

Insect Management in Bell Peppers: ‘Aristotle’ bell peppers were transplanted on May 27 at the University of Delaware Research and Education center located near Georgetown, DE. Four row plots 20 ft long on 6 ft centers were replicated 4 times in a RCB design. All foliar materials were applied beginning first flower/small fruit on June 24 and then on a weekly basis on June 30; July 7,14,21,28; and Aug 5. Applications were made with a CO₂ backpack sprayer with a one-row boom, having 3 hollow-cone nozzles per row (one over the top and one drop nozzle on each side) delivering 39 gpa at 40 psi. Plots were sampled on a weekly basis from June 1 through August 9 for aphids, European corn borer (ECB) egg masses, beet armyworm (BAW) egg masses, and corn earworm(CEW) and fall armyworm(FAW) damaged fruit. All commercial size peppers were harvested on July 19, Aug 3 and Aug 15 and evaluated for ECB, CEW and FAW damage. Data were analyzed using ANOVA and means were separated by Ryan’s q-test (P=0.05).

ECB, BAW, CEW, FAW and levels were very low and no differences were observed between treatments throughout the season. Significantly higher levels of aphids were found in the Warrior and Avaunt plots on July 26, Aug 3 and 9 compared to the other treatments and untreated controls. No phytotoxicity was observed.

1. Pretreatment Counts

Treatment	Rate/A	Green peach aphids per 20 plants			
		June 1	June 8	June 15	June 21
Warrior	3.84 oz	1.75a	0.50b	0.75a	1.25a
Orthene 97	1 lb	0.00a	1.25b	3.25a	1.25a
Spintor 2SC	6 oz	0.00a	0.00b	0.00a	0.00a
Avaunt 30WDG	3.5 oz	0.50a	0.25b	0.50a	0.00a
Intrepid 2 F	8 oz	0.00a	0.00b	0.00a	0.25a
Untreated	-----	3.50a	8.25a	14.75a	0.25a

Means within a column followed by the same letter are not significantly different (Ryan’s q-test; P=0.05)

2. Post-treatment Counts

Treatment	Rate/A	Green Peach Aphid per 50 leaves					
		July 5	July 12	July 19	July 26	Aug 3	Aug 9
Warrior	3.84 oz	24.50a	23.25a	220.75a	136.50a	406.00a	696.80a
Orthene 97	1 lb	0.00a	0.00a	0.00b	0.25c	1.00b	0.80c
Spintor 2SC	6 oz	2.00a	0.50a	4.00b	1.25c	3.80b	16.80b
Avaunt 30WDG	3.5 oz	0.00a	13.25a	35.25ab	37.25b	276.50a	698.80a
Intrepid 2 F	8 oz	1.50a	2.00a	3.50b	1.75c	2.50b	14.50bc
Untreated	-----	27.25a	3.50a	4.50b	1.00c	4.80b	10.00bc

Means within a column followed by the same letter are not significantly different (Ryan's q-test; P=0.05). Data for green peach aphid were log transformed [$\log_{10}(n+1)$], non-transformed means are presented.

3. Yield Data – Total Number Fruit

Treatment	Rate/A	Total Number of Fruit per 40 ft of row			Cumulative Fruit Harvest (3 Harvests) Total # Fruit
		July 19	Aug 3	Aug 15	
Warrior	3.84 oz	88.00a	68.50ab	39.50a	196.00a
Orthene 97	1 lb	84.50a	60.60ab	43.75a	188.75b
Spintor 2SC	6 oz	73.50ab	86.75a	57.75a	218.00a
Avaunt 30WDG	3.5 oz	72.75ab	40.75b	31.75a	145.25b
Intrepid 2 F	8 oz	68.00b	62.00ab	63.50a	193.50ab
Untreated	-----	84.50a	63.50ab	61.75a	208.75a

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