(E95)

TOMATO: *Lycopersicon esculentum* Mill., 'Neptune'

IMPACT OF INSECTICIDES ON TOMATO PINWORM FOR STAKED TOMATO, 2000

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Tomato pinworm (TPW): *Keifeira lycopersicella* (Walsingham)

Tomato pinworm is a serious pest for Florida tomato growers especially during the spring crop. This trial evaluated different insecticides, two in rotation, as means of controlling this pest. Greenhouse-raised seedlings were planted 2 Mar at 18-inch spacing on two sets of three beds. Beds were 32 inches wide, 240 ft long on 6-ft centers, covered with black polyethylene film and irrigated through Netafim streamline drip-tape with emitters at 12-inch intervals. The outer two beds of each set were divided into seven plots, each 34 ft long and assigned to treatments in a CRB design with four replications, the middle row of each three-bed set was left untreated to serve as a source of pinworms. Two wing-type sticky traps were baited with TPW pheromone (Scentry) produced peaks of 36, 135, 60, and 67 moths/night on 2, 5, 8, and 15 May, respectively, with daily average of 23.1 from 27 Mar to 27 May. Eight weekly treatment applications were made 28 Mar to 17 May using a high clearance sprayer driven by a hydraulic pump operating at 200 psi and delivering the spray through two drop booms equipped with two yellow hollow cone ceramic Albuz nozzles each at a rate of 44 gpa. On 11 Apr, another nozzle was added to each drop for an output of 66 gpa and 2 May a fourth nozzle on each boom for a 88 gpa rate for the remaining applications. Six weekly evaluations were made starting 3 Apr of live larvae from four plants per plot. Fruit was harvested 16 and 24 May from 14 plants per plot and the marketable fruit graded on a commercial table with weights and numbers recorded. Unmarketable fruit was separated into categories of insect that was all TPW and disease.

Significantly more tomato pinworms were observed on untreated plants than on treated plants. There were no significant differences among treated plants with the exception of plants sprayed with Intrepid on which more pinworms were seen. More fruit was harvested from plants treated with the Avaunt/SpinTor rotation, SpinTor alone or Proclaim compared with untreated plants, but there were no significant differences among treated plants. Numbers of damaged fruit followed the pattern of foliar incidence with most on untreated plants, followed by Intrepid, and then all other treatments. Thus, all treatments provided significant control of TPW, with most satisfactory results seen with Avaunt, SpinTor and Proclaim.

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Treatment/ formulation	Rate lb (AI)/acre	No. larvae/ plant	Fruit/14 plants per plot	
			Marketable fruit (lb)	No. damaged fruit
Avaunt 30 WG	0.045	0.04 c	115.4 ab	6.0 c
Avaunt 30 WG	0.065	0.02 c	120.4 ab	4.8 c
Avaunt 30 WG rotated with SpinTor 2SC	0.065/ 0.067	0.02 c	125.0 a	4.2 c
SpinTor 2SC	0.067	0.12 c	131.6 a	7.5 c
Intrepid 80 WP	0.15	1.20 b	110.8 ab	23.1 b
Proclaim 5SG	0.01	0.04 c	131.7 a	3.6 c
Untreated check	----	5.78 a	3.4 b	65.8 a

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