

Pome Fruits—Biological Control

Pesticide Bioassays on Pear Psylla Predators

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Foliar residues of pesticides, soaps, and insect growth regulators (IGRs) were evaluated for their impact on one exotic (*Anthocoris nemoralis*) and two native (*Anthocoris melanocerus* and *Deraeocoris brevis*) predators of pear psylla. Mortality at 25% of field rate, field rate, and 400% of field rate was somewhat variable across species, with *D. brevis* showing the least susceptibility to most compounds.

Of the synthetic pesticides tested, Thiodan and Sevin caused the most mortality (Table 1). Amitraz, azinphosmethyl and the fungicide Manzate resulted in the least mortality of the conventional pesticides.

The botanical, Rotenone, was intermediate in its effects, while the soaps and IGRs caused low mortality at all rates under these conditions.

**Table 1.** Percent mortality (Abbott's corrected) for three predators of pear psylla. Dose is the fraction of recommended field rate (high range) applied to runoff on foliage. Shown are mortality rates after 72 hours of confinement on treated foliage for 4-5 instars and each sex of adult.

Material	Dose	<i>A. melanocerus</i>			<i>A. nemoralis</i>			<i>Deraeocoris brevis</i>		
		4-5 N	Male	Female	4-5 N	Male	Female	4-5 N	Male	Female
Abamectin	.25	79	85	32	2	--	--	0	26	13
	1X	69	96	87	41	--	--	23	32	24
	4X	76	100	100	70	--	--	24	44	41
Abamectin + oil	.25	66	--	--	24	--	--	36	--	--
	1X	73	--	--	62	--	--	49	--	--
	4X	89	--	--	62	--	--	86	--	--
Thiodan	.25	59	100	95	57	97	100	12	24	27
	1X	96	100	95	91	100	100	7	72	61
	4X	100	100	100	96	100	100	34	96	93
Azinphosmethyl	.25	0	17	7	0	24	19	27	15	11
	1X	14	80	25	23	82	72	45	35	47
	4X	81	98	94	53	100	97	72	95	89
Sevin	.25	43	65	39	--	--	--	78	85	94
	1X	65	92	62	--	--	--	95	100	100
	4X	84	92	82	--	--	--	91	100	94
Amitraz	.25	10	24	15	4	--	--	26	36	4
	1X	23	15	4	19	--	--	36	20	16
	4X	34	22	15	39	--	--	51	31	24
Manzate	.25	12	--	0	--	--	--	10	0	5
	1X	0	--	0	--	--	--	10	9	0
	4X	6	--	0	--	--	--	6	6	0
M-Pede	.25	19	2	0	4	0	15	13	0	0
	1X	17	7	2	4	0	0	8	0	2
	4X	36	12	9	20	0	20	27	0	13
Tide	.25	8	0	0	12	--	--	2	0	0
	1X	5	0	0	--	--	9	0	1	0
	4X	9	11	0	5	--	--	19	0	0
Ajax	.25	0	0	3	9	--	--	6	5	2
	1X	12	0	5	16	--	--	6	0	3
	4X	7	0	0	14	--	--	11	6	6
Fenoxycarb	.25	7	--	--	0	--	--	3	--	--
	1X	2	--	--	5	--	--	7	--	--
	4X	2	--	--	0	--	--	2	--	--
Pyriproxyfen	.25	3	--	--	0	--	--	--	--	--
	1X	4	--	--	1	--	--	--	--	--
	4X	7	--	--	0	--	--	--	--	--
Rotenone	.25	11	70	20	0	0	17	8	34	11
	1X	9	85	36	7	3	6	31	21	26
	4X	34	96	70	10	2	56	40	37	0
Oil	.25	0	10	10	5	--	--	--	--	--
	1X	5	24	15	2	--	--	--	--	--
	4X	0	0	13	1	--	--	--	--	--