

Evaluation of New Pyrethroids for Control of Second Generation Southwestern Corn Borer in Corn (Field 5C)

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Objective: To evaluate the effectiveness of Baythroid and Dow XR-225 compared to a standard (Warrior) for control of southwestern corn borer in corn.

Methodology: Baythroid at 2.2 oz/a, Dow XR-225 at 3.2 and 3.84 oz/a and Warrior T at 3.84 oz/a were evaluated against an untreated control. Plots were randomized and replicated four times. Applications of insecticide were made on the Helms farm at Halfway, TX on August 1, 2003 using a C02 backpack sprayer and Teejet Hollow Cone TX-VS4 nozzles at 40 PSI. Evaluation of plots occurred on September 12, 13, 14 and 15. Ten consecutive plants per plot were stripped of all leaves and leaf collars. Plants were cut off 6 inches above the ground and each stalk was split with a knife and examined for entry holes, tunnels and larvae in the stalk.

Results: All pyrethroid treatments and rates effectively reduced number of tunnels, tunnel lengths and number of larvae per 10 plants when compared to the untreated control plots (Table 1). Number of tunnels, tunnel length and number of live larvae per 10 plants in the pyrethroid plots were reduced by an average of 69%, 73% and 77% respectively. These damage and population reductions are not as high as would be observed by an aerial application of these products, because the method of application only targeted the ear zone area of the plant; therefore some eggs and newly hatched larvae of the southwestern corn borer may not have been exposed to the pyrethroids. Table 2 shows the percent of plants with 2nd generation larval feeding damage, plants with live larvae and girdled. In all pyrethroid applications these parameters were significantly less than the untreated and not significantly different from each other.

Summary: Baythroid and the new Dow 225 provided similar damage reduction and control of southwestern corn borer compared to Warrior, with all treatments and rates providing acceptable control.

Table 1. Evaluation of insecticides for control of 2nd generation southwestern corn borer in corn. Helms Farm.

Treatment	Rate/a	Number/10 Plants		
		Tunnels	Tunnel Length (cm)	5 th Instar Larvae
Baythroid	Baythroid 2.2 oz	7.0 a	74.8 a	1.5 a
Dow 225	Dow 225 3.2 oz	8.0 a	65.5 a	1.5 a
Dow 225	Dow 225 3.84 oz	9.3 a	74.3 a	1.8 a
Warrior	Warrior 3.84 oz	7.3 a	61.3 a	1.3 a
Untreated	Untreated -----	25.3 b	259.5 b	6.8 b

ANOVA and LSD. Any two numbers in a column having a common letter are not significantly different at the

Table 2. Evaluation of insecticides for control of 2nd generation southwestern corn borer in corn. Helms Farm,

Treatment	Rate/a	Percent		
		Plants w/2nd generation damage	Plants w/larvae	Girdled
Baythroid	2.2 oz	37.5 a	15.0 a	5.0 a
Dow 225	3.2 oz	42.5 a	15.0 a	5.0 a
Dow 225	3.84 oz	55.0 a	17.5 a	0 a
Warrior	3.84 oz	37.5 a	12.5 a	0 a
Untreated	-----	82.5 b	67.5 b	32.5 b

ANOVA and LSD. Any two numbers in a column having a common letter are not significantly different at the