II Pome Fruits

e. Pesticide Resistance

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

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AGRI-MEK BASELINE DATA FOR PEAR PSYLLA NYMPHS 1989. Pear seedlings were sprayed using a hand pump atomizer to apply six serial dilutions of Agri-Mek in water. After sprays dried five circular disks, 2.2 cm in diameter, were punched from leaves of each seedling and floated on wet paper towelling in 15 cm plastic Petri dishes for each dilution. Ten 2nd and 3rd instar PP, collected from Research Center pear orchards, were transferred to each disk. Petri dishes containing infested leaf disks were held in a growth room at 25°C and 16L:8D. Treatments were evaluated by counting under magnification dead and live nymphs after 3 d exposure on disks. Data were corrected for check mortality using Abbott's formula and mean and 95% confidence limits calculated. The test was run seven times; twice with the high concentration at 14 ppm, once at 7 ppm and 4 times at 3.5 ppm because the higher concentrations killed all or nearly all nymphs.

The test procedure worked well and results were fairly consistent. Individuals in untreated checks survived well for 3 d, long enough to obtain good measures of Avermectin toxicity. Although higher concentrations produced nearly 100 percent kill of nymphs and data from them is of no value in determining concentration / mortality curves, they may be of value later for comparison to suspected resistant populations to indicate levels of resistance. In order to run a reliable probit analysis and determine LC50 and LC95 values additional tests at lower concentrations will be necessary.

Concentration of Agri-Mek .15 EC ppm (AI)	Abbott's % Mortality	95 % CL
14.00	98.94	1.96
7.00	99.29	1.96
3.50	99.60	0.68
1.75	99.29	0.91
0.875	89.09	5.75
0.4375	80.50	5.79
0.21875	57.55	12.80
0.109375	50.17	11.12
Check	0.00	2.08