% v/v	7.25 a	4.43 bc	2.59 ab	1.71 abc	1.73 a
6. Provado + Actara	1.6 FL 25 WG	10 fl oz/acre 2.5 oz/acre	3.36 a	6.51 bc	1.95 ab	1.01 bcd	1.28 ab
7. Agri-Mek + Provado + Saf-T-Side	0.15 EC 1.6 FL SL	10 fl oz/acre 10 fl oz/acre 0.25% v/v	7.07 a	5.41 bc	1.60 b	1.81 ab	0.56 b
8. Neemix	4.5 SL	8 fl oz/acre	4.51 a	6.08 bc	1.97 ab	2.56 a	0.48 b
9. Neemix + Actara	4.5 SL 2.5 WG	4 fl oz/acre 2.5 oz/acre	8.11 a	7.15 bc	3.36 ab	1.71 abc	0.45 b
10. Agri-Mek + Trilogy	0.15 EC 90 EC	10 fl oz/acre 2% v/v	4.48 a	8.00 bc	2.48 ab	1.63 abc	0.67 ab
11. Agri-Mek + Saf-T-Side	0.15 EC SL	10 fl oz/acre 0.25% v/v	6.64 a	6.83 bc	3.57 ab	0.61 d	0.45 b
12. Actara	25 WG	2.5 oz/acre	6.59 a	4.37 bc	2.88 ab	1.15 bcd	0.85 ab
13. Provado	1.6 EC	10 fl oz/acre	8.91 a	9.87 b	3.36 ab	0.80 cd	0.59 b

Means within columns followed by the same letter are not significantly different (Student-Newman-Keuls $P=0.05$).