

(E22)

CANTALOUPE: *Cucumis melo* L., 'Anthena'

INSECTICIDAL CONTROL OF PICKLEWORM ON CANTALOUPE, 2000

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Pickleworm (PW): *Diaphania nitildalis* (Stoll)

Pickleworm is a serious pest of cucurbits in Florida and other parts of the southeast. Control is difficult because the larval period is spent feeding within the fruit. For this trial, applications of various selective pesticides alone and in combination were used. Greenhouse-raised seedlings were planted 7 Mar at 18-inch spacing on two sets of three beds and fertigated through Netafim drip tape with 12-inch emitter spacing during the growing season. The center bed in each set of three beds was left untreated to serve as a source of pest inoculum. The four treated beds were divided into 34 ft long plots to which six treatments and untreated check were assigned in an RCB design with four replications. The Neemix plus Agree treatment was applied weekly from 21 Mar to 9 May for a total of nine applications. The five other treatments were initiated 28 Mar and sprayed weekly to 9 May. Spray was delivered through a tractor-mounted horizontal boom equipped with four ceramic "yellow" Albuz hollow cone nozzles delivering 44 gpa at 200 psi. As the canopy expanded, two additional nozzles were added for an output of 66 gpa. The adjuvant CS-7 at 0.06 % vol/vol was added to the Confirm and Intrepid treatments. Two evaluations were performed 18 Apr and 25 Apr on 15 fruit (2-4 inches in diameter) per plot checking for larval damage. Flowers and growing tips of 15 plants were examined on 25 Apr, but no larvae were found. On 5 May, obviously damaged fruit was removed and counted on 20 row ft per plot. Fruit that broke clean from the vine was harvested on 11, 15, and 19 May, counted, weighed, and examined for insect damage. All larvae recovered from the fruit were identified as pickleworm.

Best control was achieved with Intrepid 80 WP at 2 oz, Avaunt 1.25 SC at 1.3 oz and SpinTor 2 SC at 6 oz. There were also no differences among these treatments in number of culls. Confirm at 8 oz and Intrepid at 1 oz also provided a significant level of control compared with the untreated check. This was not the case for Agree WG at 1 lb plus Neemix 4.5% at 4 oz, despite nine treatments. Thus Intrepid, Avaunt, SpinTor, and to a lesser extent Confirm were able to control pickleworm despite minimal contact with the larva.

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Treatment/ formulation	Rate amt form/acre	No. infested fruit/plot ^a		Fruit/plot (from 3 harvest dates)		
		18 Apr	25 Apr	Marketable		Unmarketable
				No.	Wt	No. ^b
Agree WG + Neemix 4.5%	1.0 lb 4.0 oz	0.1bc	0.5b	6.5c	21.8c	20.8bc
Confirm 2 F	8.0 oz	0.1bc	0.2c	23.3b	86.3b	30.0a
Intrepid 80 WP	1.0 oz	0.0c	0.1cd	23.8b	89.4b	27.0ab
Intrepid 80 WP	2.0 oz	0.0c	0.0d	34.0a	134.1a	11.5c
Avaunt 1.25 SC	1.3 oz	0.0c	0.0d	35.3a	124.7a	12.0c
SpinTor 2 SC	6.0 oz	0.1bc	0.2c	33.0a	117.5a	14.5bc
Untreated check		0.3a	0.8a	8.0c	20.7c	21.0abc

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

^a 15 fruit examined per plot

^b Includes all unmarketable fruit picked, including those that were too rotten to weigh.