

Section II

Foliage & Seed-Feeding & Mining Insects

COLORADO POTATO BEETLE CONTROL WITH ADMIRE (IMIDACLOPRID), 1993

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Experimental plots were established on the UI Research and Extension Center, Kimberly, Idaho. Potatoes were planted 11 May and irrigated by solid set sprinkler. The soil type was Portneuf silt loam. Three 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. Three application methods of the emulsifiable concentrate (2EC) were tested at a single rate of 0.25 pounds active ingredient per acre. The first method was an in-furrow spray application over the seed piece at planting. The second method was a six inch banded spray over the row at planting and prior to bedding. The third application method was a shank application approximately three inches on either side of and two to three inches below the seed piece. The first and second application methods were made at planting on 7 May. Due to weather constraints application method three was made on 11 May. 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 five hills of the center two plot rows. Weekly counts of green peach aphids were made beginning on 7 July by examining six leaves from each plot. Plots were harvested on 21 September for yield and grade by taking a single 25 foot row from each plot. Data were analyzed using ANOVA and Newman-Keuls.

All three application methods provided season long control of all stages of Colorado potato beetle and control of green peach aphid through 1 August. Windy conditions may affect the efficacy of the over the row spray. We feel the in-furrow or shank applications would provide less chance of environmental contamination compared to a band exposed on top of the row.

Mean No. Small Larvae/10 Plants											
Treatment	Rate lb (AI)/acre	Placement Methods	% Defoliation								
			6/21	6/28	7/6	7/12	7/19	7/26	8/2	8/9	8/16
Untreated Check	---	---	37.8 b ¹	183.3 b	236.8 b	104.0 b	113.5 b	32.5 b	3.8 b	0.0	0.0
Admire 2EC	0.25	In Furrow	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0	0.0
Admire 2EC	0.25	Over Row	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0	0.0
Admire 2EC	0.25	Shanked	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0 a	0.0	0.0
Treatment	Rate lb (AI)/acre	Placement Methods	Mean No. Green Peach Aphid Counts/6 Leaves								
			7/29	8/9	8/16						
Untreated Check	---	---	30.0 b	49.5 a	21.8 a						
Admire 2EC	0.25	In Furrow	0.5 a	42.8 a	15.3 a						
Admire 2EC	0.25	Over Row	0.0 a	30.5 a	19.3 a						
Admire 2EC	0.25	Shanked	1.8 a	47.0 a	18.3 a						

¹Means within a column followed by the same letter are not significantly different at the P = 0.05 level, Newman-Keuls.