

Section 4. Chemical Control/New Products

NEW INSECTICIDE EVALUATION FOR POSTBLOOM CONTROL OF PEAR PSYLLA

John E. Dunley, Greg T. Hannig,
Bruce M. Greenfield and Larry H. Bennett
WSU-Tree Fruit Research and Extension Center
1100 North Western Avenue
Wenatchee, WA 98801

Keywords: Pear psylla, *Cacopsylla pyricola*, Bartlett, D'Anjou, Asana, Esfenvalerate, PBO, Piperonyl Butoxide, Esteem, Pyriproxyfen, Saf-T-Side, Comply, Fenoxycarb, Assail, Acetamiprid, Agri-Mek, Abamectin, Neemix, Neem oil, GWN-1535, Pyramite, Pyridaben, Savey, Hexythiazox.

An experiment to test the effects of experimental and registered insecticides on pear psylla was replicated in two locations. These trials were conducted at the WSU Tree Fruit Research and Extension Center in Wenatchee, WA on pear block 25 and at Smith Tract Triangle near Orondo, WA. Treatments with location in parentheses are shown below:

Materials and Application Summary

Treatment	Materials Applied	Application Rates
Asana (25 & Triangle)	Asana 0.66 EC	1 PT/A
Asana/PBO (25 & Triangle)	Asana 0.66 EC/ PBO	1 PT/A, 1 PT/A
Esteem/Saf-T-Side (25 & Triangle)	Esteem 0.88 EC/ Saf-T-Side	1 PT/A, 0.25% V/V
Dimilin/Saf-T-Side (25 & Triangle)	Dimilin 25 WP/ Saf-T-Side	3 LB/A, 0.25% V/V
Comply (25 & Triangle)	Comply	8 OZ/A
Assail 0.075 (25)	Assail 70 WP	0.075 LB A/A
Assail 0.15 (25)	Assail 70 WP	0.15 LB A/A
Assail/Saf-T-Side (25)	Assail 70 WP/ Saf-T-Side	0.15 LB A/A, 0.25% V/V
Agrimek/Neemix (25)	Agrimek 0.15 EC/Neemix	8 FL OZ/A, 8 OZ/A
GWN-1535 (25)	GWN-1535	4 PT/A
Agrimek/Saf-T-Side (25)	Agrimek 0.15 EC/ Saf-T-Side	20 FL OZ/A, 0.25% V/V
Pyramite/Saf-T-Side (25)	Pyramite 60 WP/ Saf-T-Side	10 OZ/A, 0.25 % V/V
Pyramite/Saf-T-Side/Savey (25)	Pyramite 60 WP/ Saf-T-Side/ Savey 50 WP	8.8 OZ/A, 0.25% V/V, 4 OZ/A
Calypso (Triangle)	Calypso	4 FL OZ/A
Calypso (Triangle)	Calypso	8 FL OZ/A
Calypso/Saf-T-side (Triangle)	Calypso/ Saf-T-side	4 FL OZ/A, 0.25% V/V
Calypso/Saf-T-side (Triangle)	Calypso/ Saf-T-side	8 FL OZ/A, 0.25% V/V
Agri- Mek/Saf-T-side (Triangle)	Agri-Mek/ Saf-T-side	12 FL OZ/A, 0.25% V/V
BAJ 2740 (Triangle)	BAJ 2740	11 FL OZ/A
BAJ 2740 (Triangle)	BAJ 2740	18 FL OZ/A
Pyramite/Saf-T-side (Triangle)	Pyramite/ Saf-T-side	10 OZ/A, 0.25% V/V
BAJ 2740/Calypso (Triangle)	BAJ 2740 /Calypso	11FL OZ/A, 2 FL OZ/A
BAJ 2740/Calypso (Triangle)	BAJ 2740 /Calypso	18 FL OZ/A, 3.3 FL OZ/A

