

(E65)

SQUASH: *Cucurbita pepo* var. *melopepo* (L.), ‘Medallion’

CONTROL OF PICKLEWORM ON YELLOW CROOKNECK SUMMER SQUASH, 2005

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Pickleworm: *Diaphania nitidalis* (Stoll)

Pickleworm is a serious pest of squash, cucumber and cantaloupe in south Florida. Larvae are not subject to insecticidal control once in the fruit, so must be controlled either in the bloom or while in transit. For this trial, greenhouse grown seedlings were transplanted to the field on 25 Mar on raised beds covered with polyethylene mulch. Water and fertilizer were provided through drip tape. Twelve beds 250 ft in length were spaced 6 ft apart with 10-inch plant spacing within the row. Nova was sprayed weekly on all plots except the untreated check for disease control. A RCB design was used with nine treatments, four replications, and 35-ft-long plots. Each replicate consisted of a set of three beds with the center left untreated to serve as the untreated check. Ten plants in the center of each plot were selected for weekly harvest from 25 Apr to 30 May. Blooms were also removed weekly from the remaining non-harvested plants in each plot to check for presence of larvae and damage. A high-clearance sprayer was used operating at 180 psi and 2.3 mph with the spray delivered through two vertical booms using yellow Albus hollow cone nozzles that applied 10 gpa each. Two nozzles on each boom were used when the plants were small with three additional nozzles on 18 Apr and a top center nozzle added on 5 May, maintaining product rate per acre constant by decreasing concentration to compensate for increased volume. Flower buds were sampled four times, on 21 Apr and 2, 10, and 17 May. Fruit was harvested 6 times, on 25 and 29 Apr. and 9, 16, 23 and 30 May. Data were subjected to ANOVA and means were separated using LSD ($P = 0.05$).

Fewer worm-damaged buds than either check (with or without fungicide) were observed with all treatments except JMS Stylet oil and the low rate of Pure Spray Green (PSG) Oil. Fewest damaged buds were sampled from plants receiving the standard insecticide treatment, but not significantly less than either rate of Avaunt. All treatments except the two rates of PSG resulted in less worm-damaged fruit than the check, with least damage seen from plants treated with the standard or the high rate of Avaunt. The lower rate of Avaunt, as well as Intrepid and JMS Stylet oil, also provided considerable protection of fruit.

Treatment/ formulation	Rate lb(AI)/acre	Applications ^a	% damaged buds ^b	% damaged fruit ^c
Intrepid 2F	0.125	8,10,12,13,14	8.8cd	17.5c
Nova 40W	0.125	2,4,6,7,9,11,13		
JMS Stylet Oil	0.75% v/v	1,3,5,8,10,12,13,14	22.0a	17.6c
PureSpray Green Oil	0.75% v/v	1,3,5,8,10,12,13,14	12.7bc	27.2ab
PureSpray Green Oil	1.5% v/v	1,3,5,8,10,12,13,14	17.1ab	25.7ab
Nova 40W	0.125	2,4,6,7,9,11,13	19.9a	23.7bc
Avaunt 30WG	0.045	8,10,12,13,14	3.9de	16.4c
Nova 40W	0.125	2,4,6,7,9,11,13		
Avaunt 30WG	0.0656	8,10,12,13,14	3.8de	7.0d
Nova 40W	0.1250	2,4,6,7,9,11,13		
Spintor 2SC	0.125	8,12,14	1.5e	8.5d
Asana XL 0.66EC	0.0413	10,13		
Nova 40W	0.125	2,4,6,7,9,11,13		
Untreated check	--	--	21.5a	31.6a

^a1 = 4 Apr; 2 = 7 Apr; 3 = 11 Apr; 4 = 14 Apr; 5 = 18 Apr; 6 = 21 Apr; 7 = 27 Apr; 8 = 28 Apr; 9 = 4 May; 10 = 5 May; 11 = 11 May; 12 = 12 May; 13 = 20 May; 14 = 26 May.

^bTotal % from four sampling dates.

^cTotal % from six harvests.