

Comparison of a Seed Treatment and Foliar Insecticide for *Dectes* Stem Borer Management : Replicated research plots were established in two locations: University of Delaware's Middletown Demonstration site located near Middletown, DE on May 25 and the Carvel Research and Education located near Georgetown, DE on May 21. Two varieties were planted at each location: SS RT3851 N (Group III) and Asgrow 2802 (Group II). Plot size was 18 foot wide x 18 ft long. Treatments were established in a randomized, complete block design and replicated four times. Treatments included an untreated check, fipronil seed treatment, and one foliar treatment of Warrior. Plots were sampled on a weekly basis from plant emergence through mid-August to determine the abundance of *Dectes* adults. The foliar treatment plots were sprayed on July 17 in Middletown and July 18 in Georgetown with Warrior at a rate of 3.2 oz per acre (0.025 lb ai/A) . Prior to harvest, plots were evaluated for the percentage of lodged plants (counts per plot as well as number of stems that would lodge when pushed) and percentage of stems infested with *Dectes*. A section of the plots was harvested at physiological maturity to simulate a "timely harvest". A second section of plot was harvested 2 -3 weeks after the "timely harvest" to determine the yield affects of late harvest.

Results

(A) Middletown

Table 1. First Harvest

#	Treatment	Rate	% Infested Stems Sept 19	# Larvae per Stem 20 stems Sept 19	% Lodged Stems Oct 2	# Lodged Stems/Plot Oct 2	Yield BU/A Oct 2
1	AG2802 Untreated	---	25.00a	5.00a	4.00a	3.50a	28.13b
2	AG2802 + Fipronil ST	3 oz. /100 lb seed	0.00b	0.00b	0.00a	0.00b	28.27b
3	AG2802 + Warrior	3.2 oz/A	15.00ab	3.00ab	3.00a	0.00b	28.63b
4	SS RT3851 Untreated	---	11.25ab	2.25ab	5.00a	0.00b	34.40ab
5	SSRT3851 + Fipronil ST	3 oz/100 lb seed	2.50b	0.50b	0.00a	0.00b	40.54a
6	SS RT3851 + Warrior	3.2 oz/A	18.75ab	4.00ab	5.00a	0.00b	35.50ab

Means followed by the same letter are not significantly different (Tukeys; P=0.05).

Table 2. Second Harvest

#	Treatment	Rate	Losses from First Harvest – 8 DAH		# Lodged Stems/Plot Oct 16	% Lodged Stems Oct 16	Yield BU/A Oct 22
			# Lodged Stems/plot Oct 10	Yield Loss Bu/A			
1	AG2802 Untreated	---	14.25a	1.38a	27.25a	8.50a	19.83c
2	AG2802 + Fipronil ST	3 oz/100 lb seed	0.00b	0.00b	0.00c	0.00b	28.19bc
3	AG2802 + Warrior	3.2 oz/A	5.50b	0.56ab	18.50ab	4.00ab	24.03bc
4	SS RT3851 Untreated	---	6.25b	0.75ab	11.25bc	6.00ab	33.65ab
5	SSRT3851 + Fipronil ST	3 oz/100 lb seed	0.00b	0.00b	0.00c	0.00b	41.65a
6	SS RT3851 + Warrior	3.2 oz/A	2.50b	0.26b	11.25bc	5.00ab	38.05ab

Means followed by the same letter are not significantly different (Tukeys; P=0.05).

(B)Georgetown

Table 1. First Harvest

Treatment	Rate	% Infested Stems Sept 20	# Larvae per Stem 20 stems Sept 20	% Lodged Stems Oct 10	# Lodged Stems/Plot Oct 10	Yield BU/A Oct 18
AG2802 Untreated	---	10.00ab	2.00ab	1.50ab	16.50a	38.86a
AG2802 + Fipronil ST	3 oz/100 lb seed	0.00b	0.00b	0.00b	0.00b	46.07a
AG2802 + Warrior	3.2 oz/A	11.25ab	2.25ab	0.50b	0.00b	36.77a
SS RT3851 Untreated	---	21.25a	4.25a	5.00a	8.50ab	50.50a
SSRT3851 + Fipronil ST	3 oz/100 lb seed	0.00b	0.00b	0.00b	0.00b	51.86a
SS RT3851 + Warrior	3.2 oz/A	15.00ab	3.00ab	5.00a	8.00ab	53.12a

Means followed by the same letter are not significantly different (Tukeys; P=0.05).

Table 2. Second Harvest

Treatment	Rate	% Lodged Stems Oct 30	# Lodged Stems/Plot Oct 30	Yield BU/A Nov 1
AG2802 Untreated	---	2.50a	7.75ab	41.54a
AG2802 + Fipronil ST	3 oz/100 lb seed	0.00a	0.00b	35.76a
AG2802 + Warrior	3.2 oz/A	1.00a	9.50a	31.75a
SS RT3851 Untreated	---	0.00a	26.25a	32.73a
SSRT3851 + Fipronil ST	3 oz/100 lb seed	0.00a	0.00b	37.75a
SS RT3851 + Warrior	3.2 oz/A	3.00a	22.00a	46.51a

Means followed by the same letter are not significantly different (Tukeys; P=0.05).

Conclusion: Overall, the fipronil seed treatment provided significantly better dectes stem borer control in both varieties and locations compared to the Warrior and untreated plots. Although the Warrior treatment was applied after a “peak” in the adult populations, one application did not provide enough residual control.

Number Dectes Adult Beetles /10 Sweeps