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 gal/acre. Application timings were as follows: Dormant (Asana and Asana/PBO at both sites); delayed dormant (Dimilin and Esteem at both locations); clusterbud (Comply at Smith Tract Triangle, and Comply and Assail at block 25); and petal fall (all remaining treatments). Pear psylla adult counts were made by using a beating tray with four tray samples per tree, one from each quadrant of the tree. Psylla egg and nymph counts were made through 20 April by collecting 5 spurs per tree and examining them under a binocular

dissecting scope and counting the number of eggs and nymphs. Starting on 28 April, 25 leaves were collected from each tree, and were brushed with a standard mite-brushing machine onto a glass plate. One-half the plate area was examined using a grid system and the number of egg and nymphs counted and recorded as #'s/leaf. In block 25, Assail at the high rate and Assail with Saf-T-Side were comparable to Comply on nymphs, which was highly effective in controlling pear psylla. For adults, Comply and Agri-Mek/Saf-T-Side were the most effective products, followed by Assail at the high rate, Assail/Saf-T-Side, Agri-Mek/Neemix and GWN-1535. This effect was a result of the overall population suppression provided by these insecticides. At Smith Tract Triangle, Calypso/Oil, BAJ 2740/Oil, BAJ 2740/Calypso and Esteem/Oil provided as good protection as the Industry standard Agri-Mek. If a more conventional program were to be followed, better full season control could possibly be achieved.

Block 25 Seasonal means

Treatment	Eggs	Nymphs	Adults
Control	167.3 ab	105.5 a	105.2 b
Asana	150.7 ab	68.66 a-d	103.1 b
Asana/PBO	145.1 b	64.05 a-d	127.9 a
Esteem/Saf-T-Side	135.2 b	81.12 a-d	83.15 cde
Dimilin/Saf-T-Side	161.2 ab	92.28 ab	102.8 b
Comply	157.8 ab	46.84 bcd	74.17 e
Assail 0.075	155.9 ab	37.57 cd	93.5 bcd
Assail 0.15	142.4 b	33.97 d	81.19 cde
Assail/Saf-T-Side	140.5 b	37.28 cd	79.4 cde
Agri-Mek/Nemix	213.6 a	70.59 a-d	78.71 cde
GWN-1535	180.7 ab	78.01 a-d	80.5 cde
Agri-Mek/Saf-T-Side	180.8 ab	90.32 ab	75.54 de
Pyramite/Saf-T-Side	197.6 ab	85.89 abc	89.19 b-e
Pyramite/Saf-T-Side/Savey	213 a	104.1 a	93.92 bc

Means within the same column followed by the same letter are not significantly different ($p=.05$, LSD).

Triangle Seasonal means

Treatment	Eggs low	Eggs high	Nymphs low	Nymphs high	Adults
Control	11.83 a	5.4 a	1.017 bc	21.975 b	11.725 de
Asana	10.99 a	5.4 a	1.777 a	45.9 a	32.119 a
Asana/PBO	16.41 a	6.9 a	1.704 a	40.075 a	36.019 a
Esteem/Saf-T-Side	10.47 b	7.45 a	1.038 bc	22.85 bc	14.45 bcd
Dimilin/Saf-T-Side	17.07 a	7.825 a	1.193 b	30.275 a	20.069 bcd
Comply	11.29 a	2.275 a	0.531 c	10.825 bc	10.931 e
Calypso	7.547 b	3.25 a	0.691 c	12.95 bc	12.931 cde
Calypso	15.72 a	5.9 a	0.881 c	15.475 a	11.638 cde
Calypso/Saf-T-side	10.99 b	3.075 a	0.945 c	14.325 c	13.088 de
Calypso/Saf-T-side	11.01 a	3.5 a	0.679 c	9.95 c	12.319 ef
Agri-Mek/Saf-T-side	15.31 a	4.275 a	0.873 c	12.45 c	10.981 ef
BAJ 2740	16.41 a	2.275 a	0.817 c	10.2 c	10.294 cde
BAJ 2740	18.13 a	4.075 a	1.372 bc	10.975 bc	11.894 cde
Pyramite/Saf-T-side	16.53 a	7.1 a	1.476 b	25.575 bc	16.3 bcd
BAJ 2740/Calypso	17.22 a	3.775 a	1.265 c	11.025 c	7.3313 f
BAJ 2740/Calypso	11.73 a	6.025 a	1.196 c	13.075 bc	10.469 ef

Means within the same column followed by the same letter are not significantly different ($p=.05$, LSD).