

Biological and Cultural Controls

BACTERIAL INSECTICIDES FOR COLORADO POTATO BEETLE CONTROL

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POTATO INSECT CONTROL, 1989: Plots were established in a field of 'Russet Burbank' potatoes planted 17 April at Prosser, WA. First bloom was 6 June and 50% bloom 13 June. Standard planting, fertility and weed control practices were followed. Plant spacing was 6 inches with 34 inches between rows. Plot size was 4 rows x 20 feet and arranged in a randomized complete block design with 4 replications. Insecticide treatments were applied 24 May at first CPB egg hatch. On 3 June insecticide treatments were reapplied to all plots except the Pydrin. Applications were with a R&D CO₂ pressurized sprayer at a rate of 25 gallons per acre using a hand-held boom with 4 (LF3) nozzles. Spray water pH was 7.5. NuFilm (16 oz/acre) was used with the applications of Trident, ABG-6263 and M-One. Bond (5 mls/gal) was used with the applications of Foil. Evaluations were made on 26, 31 May and 7, 13 June by counting egg masses, live larvae and adult beetles on 10 plants in the center 2 rows in each plot. Defoliation estimates from CPB feeding were done on 13 June.

All treatments resulted in significantly fewer CPB larvae as compared to the untreated control. No phytotoxicity was observed with any materials or rates.

<u>Treatment</u>	<u>rate/a</u>	<u>̄ Small CPB larvae/ 10 plants</u>			<u>̄ Large CPB larvae/10 plants</u>		<u>̄ % Defoliation</u>
		<u>26 May</u>	<u>31 May</u>	<u>7 June</u>	<u>7 June</u>	<u>13 June</u>	
Trident 4SC	2 qts	57 a	54abc	6b	4a	2 a	2 a
Trident 4SC	4 qts	66 a	52abc	12ab	17a	3 a	8 a
Trident II 4SC	2 qts	31 ab	37abc	7b	9a	0.5a	4 a
Kryocide 96W	11.7 lbs	41 a	15bc	1b	1a	0.3a	0.3a
Foil OF	2 qts	58 a	46abc	3b	2a	1 a	4 a
Foil OF	4 qts	40 ab	39abc	2b	1a	0 a	0 a
Foil AF	2 qts	27 ab	67ab	6b	3a	1 a	3 a
Foil AF	4 qts	35 ab	49abc	1b	2a	0 a	1 a
ABG-6263 18-092-BR	0.5 lbs	64 a	46abc	4b	9a	1 a	9 a
ABG-6263 18-092-BR	1.0 lbs	44 a	50abc	4b	4a	0 a	8 a
ABG-6263 18-092-BR	2.0 lbs	23 ab	44abc	4b	1a	0 a	2 a
ABG-6263 29-043-BR	0.5 lbs	46 a	71a	13ab	13a	2 a	14 a
ABG-6263 29-043-BR	1.0 lbs	35 ab	50abc	12ab	12a	1 a	3 a
ABG-6263 29-043-BR	2.0 lbs	54 a	41abc	1b	1a	0.3a	2 a
M-One	2 qts	45 a	55abc	4b	2a	2 a	3 a
M-One	4 qts	47 a	34abc	3b	1a	0 a	1 a
Pydrin 3.2EC	5.33 oz	0.3b	4c	1b	1a	1 a	0 a
Control	---	36 ab	74a	21a	65b	16 b	81 b

Means within a column followed by the same letter are not significantly different (P = 0.05 level; DMRT).