

**Insect Management in Fall Spinach- 2005:** Vancouver' spinach was planted on two dates: Aug 26 and Sept 2 at the University of Delaware Research and Education Center located near Georgetown, DE. Two row plots twenty ft long on 30-inch centers were replicated 4 times and arranged in a RCB design. All treatments were broadcast applied on Sept 16, 23 and 30 for the first planting and on Sept 23 and 30 for the second planting. Treatments were applied with a CO<sub>2</sub> pressurized backpack sprayer delivering 18.5 gpa @ 40 psi. The number of webworm and beet armyworm (BAW) larvae on each of 10 randomly selected plants per plot was recorded on Sept 13, 20, and 27; Oct 4,12 for the first planting and on Sept 20, 27 ; and Oct 4,12 for the second planting. Data were analyzed using ANOVA and means were separated by Ryan's q-test (P=0.05).

Webworm pressure was moderate and beet armyworm pressure was low-moderate. In planting number one: (a) all treatments provided significantly better webworm control compared to the untreated check on Oct 4 and 12; (b) the high rate of Avaunt provided the best BAW control on Sept 27; and (c) Proclaim, Spintor and the low rate of Avaunt provided the best BAW control on Oct 4. In planting number two: (a) all treatments provided better webworm control compared to the untreated check except Assail on Oct 12; and (b) all treatments provided better BAW control compared to the untreated except Assail and F2700 on Oct 4. No phytotoxicity was observed.

**Planting Number # 1**

Table1. Webworm counts – mixture of garden webworm and Hawaiian beet webworm

Treatment	Rate/A	Number Webworms/10 Plants				
		Sept 13 Pre-Trt	Sept 20 4DAT #1	Sept 27 4DAT #2	Oct 4 4 DAT #3	Oct 12 12 DAT #3
Assail 30SG	2.75 oz	1.75a	1.50ab	0.00a	0.25b	3.00bc
F2700 0.8EW	4 oz	1.25a	0.25b	0.00a	0.25b	1.50c
BAS 320	16 oz	1.25a	0.50b	0.00a	0.00b	0.75c
Proclaim 5WDG	0.2 lbs	1.25a	0.25b	0.25a	0.00b	5.00b
Spintor 2SC	4.5 oz	0.75a	0.50b	0.00a	0.00b	0.75c
Avaunt 30WDG	2.4 oz	1.00a	0.25b	0.50a	0.00b	0.50c
Avaunt 30WDG	3.5 oz	1.00a	0.25b	0.00a	0.00b	0.00c
Intrepid 2F	8 oz	1.00a	0.50b	2.00a	0.00b	0.25c
Untreated	-----	0.50a	3.00a	1.50a	1.00a	9.50a

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

Table2. Beet Armyworm (BAW) counts

Treatment	Rate/A	Number BAW/10 Plants				
		Sept 13 Pre-Trt	Sept 20 4DAT Trt #1	Sept 27 4 DAT Trt#2	Oct 4 4DAT # 3	Oct 12 12DAT #3
Assail 30SG	2.75 oz	0.00a	0.25a	1.00bc	1.50ab	0.50a
F2700 0.8EW	4 oz	0.00a	0.00a	1.25bc	1.75ab	0.50a
BAS 320	16 oz	0.00a	1.75a	1.50bc	1.00ab	0.00a
Proclaim 5WDG	0.2 lbs	0.00a	0.00a	0.75bc	0.00b	0.00a
Spintor 2SC	4.5 oz	0.00a	0.00a	1.00bc	0.00b	0.25a
Avaunt 30WDG	2.4 oz	0.00a	0.00a	0.25bc	0.25b	0.00a
Avaunt 30WDG	3.5 oz	0.00a	2.75a	0.00c	0.75ab	0.00a
Intrepid 2F	8 oz	0.00a	0.50a	5.25a	0.75ab	0.00a
Untreated	-----	0.00a	1.75a	4.00ab	3.50a	2.25a

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

**Planting Number # 2**

Table3. Webworm counts – mixture of garden webworm and Hawaiian beet webworm

Treatment	Rate/A	Number Webworms/10 Plants			
		Sept 20 Pre-treatment	Sept 27 4DAT	Oct 4 11 DAT	Oct 12 19 DAT
Assail 30SG	2.75 oz	1.25a	0.00a	0.50a	10.75ab
F2700 0.8EW	4 oz	1.00a	0.00a	0.75a	5.75bc
BAS 320	16 oz	0.75a	0.00a	0.00a	4.00c
Proclaim 5 WDG	0.2 lbs	1.00a	0.50a	0.25a	4.50c
Spintor 2SC	4.5 oz	1.00a	0.00a	0.50a	4.5c
Avaunt 30WDG	2.4 oz	1.25a	0.00a	0.00a	4.25c
Avaunt 30WDG	3.5 oz	1.00a	0.00a	0.00a	1.50c
Intrepid 2F	8 oz	0.50a	0.25a	0.00a	2.75c
Untreated	-----	1.25a	1.00a	2.75a	14.00a

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

Table4. Beet Armyworm (BAW) counts

Treatment	Rate/A	Number BAW/10 Plants			
		Sept 20 Pre-Treatment	Sept 27 4DAT	Oct 4 11 DAT	Oct 12 19 DAT
Assail 30SG	2.75 oz	0.00a	2.75a	4.00a	2.25a
F2700 0.8EW	4 oz	0.25a	2.00a	2.50ab	0.75a
BAS 320	16 oz	0.75a	0.00a	1.00b	0.00a
Proclaim 5WDG	0.2 lbs	1.75a	0.25a	0.00b	0.00a
Spintor 2SC	4.5 oz	0.00a	3.25a	1.25b	0.25a
Avaunt 30WDG	2.4 oz	0.75a	0.25a	0.25b	0.25a
Avaunt 30WDG	3.5 oz	0.75a	0.00a	0.25b	0.00a
Intrepid 2F	8 oz	0.50a	1.00a	1.50b	0.00a
Untreated	-----	0.75a	3.50a	4.25a	1.00a

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