

Insect Management in Potatoes - 2001: ' Superior' potatoes were planted at the University of Delaware Research and Education Center located in Georgetown, DE on April 4. Plots consisted of three 20 ft-long rows on 3-ft centers. Each treatment was replicated four times and arranged in a RCB design. At-planting treatments were applied with a hand held one nozzle backpack sprayer delivering 6 gpa@ 40 psi. Applications of foliar insecticides were broadcast applied when threshold levels of CPB were detected in each treatment. A CO₂ pressurized backpack sprayer delivered 22 gpa at 40 psi. Data were taken weekly from May 14 through June 25 from the center row of each plot and included the following: the number of CPB adults, egg masses, small and large larvae/5 randomly selected stems in each plot, the number of ECB damaged stems/ 10 randomly selected stems per plot, the number of potato leafhopper adults and nymphs per 5 sweeps and a visual defoliation ranking (1= 1-20%, 2 = 21-30%, 3= 31-50%, 4 = 51-80% and 5 = 81-100%) within each plot. The center row of each plot was harvested on July 9 and all A-grade tubers were weighed. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Colorado potato beetle, potato leafhopper and European corn borer pressure was moderate. All treatments provided significantly better control of small and large CPB larvae compared to the untreated control except Avaunt on June 4. Admire, Platinum and Avaunt provided the best potato leafhopper control. Baythroid provided the best European corn borer control. No phytotoxicity was observed.

I. CPB Small Larvae

Trt	Rate/A	Timing	Mean Number per 5 plants							
			5/14	5/17	5/22	5/31	6/4	6/11	6/17	6/25
Admire 2F	16 oz/A	IF at planting	0.0a	0.0b	0.0b	0.0b	0.0b	2.3a	1.25a	0.25a
Admire 2F	16 oz	IF								
Baythroid 2	2 oz	May 18&24 for ECB	0.0a	0.0b	0.0b	0.0b	0.0b	8.5a	3.25a	0.50a
Provado 1.6 F	3.75 oz	May 18 & June 13	12.0a	16.5ab	4.8b	5.3b	4.5b	11.3a	0.00a	0.00a
Leverage 2.7	3.75 oz	May 18 & June 13	0.0a	29.3a	10.5b	1.0b	5.5b	11.5a	0.00a	0.25a
Platinum 2SC	.44 oz/1000 ft	IF at planting	0.0a	0.0b	0.0b	.75b	0.0b	2.3a	0.50a	0.50a
Avaunt 30WG	3.5 oz	May 18, 24 & 31; June 13	7.5a	20.3ab	47.3a	30.0ab	12.0ab	6.0a	3.75a	0.00a
Actara 25WG	3 oz	May 18	6.8a	12.3ab	8.0b	2.0b	.5b	5.8a	4.75a	0.25a
Untreated	---	----	4.3a	30.75a	43.5a	51.8a	23.3a	7.8a	1.25a	0.75a

II. CPB Large Larvae

Trt	Rate/A	Timing	Mean Number per 5 plants							
			5/14	5/17	5/22	5/31	6/4	6/11	6/17	6/25
Admire 2F	16 oz/A	IF at planting	0.0a	0.0a	0.0a	0.0b	0.00b	0.00b	1.5a	2.5a
Admire 2F	16 oz	IF								
Baythroid 2	2 oz	May 18&24 for ECB	0.0a	0.0a	0.0a	0.0b	0.00b	0.25b	2.5a	2.75a
Provado 1.6 F	3.75 oz	May 18 & June 13	0.0a	0.0a	0.0a	0.0b	1.25b	17.25ab	0.0a	0.25a
Leverage 2.7	3.75 oz	May 18 & June 13	0.0a	0.0a	0.0a	0.0b	1.00b	6.50ab	0.0a	0.25a
Platinum 2SC	.44 oz/1000 ft	IF at planting	0.0a	0.0a	0.0a	0.0b	0.00b	0.00b	1.75a	1.75a
Avaunt 30WG	3.5 oz	May 18, 24 & 31; June 13	0.0a	0.0a	0.0a	15.75b	23.75a	5.50ab	1.25a	5.0a
Actara 25WG	3 oz	May 18	0.0a	0.0a	0.0a	0.0b	0.00b	2.00b	5.0a	1.75a
Untreated	---	----	0.0a	0.0a	0.0a	69.00a	80.50a	19.75a	4.25a	1.25a

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).

III. Potato Leafhopper, European Corn Borer and Yield Data

Trt	Rate/A	Timing	# Leafhoppers/5 sweeps		% ECB Infested Stems (6/25)	Yield CWT/Acre
			6/4	6/11		
Admire 2F	16 oz/A	IF at planting	2.00bc	3.50a	42.5ab	392.04a
Admire 2F	16 oz	IF				
Baythroid 2	2 oz	May 18&24 for ECB	0.25c	1.75a	17.5b	361.86ab
Provado 1.6 F	3.75 oz	May 18 & June 13	5.00ab	5.00a	40.00ab	282.87ab
Leverage 2.7	3.75 oz	May 18 & June 13	3.00abc	6.25a	10.00b	324.13ab
Platinum 2SC	.44 oz/1000 ft	IF at planting	1.25c	3.00a	35.0ab	353.02ab
Avaunt 30WG	3.5 oz	May 18, 24 & 31; June 13	1.75bc	6.25a	27.50ab	312.64ab
Actara 25WG	3 oz	May 18	3.00abc	2.25a	42.50ab	343.49ab
Untreated	---	----	5.75a	3.75a	65.0a	242.76b

Means within a column followed by the same letter are not significantly different (P=0.05, Ryan's q test).