

(E29)

**COLLARD:** *Brassica oleracea* L. var. *acephala* DC, 'Georgia'

#### **CONTROL OF DBM ON COLLARDS, 2004**

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Diamondback moth (DBM): *Plutella xylostella* (L.)

DBM is the most destructive pest of cole crops in Florida and the first to develop resistance to insecticides so new control options are always in demand. In this trial, we evaluated the potential of a chitinase inhibiting IGR against a standard rotation. Four beds 240 ft long on 27-ft centers and separated by a 15-ft drive and a double row of staked tomato were prepared by fumigating with 30 gal product/acre of Telon C-35, laying a single drip-tape irrigation line with 12 inch emitter spacing and covering with a white-face polyethylene mulch. Greenhouse-grown collard seedlings were transplanted on 25 Feb in a single row at 18-inch spacing and fertigated with an 8-0-8 NPK mixture to provide a total of 150 lbs N and K/acre for the growing season. The four rows were considered as four replicates and divided into five plots 48 ft long with 30 plants each to which treatments were assigned in a RCB design. Plants (N = 10 per replicate) were evaluated on 8 Apr and treatments initiated after an average of 35% had DBM larva present. There were no significant differences in plots or replications from the precount. Three applications of Novaluron at the two rates tested and SpinTor were made on 14, 27 Apr and 11 May. An additional treatment with Proclaim was made 4 May to the grower standard plots after pest pressure built during the 14 day interval between SpinTor applications. A high clearance sprayer was used operating at 200 psi and delivered through two vertical booms, each fitted with two ceramic yellow Albus hollow cone nozzles plus an over head boom with one ceramic yellow Albus nozzle a total of 55 gpa. All treatments were tank mixed with the adjuvant Latron CS-7, a nonionic wetter/spreader, at 0.3 % v/v. Evaluations were made on 16, 23, 29 Apr, and 10 and 17 May on the six top leaves from eight randomly selected plants per plot, counting DBM larvae in three size categories:  $\leq 0.33$  inch long = small,  $>0.33$  inch long = large and pupa. A quantitative damage rating was also made based on foliar damage where 0 = no damage, 1 = 1 - 3 holes per plant, 2 = 4 - 10 holes per plant, 3 = 10 - 25 holes per plant, 4 = greater than 25 holes per plant. Data were subjected to ANOVA and means were separated using LSD ( $P \leq 0.05$ ).

Fewer DBM larvae and less damage were observed on all treated plants compared to untreated plants over the entire season. There was no deviation from this pattern except on 10 May when more damage was seen on plants treated with the grower standard of SpinTor and Proclaim than on plants treated with Novaluron. Our results demonstrated a role for Novaluron as an additional rotation partner with the present grower standards as a means of reducing selection pressure against any particular chemistry.

Treatment/ formulation <sup>a</sup>	Rate amt product/acre	Damage rating <sup>b</sup>		DBM (no. on upper six leaves) Mean 8 plants over 5 dates			
		10 May	Mean 8 plants over 5 dates	Small	Large	Pupa	Total
Novaluron 0.83EC	12 fl oz	0.6c	0.30b	0.08b	0.11b	0.08b	0.27b
Novaluron 0.83EC	14 fl oz	0.3c	0.18b	0.07b	0.14b	0.11b	0.31b
SpinTor 2SC	4.0 fl oz						
Proclaim 5SG <sup>c</sup>	3.6 oz	1.3b	0.35b	0.09b	0.07b	0.12b	0.28b
Untreated check	--	4.4a	2.74a	1.23a	1.79a	1.53a	4.56a

Means in columns followed by the same letter are not significantly different (LSD,  $P < 0.05$ ).

<sup>a</sup>All treatments were tank mixed with the adjuvant Latron CS-7, a nonionic wetter/spreader, at 0.3 % v/v.

<sup>b</sup>Quantitative damage rating: 0 = no damage, 1 = 1 - 3 holes per plant, 2 = 4 - 10 holes per plant, 3 = 10 - 25 holes per plant, 4 = greater than 25 holes per plant.

<sup>c</sup>Additional treatment with Proclaim was made 4 May 2004 to the grower standard plots (SpinTor) after pest pressure built during the 14 day interval between applications.