Section II
Foliage and Seed Feeding and Mining Insects

COLORADO POTATO BEETLE CONTROL WITH FOLIAR SPRAYS, 1992
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Experimental plots were established on the UI Research and Extension Center, Caldwell, Idaho. Potatoes were planted 2 April and irrigation was by solid set sprinkler. The soil type is Greenleaf-Owyhee silt loam. Ten 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. Applications were made as a broadcast spray using a CO_2 pressurized backpack sprayer. Twenty gal of finished spray were applied (30 psi, four, 10x hollow cone nozzles) to all plots. Pre-treatment counts were made and the first insecticide treatments were applied on 5 June. A second application of M-Trak, Kryocide, Bittersweet (KPT), and Tri-Gard was made on 17 June. A third application was made of the previously mentioned treatments on 13 July for control of the second generation. On a weekly basis, egg masses and all stages of beetles were counted and percent defoliation observations were made using whole plant inspections of the center five hills of the center two plot rows. Larval stages were separated into small (1-2 instar) and large (3-4 instar). Data were analyzed using ANOVA and LSD's.

In general, most treatments significantly reduced beetle larvae and defoliation, although there appeared to be a general failure of Pyrellin. M-Trak, Asana, Kryocide, KPT, NTN-33893 and Tri-Gard all provided reduction of large instar larvae longer than for small instar larvae. All treatments except Pyrellin provided generally significant reductions in defoliation from the untreated check with Kryocide, NTN-33893 and the Tri-Gard reducing defoliation to test termination on day 49. These same treatments also provided the best prolonged control of small and large larvae. There was no significant reduction of egg masses and adults over all dates by any treatment although there is a general trend of adult control by Asana, Kryocide, NTN, Tri-Gard and Ambush over time.

Treatment and Rate lb AI/acre		Small Larvae							
		6/5	6/12	6/19	6/26	7/2	7/10	7/17	7/24
Untreated Check	--	47.3 a[1]	58.3 bc	23.8 bc	56.8 bc	34.0 ab	52.5 bcde	9.8 a	4.3 a
M-Trak	2 1/2 qt/A	41.8 a	25.3 ab	12.0 ab	25.3 ab	38.8 ab	63.5 cde	13.0 ab	2.0 a
Asana	0.02	43.5 a	0.0 a	0.0 a	0.3 a	3.0 a	0.0 a	19.8 ab	71.3 b
Pyrellin	1.5 pts/A	36.8 a	70.3 c	27.3 c	57.8 bc	42.5 b	36.8 abcde	28.8 ab	21.5 ab
Kryocide 96W	11.52	33.5 a	6.8 a	0.3 a	0.3 a	3.0 a	4.3 a	4.0 a	0.5 a
Penncapp-M 2FM	1.0	63.0 a	5.3 a	11.0 ab	36.5 abc	46.5 b	66.0 cde	67.5 bc	71.0 b
Bittersweet	1.5	51.0 a	25.8 ab	5.5 a	31.8 ab	27.3 ab	31.0 abcd	16.5 ab	18.3 ab
NTN-33893 240 FS	26 gm ai/ha	27.0 a	9.8 a	6.0 a	73.8 c	25.8 ab	74.5 de	0.0 a	0.5 a
Tri-Gard 75 WP	0.125	58.0 a	24.8 ab	33.3 c	20.5 ab	27.3 ab	21.5 abc	9.3 a	3.3 a
Tri-Gard 75 WP	0.250	53.8 a	11.5 a	8.3 a	8.5 a	2.5 a	11.3 ab	22.0 ab	0.0 a
Ambush	0.1	54.0 a	0.0 a	0.0 a	0.5 a	32.3 ab	81.0 e	122.0 c	68.5 b

Treatment and Rate lb AI/acre		% Defoliation							
		6/5	6/12	6/19	6/26	7/2	7/10	7/17	7/24
Untreated Check	--	1.5 a	6.8 ab	5.3 b	26.8 d	35.0 d	42.5 d	50.0 c	70.7 c
M-Trak	2 1/2 qt/A	3.8 b	3.0 ab	1.3 a	10.5 ab	10.3 ab	8.8 ab	26.3 abc	39.0 ab
Asana	0.02	1.5 a	1.3 a	0.5 a	4.5 a	1.3 a	1.0 a	8.8 a	31.7 ab
Pyrellin	1.5 pts/A	2.0 ab	17.0 c	5.3 b	18.5 bcd	26.3 cd	31.3 cd	41.3 bc	38.3 ab
Kryocide 96W	11.52	1.5 a	1.0 a	1.0 a	6.3 a	2.3 a	9.3 ab	8.3 a	16.7 ab
Penncapp-M 2FM	1.0	2.0 ab	1.5 a	1.0 a	16.3 bc	14.3 abc	14.5 abc	17.5 ab	45.7 bc
Bittersweet	1.5	2.0 ab	6.0 ab	3.5 ab	21.3 cd	19.3 bc	23.3 bc	28.8 abc	26.3 ab
NTN-33893 240 FS26 gm ai/ha	1.3 a	1.0 a	0.8 a	17.5 bc	13.3 abc	12.0 ab	21.3 ab	9.7 a
Tri-Gard 75 WP	0.125	1.8 ab	9.0 b	2.3 ab	12.5 abc	6.0 ab	15.0 abc	28.8 abc	15.3 a
Tri-Gard 75 WP	0.250	1.8 ab	2.8 a	1.0 a	10.0 ab	5.5 ab	5.5 ab	8.8 a	27.0 ab
Ambush	0.1	1.3 a	1.0 a	0.8 a	6.8 a	1.5 a	10.0 ab	30.0 abc	30.7 ab

[1]Means within a column followed by the same letter are not significantly different at the P = 0.05 level, LSD's.