

Section I
Mites and Sap-Sucking Insects

GREEN PEACH APHID MORTALITY IN LEAF CAGES, 1989

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Potatoes were treated with systemic insecticides in small plots (4 rows x 50 ft, 36 inch row spacing) on the UI Research Station near Kimberly, ID. Soil type was Portneuf silt loam and irrigation was by solid set sprinklers. The potatoes were planted 26 Apr. Three insecticide treatments and an untreated check were replicated five times in a randomized complete block design. Temik treatments were applied at rates of 2 and 3 lb AI/acre in a 2-3 inch band in the seed furrow at planting. Thimet was applied at 3 lb AI/acre in a 2-3 inch band in furrow as in the Temik treatments. On a weekly schedule, beginning 40 d after planting, 10 green peach aphids were introduced into leaf cages. The cages were then attached to the bottom of a leaflet on a leaf near the bottom of the plant. Aphids were caged on the leaf surface and allowed to feed on leaves of the plants in the various treatment plots. Aphid mortality was recorded 48 and 96 h after the cage was attached to the plant.

Based on the 96 h mortality figures, Green peach aphid mortality in the Thimet treated plots fell off after the 47 d sampling period. Temik provided control through the 54 d period and some into the 75 d sampling period. No control in any of the treated plots was observed at the 91 d interval. Variability in mortality in the untreated check plots and escaped aphids in all plots made statistical separation of the treatments difficult. The percent mortalities were calculated using the number of dead and live aphids in the cages at the time of counting. Escaped aphids could not be considered either alive or dead. These data agree with similar data from 1988 when control extended to about 55 d post-planting. In 1987, however, Temik did provide control up to 90 d.

Treatment and lb (AI)/acre	Mean % dead aphids*																			
	Days after planting																			
	40		47		54		75		91											
	48 h	96 h	48 h	96 h	48 h	96 h	48 h	96 h	48 h	96 h										
Temik 15 G 3.0	85 a	100 b	79 a	94 a	42 ab	66 bc	44 a	53 a	2 a	2 a										
Thimet 20 G 3.0	51 a	70 b	52 a	73 a	6 a	33 ab	17 a	44 a	5 a	9 a										
Temik 15 G 2.0	80 a	93 b	77 a	88 a	60 b	84 c	26 a	70 a	3 a	3 a										
Untreated Check ---	26 a	35 a	41 a	59 a	12 a	17 a	9 a	40 a	0 a	3 a										

* Means within a column followed by the same letter are not significantly different at the P = 0.05 level, Newman-Keuls.