

D

COLLARD: *Brassica oleracea* (L.) 'Georgia'

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

Great southern white butterfly (GSW), *Ascia monuste* (L.)

Cabbage looper (CL); *Trichoplusia ni* (Hübner)

P. A. Stansly and J. M. Conner

University of Florida/IFAS

Southwest Florida Res. and Ed. Center

2686 State Road 29 North

Immokalee, Florida 34142-9515

Phone: (239) 658-3427

Fax: (239) 658-3470

Email: pas@mail.ifas.ufl.edu

CONTROL OF LEPIDOPTERAN PESTS ON COLLARDS, 2003: The DBM has been a persistent pest in cole crops and has shown resistance to many insecticides. This trial compares two widely used chemistries against two rates of a new product as a potential rotation option for better resistance management. Two sets of 3 beds 240 ft long on 6 ft centers and separated by a 15 ft drive were prepared by fumigating with 30 gal/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 cabbage seedlings were transplanted on 18 Mar 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 middle bed in each set was left untreated to serve as a source of target pests. The remaining 4 rows were considered as 4 replicates and divided into 5 plots 48 ft long with 30 plants each to which treatments were assigned in a RCB design. Plants (N = 11 per plot) were checked for pest presence on 7 Apr and treatments initiated after an average of 13 percent of the plants had DBM larva present. There were no significant differences in plots or replications, (LSD, P<0.05) from the precount. Five weekly applications were made on 8, 10, 17, 24 Apr and 8 May using a high clearance sprayer operating at 200 psi with spray delivered through two vertical booms, each fitted with 2 ceramic yellow Albuz® hollow cone nozzles for a total of 44 gpa. All treatments were tank mixed with the adjuvant Induce, a nonionic wetter/spreader, at 0.3 % v/v. Evaluations were made on 14, 23 Apr and 2, 8 and 16 May on 20 randomly selected plants/plot, counting DBM larvae in 3 size categories: $\leq \frac{1}{3}$ inch long = small, $> \frac{1}{3}$ inch long = large and pupa. Larvae of GSW were present and counted on 8 and 19 May. A quantitative damage rating was also made based on foliar damage where 0 = no damage, 1 = 0-1 % minor feeding on outer leaves, 2 = 2-5 % leaf surface damaged, 3 = 6-10 % damage 4= 11-30 % damage and 5 = >30 % leaf damage. On 24 Apr, 25 plants/treatment were graded for marketability based on the amount of insect damage. Plants were placed in 3 categories, Fancy = <10% of leaves with insect damage, Standard = 10-30 % leaves damaged and Unmarketable >30 % leaves damaged.

The primary pest was DBM accounting for 85 % of larvae observed. Adults and larvae of

GSW appeared in early May. Only 3 CL larvae were observed from 2 plants in a control plot from the 19 May evaluation. All treated plants had fewer DBM larvae and lowest damage ratings than untreated plants with either rate of S-1812 and SpinTor performing better than Proclaim. Significant differences in numbers of GWS larvae were seen between the control and all treatments except the high rate of S-1812. Only 18% of untreated plants were marketable and there were no significant differences among treatments in total marketable plants, although fewer “Fancy” plants were harvested from plots treated with Proclaim than the remaining treatments.

Treatment/ formulation	Rate amt/acre	<u>DMB larvae per plant over all dates</u>				Mean GWS larva ^a	Mean damage rating
		Small	Large	Pupa	Total		
S-1812 35 WP	0.15 lb ai	0.1c	0.2c	0.1b	0.2c	0.3b	0.4c
S-1812 35 WP	0.20 lb ai	0.0c	0.2c	0.0b	0.1c	1.8ab	0.3c
Proclaim 5 SG	0.0075 lb ai	0.4b	0.9b	0.4b	1.5b	0.1b	1.2b
SpinTor 2 SC	0.094 lb ai	0.1c	0.3c	0.1b	0.3c	0.0b	0.4c
Untreated check		2.2a	4.8a	4.8a	11.8a	4.9a	3.7a

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

^aMean of 8 May and 19 May

Mean percentage of plants per plot

Treatment/ formulation	Rate amt/acre	Total			
		Fancy	Standard	marketable	Unmarketable
S-1812 35 WP	0.15 lb ai	98a	2c	100a	0a
S-1812 35 WP	0.20 lb ai	100a	0c	100a	0a
Proclaim 5 SG	0.0075 lb ai	74b	24a	95a	5a
SpinTor 2 SC	0.094 lb ai	98a	2c	100a	0a
Untreated check		1c	17b	18b	82b

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

