

II. Pome Fruits

d. Chemical control

1. Pear Psylla (PP); *Psylla pyricola*: Pear 'Bartlett Seedling'

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PEAR PSYLLA, LAB SCREENING OF INSECT GROWTH REGULATORS, 1989.

Tests were conducted on pear seedlings (from open pollinated 'Bartlett' seeds) growing in 4-inch pots. Seedlings were infested with PP eggs by caging 25 adults on each for 5 d. Treatments were applied with a hand operated atomizer sprayer to the point of heavy drip. In one test seedlings were sprayed with water dilutions of candidate pesticides 1 d before adults were caged on them. In another test infested seedlings were sprayed when about one-half the eggs had hatched. In both tests 5 serial dilutions of each pesticide were evaluated. Seedlings were sprayed with water only to provide controls for each test.

Treated seedlings with eggs and nymphs were held in a growth room at ca. 75 °F and 16L:8 D for 8 to 17 d, then treatments were evaluated by counting remaining eggs and live and dead nymphs on the entire plant under magnification. I have assumed that eggs which appear normal at evaluation time were non-viable. Percent mortality was calculated and data were corrected for check mortality by Abbott's formula.

Fenoxycarb and Dimilin were most active when eggs were deposited on residues as opposed to applying treatments to newly hatched nymphs and eggs ready to hatch. XRD 473 and S 71639 were active against both newly deposited eggs and mixed populations of aged eggs and newly hatched nymphs. SN 85292 was active against both eggs and nymphs. UBI A1335 was more active against nymphs than against newly deposited eggs.

Compound	Eggs laid on treated seedlings Abbott's % mortality at listed amt/100 gal				
	1 lb	.5 lb	.25 lb	.125 lb	.0625 lb
Fenoxycarb 25% WP Treated 3 May	100	100	100	100	100
Dimilin 25% WP Treated 3 May	99.1	91.2	78.0	36.5	62.8
XRD 473 5% EC Treated 3 May	1800 ml	900 ml	450 ml	225 ml	112.5 ml
	100	89.3	90.9	79.8	78.8
S 71639 10% EC Treated 3 May	1400 ml	700 ml	350 ml	175 ml	87.5 ml
	100	100	100	100	99.1
SN 85292 40% EC Treated 31 May	40 oz	20 oz	10 oz	5 oz	2.5 oz
	81.6	61.8	25.8	0.3	44.5
Treated 22 Aug	91.2	77.7	65.4	71.8	43.3
UBI A1335 25% EC Treated 31 May	2 qt	1 qt	1 pt	8 oz	4 oz
	43.8	11.0	5.9	23.2	28.2
Treated 22 Aug	56.7	54.4	33.9	22.0	47.1

Compound	Treatments applied at 50 % egg hatch Abbott's % mortality at listed amt/100 gal				
	1 lb	.5 lb	.25 lb	.125 lb	.0625 lb
Fenoxycarb 25% WP Treated 24 Apr	26.0	8.8	28.2	10.0	2.6
Dimilin 25% WP Treated 24 Apr	83.3	28.1	32.0	9.7	18.8
XRD 473 5% EC Treated 24 Apr	1800 ml	900 ml	450 ml	225 ml	112.5 ml
	99.7	99.4	96.7	99.5	90.2
S 71639 10% EC Treated 24 Apr	1400 ml	700 ml	350 ml	175 ml	87.5 ml
	74.1	57.2	57.7	11.4	45.7
SN 85292 40% EC Treated 31 May	40 oz	20 oz	10 oz	5 oz	2.5 oz
	100.	97.2	75.7	41.3	7.2
Treated 7 Sept	98.0	83.3	70.5	45.7	38.0
UBI A1335 25% EC Treated 31 May	2 qt	1 qt	1 pt	8 oz	4 oz
	98.9	77.4	87.9	74.4	50.8
Treated 7 Sept	92.1	75.3	72.0	55.4	30.8

LIST OF CHEMICALS TESTED

COMMON NAME	TRADE NAME	MANUFACTURER
Avermectin B I	Agri-Mek	Merck & Co. Inc.
Diiflubenzuron	Dimilin	Uniroyal Chemical Co.
Fenoxycarb	Insegar	Dr. R. Maag Ltd.
S 71639	none	Sumitomo Chemical Co Ltd.
SN 85292	none	NorAm Agricultural Products Inc.
UBI A1335	none	Uniroyal Chemical Co.
XRD 473	none	Dow Chemical Co.