

Section VIII

Mites & Sap-sucking Insects

GREEN PEACH APHID CONTROL WITH FOLIAR SPRAYS, 1996

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

bstoltz@uidaho.edu

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 RCB design. Individual treatment plots were 4 rows (36 inch row spacing) wide by 25 ft long with 5 ft alleyways separating the plots. Green peach aphids were mass reared on greenhouse sweet pepper plants ('California Wonder') for release into individual plots. Aphid releases were made into test plots on 27 Jun and again on 8 Jul. A total of four heavily infested plants were released per plot. Treatment sprays were broadcast applied using a CO₂ pressurized backpack sprayer (30 psi) and delivering 20 gpa finished spray (four, 10X hollow cone nozzles). Aphid counts were made from non-destructively sampling leaves at random from the top, middle and bottom sections of plants in the center two rows of each plot. The data collected and presented is the total number of aphids per 20 leaves. On 5 Jul a pre-count was taken at which time it was determined that aphid populations were too low to treat. On 10 Jul a second pre-treatment count was made and all treatments were applied 11 Jul. All plots received applications of Carbaryl as needed to control Colorado potato beetle. Data were analyzed using ANOVA and Newman-Keuls multiple means comparison (Significance Level = .05)

Significant reduction of aphid populations from the untreated check during the sampling period was achieved with both rates of CGA 215944. Pirimor reduced aphid number initially but did not significantly reduce aphid numbers through the end of the study. The lack of aphids on 5 Aug reflects a normal decline in aphid numbers that are observed at this time of year in this area and not a decline in potato plant vigor specifically. At this time the plants were still green and vigorous.

Treatment	No. GPA per 20 leaves		No. GPA per 10 leaves				
	Jul 5	Jul 10	Jul 15	Jul 18	Jul 26	Aug 1	Aug 5
Check	1.50 a	37.00 a	99.75 a	91.50 ab	218.80 c	112.00 a	0.75 a
Pirimor 50 WG	3.75 a	34.25 a	34.00 a	32.50 a	62.75 ab	67.25 a	0.75 a
Pirimor 50 WG	0.50 a	22.50 a	32.50 a	32.50 a	49.25 ab	20.50 a	1.00 a
Pirimor 50 WG	1.00 a	27.50 a	30.50 a	7.25 a	36.50 ab	24.50 a	1.25 a
Asana XL	6.25 a	48.00 a	127.5 a	158.80 b	167.30 bc	75.50 a	0.50 a
CGA 215944	1.50 a	36.75 a	55.00 a	2.25 a	2.25 a	1.50 a	0.25 a
CGA 215944	1.00 a	43.25 a	34.00 a	10.50 a	5.00 a	8.00 a	0.50 a

c:\bob\1996pnw\96zengpa.doc