

1. Chemical Control/New Products

a. Chemical control

1. White apple leafhopper; apple

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This study was designed to evaluate Admire 240FS (Miles), Lannate 2.4LV (Dupont), PennCap MS 2FM (Atochem) and Sterling 50WP (Ciba-Geigy) for control of white apple leafhopper (WALH) (Typhlocyba pomaria) when applied to apple (Malus domestica).

The test was conducted in a 12-year-old commercial orchard of Red Delicious apples located near Prosser, WA. Experimental design was a randomized complete block with 6 trees in a row sprayed. Experimental units consisted of single trees and were separated by buffer trees. Insecticides were applied 2 September between 2 pm and 3 pm. Temperatures were about 18° C., relative humidity 52%, solar radiation 700W/SG M and no wind. All plots were sprayed with a Rears (Eugene, OR) Pak-Blast air-blast sprayer at 100 gallons of water per acre.

Evaluations were made post-application 6 and 9 September by picking 10 leaves per tree (4 replications) and recording the number of leafhopper nymphs.

Conclusion:

Admire gave good control of white apple leafhopper. Lannate gave good control of white apple leafhopper. PennCap M gave poor control of white apple leafhopper. Sterling at the low rate gave fair control of white apple leafhopper. Sterling at the high rate gave good control of white apple leafhopper. The higher rate of Sterling appeared to give better control than the low rate.

Table 1. Effect of insecticide treatments applied to apple trees on 2 September on white apple leafhoppers (WALH). Prosser, WA 1994.

<u>Treatment</u>	<u>Rate/acre</u>	<u>Mean No. WALH/leaf</u>	
		<u>Post-application</u>	
		<u>6 Sep</u>	<u>9 Sep</u>
Admire 240FS	4.4 oz	0.5ab	0.2a
Lannate 1.8L	3 qt	0a	0a
Pennicap MS 2FM	8 pt	1.6bc	0.8b
Sterling 50WP	0.167 lb(AI)	1.6bc	0.3a
Sterling 50WP	0.25 lb(AI)	1.0ab	0.4a
Untreated check	--	2.4c	1.1b

Means within a column followed by the same letter are not significantly different at the $P = 0.10$ level, LSD (Least Significant Difference Student's t).

Table 2. Effect of insecticide treatments applied to single trees of apple on 31 August on white apple leafhoppers (WALH). Prosser, WA 1994.

<u>Treatment</u>	<u>Rate/acre</u>	<u>Percent Reduction of WALH from check</u>	
		<u>Post-application</u>	
		<u>6 Sep</u>	<u>9 Sep</u>
Admire 240FS	4.4 oz	76%	82%
Lannate 1.8L	3 qt	100%	100%
Pennicap MS 2FM	8 pt	28%	27%
Sterling 50WP	0.167 lb(AI)	27%	73%
Sterling 50WP	0.25 lb(AI)	57%	64%
Untreated check	--	--	--