FIELD 203AY

Southwest Research–Extension Center

Report of Progress 910

Kansas State University
Agricultural Experiment Station
and Cooperative Extension Service

Southwest Research-Extension Center

EFFICACY OF INSECTICIDES FOR THE CONTROL OF SOUTHWESTERN CORN BORER, 2002

by

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SUMMARY

This trial evaluated the efficacy of insecticides for controlling southwestern corn borer (SWCB), *Diatraea grandiosella* Dyar. The second generation SWCB infestation was moderate but not very uniform in distribution. All the insecticide treatments significantly reduced SWCB larvae per plant, amount of stalk and total tunneling, and percent girdled plants.

PROCEDURES

The plots were machine-planted to DK589RR seed at the Southwest Research-Extension Center near Garden City, KS. The plots were 4 rows wide (10 ft), 50 ft long and separated by 4 border rows of corn and 10-ft wide alleys. The plot design was a randomized block design with 4 replicates. Treatments were applied on August 7 and 9 with a high clearance sprayer using a 10-ft boom with 3 nozzles directed at each row (one on each side of the row on 16-inch drop hoses directed at the ear zone and a third nozzle directed at the top of the plant). The sprayer was calibrated to deliver 20 gal/a at 2 mph and 40 psi. The second generation SWCB infestation resulted from free flying feral moths. Ten plants from the second and third rows were dissected in late September to record observations on second generation corn borers. One of the four Tracer plots was heavily infested and resembled an untreated control plot. This plot was excluded in the results reported. It is possible there was an unseen application problem in this plot, resulting in the heavy infestation.

RESULTS AND DISCUSSION

The second generation SWCB infestation was moderate and not very uniform. It averaged 0.6 larvae per plant in the untreated check. All the insecticide treatments significantly reduced SWCB larvae per plant, amount of stalk and total tunneling, and percent girdled plants (Table 1). The standard treatment, Warrior, reduced SWCB larvae per plant 95-100%. The Intrepid treatments reduced SWCB per plant by 70-92%, while Tracer reduced them by 77%. The efficacy of Tracer was numerically lower than that of Warrior, but was not significantly different.

Table 1. Corn borer observations taken September 26-30, 2002 on the efficacy of corn borer insecticides on second generation southwestern corn borer (SWCB). SWREC Garden City, Finney Co., Kansas. Treatments applied August 2, 2002.

Treat. No.	Treatment	Rate: Product Per acre	2nd Gen. SWCB / Plant (% Control)	2nd Gen. Tunnels / Plant	2nd Gen. Stalk Tunneling Cm / Plant (% Control)	2nd Gen. Shank Tunneling cm / Plant	2nd Gen. Total Tunneling cm / Plant (% Control)	% Infested Plants	% Girdled Plants (%Control)
1	Check		6.0 a	0.6	6.4 a	0.3	6.7 a	40	47 a
2	Intrepid 2F **	2 oz	1.8 b	0.4	2.0 b	0.2	2.1 b	26	10 b
	Latron CS-7	0.25%	(70%)		(69%)		(69%)		(79%)
3	Intrepid 2F **	4 oz	0.5 b	0.3	0.9 b	0.3	1.1 b	24	5 b
	Latron CS-7	0.25%	(92%)		(86%)		(84%)		(89%)
4	Intrepid 2F **	8 oz	0.8 b	1.1	0.7 b	0.1	0.8 b	14	5 b
	Latron SC-7	0.25%	(87%)		(89%)		(88%)		(89%)
5	Tracer	3 oz	1.4 b	0.4	1.7 b	0.2	1.9 b	18	13 b
	Latron SC-7	0.25%	(77%)		(73%)		(72%)		(72%)
6	XDE-225 .497CS **	3 oz	1.0 b	0.1	0.6 b	0.1	0.7 b	18	5 b
	Latron SC-7	0.25%	(83%)		(91%)		(90%)		(89%)
7	Warrior T	3.2 oz	0.0 b	0.1	0.1 b	0.1	0.1 b	8	0 b
	Latron SC-7	0.25%	(100%)		(98%)		(99%)		(100%)
8	Warrior T	3.84 oz	0.3 b	0.3	1.0 b	0.2	1.2 b	20	3 b
	Latron SC-7	0.25%	(95%)		(84%)		(82%)		(94%)
	P-value		0.003	0.5919	0.0008	0.4646	0.0007	0.1205	0.0509
	LSD		2.623	1.081	2.418	0.281	2.491	20.623	2.854

Means in the same column followed by the same letter do not differ significantly (LSD P=0.05)
**These products are not currently registered for use on corn.

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