Section VII.
Forage & Seed Insects

POTATO INSECT CONTROL WITH FOLIAR SPRAYS, 1995

R. L. Stoltz and N. A. Matteson
University of Idaho, Twin Falls R & E Center
P. O. Box 1827, Twin Falls, ID 83303-1827
(208) 736-3600

Experimental plots were established on the UI Research and Extension Center, Kimberly, Idaho. Potatoes were planted on 25 Apr and irrigated by solid set sprinkler. The soil type was Portneuf silt loam. Six treatments and one untreated check plot were replicated four times in a randomized complete block design. Individual treatment plots were 4 rows (36 inch row spacing) wide by 25 ft long with 5 ft alleyways separating the plots. Treatment sprays were broadcast applied using a CO_2 pressurized backpack sprayer (30 psi) and delivering 20 gal finished spray per acre (four, 10X hollow cone nozzles). On a weekly basis, egg masses, small larvae (1-2 instar), large larvae (3-4 instar) and adult beetles were counted, and percent defoliation estimates were made from whole plant inspections of the center 5 hills of the middle 2 plot rows. On 5 Jul a pre-count of all Colorado potato beetle (CPB) life stages was taken and all treatment applications were made. Counts of green peach aphid were made by visual examination of 10 leaves per plot. Data were analyzed using ANOVA and Student-Newman-Keuls multiple means comparison.

Colorado potato beetle populations were unusually heavy with prolonged larval pressure during the 1995 study period. The number of large larvae and small larvae were significantly reduced from the untreated check for all treatments through 27 Jul except for the high rate of Vydate on 27 Jul which showed an increase in the number of small larvae. This increase in small larvae did not result in a significant increase in defoliation. Significant reductions in defoliation by all treatments were observed through 19 Jul. A slight increase in defoliation was observed for the low rate of Vydate on 27 Jul but was significantly less than defoliation amounts in the untreated check. Moderate reduction of green peach aphid with Vydate was observed through 12 Jul but an additional treatment application may have been required to maintain control through 1 Aug when aphid populations declined.

Treatment	Rate (lb AI/acre)	Mean no. small larvae per 10 hills				
		Jul 5 (Pre)	Jul 7	Jul 12	Jul 19	Jul 27
Untreated Check	--------	129.3 a	175.0 b	307.8 b	161.5 b	49.0 c
Fipronil 80WG	0.0125	103.3 a	12.3 a	3.3 a	20.0 a	0.5 a
Fipronil 80WG	0.0250	75.5 a	0.0 a	0.3 a	16.0 a	0.3 a
Fipronil 80 WG	0.0500	82.0 a	0.5 a	0.5 a	2.0 a	2.0 a
Asana XL	0.0200	87.0 a	8.3 a	11.5 a	15.0 a	17.5 ab
Vydate	0.2500	122.3 a	9.0 a	52.0 a	55.0 a	20.8 ab
Vydate	0.5000	103.3 a	1.5 a	20.8 a	24.8 a	32.5 bc

Means within a column followed by the same letter are not significantly different (P = 0.05, Student-Newman-Keuls).

Treatment	Rate (lb AI/acre)	% Defoliation				
		Jul 5 (Pre)	Jul 7	Jul 12	Jul 19	Jul 27
Untreated Check	--------	0	5.0 a	50.0 d	68.8 b	78.8 c
Fipronil 80WG	0.0125	0	1.3 a	0.8 ab	0.5 a	6.3 a
Fipronil 80WG	0.0250	0	1.0 a	0.0 a	0.0. a	2.0 a
Fipronil 80 WG	0.0500	0	1.5 a	0.0 a	0.0 a	1.3 a
Asana XL	0.0200	0	1.3 a	3.0 c	0.3 a	2.3 a
Vydate	0.2500	0	1.3 a	2.5 bc	3.0 a	21.3 b
Vydate	0.5000	0	1.0 a	0.5 ab	0.5 a	7.8 a

Means within a column followed by the same letter are not significantly different (P = 0.05, Student-Newman-Keuls).

Treatment	Rate (lb AI/acre)	Mean no. green peach aphid per 10 leaves			
		Jul 12	Jul 19	Jul 27	Aug 9
Untreated Check	--------	12.0 b	5.3 a	11.8 a	0.8 a
Vydate	0.2500	6.0 a	12.0 a	16.0 a	1.3 a
Vydate	0.5000	7.0 a	12.8 a	16.3 a	1.8 a

Means within a column followed by the same letter are not significantly different (P = 0.05, Student-Newman-Keuls).

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