

Control of Lepidopterous Larvae in Fall Cabbage – 2007

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Promising new chemistry and labeled insecticides were evaluated for control of the cabbage insect complex. 'Blue Thunder' field-grown cabbage transplants were planted on July 20 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 at planting on July 20 using a CO₂ backpack sprayer with a one-nozzle boom delivering 39 gpa at 37 psi. All foliar materials were applied on Jul 30, Aug 7, August 24, and Sept 7 except Novaluron at the high rate (12 oz/A) which was applied on Jul 30 and Aug 24. Foliar applications were made with a CO₂ backpack sprayer with a single-row boom, having 3 hollow-cone nozzles per row (one over the top and one drop nozzle on each side) delivering 47 gpa at 37 psi. Penetrator Plus was applied on all plots at 0.5% vol./vol. The number of Lepidopterous larvae and harlequin bugs on each of 5 randomly selected plants per plot was recorded on a weekly basis from July 27 through September 13. The number of marketable heads was determined by examining feeding damage on the head and two wrapper leaves on September 20. Data were analyzed using Proc GLM and means were separated by Tukey's mean separation test (P=0.05).

Diamond back moth (DBM) population levels were low to moderate. Cabbage looper and harlequin bug populations were low throughout the season and no differences were seen between the treatments and the untreated check. All treatments provided significantly better DBM control on Aug 10 compared to the untreated. The Synapse, Avaunt and Voilium Flexi/Spintor treatments provided a significantly higher percentage of marketable heads compared to the untreated check. No phytotoxicity was observed.

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

Treatment ¹	Application Method	Treatment Dates	Rate/A	% Marketable Heads ² September 20	Mean Number DBM Larvae per 5 plants ²				
					Aug 3	Aug 6	Aug 10	Aug 16	Sept 3
A15452 2.5SC	In – furrow	7/20	6.84 oz	75.24ab	0.00b	0.50ab	0.00b	1.50ab	0.50b
A15452 2.5 SC	In – furrow	7/20	10.27 oz	84.22ab	1.00ab	0.25ab	0.00b	0.50ab	0.50b
A15365 2.1SC	In - furrow	7/20	2.74 oz	74.46ab	1.50ab	1.75ab	0.25ab	0.75ab	0.50b
A15365 2.1SC	In - furrow	7/20	4.11 oz	75.92ab	0.00b	0.25ab	0.00b	0.25ab	0.00b
Synapse 24WG	Foliar	7/30; 8/7, 24; 9/7	2 oz	98.33a	0.25ab	0.00b	0.00b	0.00b	0.00b
Novaluron 0.83EC	Foliar	7/30; 8/24	12 oz	91.99ab	0.25ab	0.00b	0.00b	0.50ab	0.00b
Novaluron 0.83EC	Foliar	7/30; 8/7, 24; 9/7	8 oz	96.83ab	0.25ab	1.50ab	0.00b	0.00b	0.00b
Alverde 2SC	Foliar	7/30; 8/7, 24; 9/7	16 oz	97.06ab	1.25ab	0.75ab	0.00b	0.00b	0.00b
Coragen 1.69 SC	Foliar	7/30; 8/7, 24; 9/7	5.1 oz	97.06ab	0.00b	0.00b	0.00b	0.00b	0.00b
Avaunt 30WDG	Foliar	7/30; 8/7, 24; 9/7	3.5 oz	98.22a	0.00b	1.25ab	0.25b	0.25ab	0.00b
Volium Flexi 40WG Spintor 2SC	Foliar (2 appl) Foliar(2 appl)	7/30; 8/7 8/24; 9/7	4 oz 4 oz/A	100.00a	0.00b	0.25ab	0.00b	0.00b	0.00b
Untreated	----	----	---	62.33b	2.25a	2.50a	1.50a	1.75a	2.50a

¹ All foliar sprays were applied with Penetrator at a rate of 0.5% V/V

² Means within a column followed by the same letter are not significantly different (Tukey's, P=0.05).