

Control of Lepidopterous Larvae in Fall Cabbage - 2009: Promising new chemistry and labeled insecticides were evaluated for control of the cabbage insect complex. The cabbage variety, 'Early Thunder ', was transplanted on July 31 at Papen Farms, Inc., Dover, DE. Plots consisted of one 20-ft-long row on 3-ft centers. Each treatment was replicated four times and arranged in a RCB design. The evaluated materials are listed in the tables. In furrow materials were applied soon after transplanting on August 3 by opening a furrow and directing materials into the furrow using a CO₂ pressurized backpack sprayer with a one-nozzle boom delivering 29 gpa at 32 psi. Foliar materials were applied on Aug 12 and Sept 1. The same single nozzle boom was used on Aug 12 delivering 29 gpa at 32 psi. On Sept 1, 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 57 gpa at 40 psi. The number of Lepidopterous larvae on each of 5 randomly selected plants per plot was recorded on a weekly basis from Aug 10 through September 15. The number of marketable heads was determined by examining plants for feeding damage on the head and two wrapper leaves on September 22. Data were analyzed using Proc GLM and means were separated by Tukey's mean separation test (P=0.05).

Overall, insect pressure was light. All treatments provided a significantly higher percentage of marketable heads compared to the untreated controls except the "simulated" in-furrow treatments of Durivo and Coragen and the foliar treatments of the low rate of Vetica and DPX-HGW86 without MSO. Overall, all treatments resulted in significantly lower numbers of diamondback and fall armyworm larvae compared to the untreated control. All treatments resulted in a significantly lower number of cabbage looper larvae compared to the untreated control except the "simulated" in-furrow treatments of Durivo and Coragen and the foliar treatments of the low rate of Vetica on Sept 4. No phytotoxicity was observed.

Table 1 – Diamondback Moth (DBM) Counts and Marketable Heads

Treatment ¹	Rate/acre	Treatment Dates/Method	% Marketable Heads ¹ September 22	Mean Number DBM Larvae per 5 plants ¹		
				August 17	August 21	September 4
Durivo 2.5SC	13.0 oz/a	In-Furrow Aug 3	71.52b	0.25b	0.00b	0.25b
Coragen 1.67 SC	5.13 oz/a	In- Furrow Aug 3	84.26ab	0.00b	0.00b	0.25b
Vetica + LI-700	14 oz/a + 0.25 v/v LI-700	Foliar – Aug 12, Sept 1	84.84ab	0.00b	0.00b	0.00b
Vetica + LI-700	17 oz/a + 0.25 v/v LI-700	Foliar – Aug 12, Sept 1	98.33a	0.00b	0.00b	0.50ab
DPX-HGW86 10SE +MSO	6.75 oz/a + 0.5 v/v MSO	Foliar – Aug 12, Sept 1	95.20a	0.00b	0.00b	0.00b
DPX-HGW86 10SE +MSO	10.1 oz/a + 0.5 v/v MSO	Foliar – Aug 12, Sept 1	94.00a	0.00b	0.00b	0.25b
DPX-HGW86 10SE +MSO	13.5 oz/a + 0.5 v/v MSO	Foliar – Aug 12, Sept 1	100.00a	0.00b	0.00b	0.00b
DPX-HGW86 10SE +MSO	20.5 oz/a + 0.5 v/v MSO	Foliar – Aug 12, Sept 1	96.88a	0.00b	0.00b	0.00b
DPX-HGW86 10SE	10.1 oz/a	Foliar – Aug 12, Sept 1	87.72ab	0.00b	0.00b	0.00b
Synapse 24WG + LI-700	2 oz/A + 0.25 v/v LI-700	Foliar – Aug 12, Sept 1	91.98a	0.00b	0.00b	0.00b
Radiant 1SC	6 oz	Foliar – Aug 12, Sept 1	93.37a	0.00b	0.00b	0.00b
Untreated	----	-----	71.72b	1.00a	0.75a	1.25a

¹ Means within a column followed by the same letter are not significantly different (Tukey's, P=0.05).

Table 2 – Cabbage Looper (CL) and Fall Armyworm (FAW) Counts

Treatment ¹	Rate/acre	Treatment Dates/Method	Mean Number CL Larvae per 5 plants ¹		Mean Number FAW Larvae per 5 plants ¹	
			September 4	September 8	September 4	September 8
A1542 (Durivo 2.5SC)	13.0 oz/a	In-Furrow Aug 3	0.75ab	0.00b	1.00b	1.50ab
E2Y45 sc (Coragen 1.67 SC)	5.13 oz/a	In- Furrow Aug 3	0.25ab	0.25b	1.50b	0.50b
Vetica + LI-700	14 oz/a + 0.25 v/v LI-700	Foliar – Aug 12, Sept 1	0.25ab	0.00b	0.25b	0.00b
Vetica + LI-700	17 oz/a + 0.25 v/v LI-700	Foliar – Aug 12, Sept 1	0.00b	0.00b	0.75b	0.00b
DPX-HGW86 10SE +MSO	6.75 oz/a + 0.5 v/v MSO	Foliar – Aug 12, Sept 1	0.00b	0.00b	0.00b	0.00b
DPX-HGW86 10SE +MSO	10.1 oz/a + 0.5 v/v MSO	Foliar – Aug 12, Sept 1	0.00b	0.00b	0.00b	0.25b
DPX-HGW86 10SE +MSO	13.5 oz/a + 0.5 v/v MSO	Foliar – Aug 12, Sept 1	0.00b	0.00b	0.00b	0.00b
DPX-HGW86 10SE +MSO	20.5 oz/a + 0.5 v/v MSO	Foliar – Aug 12, Sept 1	0.00b	0.00b	0.00b	0.00b
DPX-HGW86 10SE	10.1 oz/a	Foliar – Aug 12, Sept 1	0.00b	0.00b	0.00b	0.00b
Synapse 24WG + LI-700	2 oz/A + 0.25 v/v LI-700	Foliar – Aug 12, Sept 1	0.00b	0.00b	0.25b	0.00b
Radiant 1SC	6 oz	Foliar – Aug 12, Sept 1	0.00b	0.00b	0.25b	0.00b
Untreated	----	-----	1.00a	0.75a	3.50a	2.25a

¹ Means within a column followed by the same letter are not significantly different (Tukey's, P=0.05).