

(E23)

**CORN (SWEET):** *Zea mays* (L.) 'Silver Queen'

**INSECTICIDAL CONTROL OF FALL ARMYWORM ON SWEET CORN WITH EXPERIMENTAL AND LABELED INSECTICIDES, 2004**

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Fall armyworm (FAW): *Spodoptera frugiperda* (J.E. Smith)  
Corn earworm (CEW): *Helioverpa zea* (Boddie)

Fall armyworm (FAW) is a perennial problem for sweet corn growers in southern Florida due to the prevalence of the pest and its penchant to ruin the ear through direct feeding, with corn earworm (CEW) usually acting as a secondary pest. Carbamates and pyrethroids continue as standards although frequency of application is high and any improvement in efficacy can have a positive impact on cost or efficiency of control. For the present trial we prepared three raised beds 32 inches wide and 240 ft long on 6-ft centers covered with white polyethylene mulch under which was placed a single drip tape irrigation line with 12-inch emitter spacing. Plants were provided with 225 lb/acre of 19-0-19 bottom mix at bedding and fertigated with 8-0-8 liquid fertilizer to bring the total N for the season to 200 lb/acre. Beds were divided into four replications and treatments assigned in a RCB design in single row plots. Corn was direct seeded 26 Aug at 10-inch spacing. Seven weekly spray applications were made using a high clearance sprayer equipped with two overhead nozzles fitted with ceramic Albus yellow hollow cone tips per row delivering 22 gpa at 200 psi pressure. Treatments were initiated 14 Sep after a sample of 25 plants per plot was examined with a 12% infestation rate by FAW with no significant difference (LSD,  $P > 0.05$ ) between replications. Subsequently, the number of plants with live larvae or fresh frass present was recorded weekly for six weeks on 25 centrally located plants per plot. Mature ears were harvested on 2 Nov from 36 row feet per plot. Any damage to the ear was considered sufficient to render it unmarketable. Weight and number of marketable and non-marketable ears was recorded. Larvae found in damaged ears were identified as either FAW or CEW. Data were subjected to ANOVA and means were separated using LSD ( $P = 0.05$ ).

More than 30% of unsprayed plants were infested compared to less than 7% of treated plants, with no difference among the latter. Similarly, significantly greater numbers and weight of ears were harvested from treated plants with no differences among the latter. However, fewer damaged ears were harvested from plants sprayed with Proaxis compared to those treated with the other 2 insecticides, and there were more damaged ears from untreated plants than all others. No significant differences among treatments were observed in number of FAW found in damaged ears at harvest. In contrast, fewer CEW were seen in ears from plants treated with Proaxis or Warrior compared to Lannate with more yet CEW found in ears from untreated plants. Therefore, treatment effects on yield appeared to be due more to damage from CEW than from FAW.

Treatment/ formulation	Rate amt product/ acre	% plants with larvae <sup>a</sup>	Yield					
			Marketable		Unmarketable			
			Number	Weight (lbs)	Number	Weight (lbs)	No. FAW	No. CEW
Proaxis 0.5CS	3.84 fl oz	6.5b	43.4a	25.5a	18.4c	11.0c	4.8a	1.5c
Warrior 1CS	3.84 fl oz	4.0b	41.8a	25.0a	26.1b	16.0b	5.8a	3.0c
Lannate 2.4LV	1.25 pt	6.0b	33.7a	19.4a	26.8b	16.0b	9.0a	8.0b
Untreated check	--	30.8a	14.3b	7.1b	45.6a	25.4a	14.5a	24.3a

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

<sup>a</sup>Mean of 25 plants per evaluation over 6 evaluations.