

EVALUATION OF SOIL APPLIED, SEED TREATMENT INSECTICIDES AND YIELDGARD CORN ROOTWORM TECHNOLOGY FOR CONTROL OF CORN ROOTWORM LARVAE, 2003.

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Ten insecticide treatments and a YieldGard Rootworm Hybrid (Asgrow RX708YGRW) were evaluated for their efficacy against corn rootworm larvae at the OARDC Western Branch Station near South Charleston, OH. The insecticides were applied at planting on 22 May to two rows (30 inch spacing) by 140 ft long plots arranged in a RCBD with four replicates per plot. The insecticides were applied to corn hybrid, Asgrow 708, an isolate of Asgrow RX708YGRW. Five granular insecticides (Aztec 2.1G, Counter 20CR, Force 3G, Fortress 2.5G and Lorsban 15G) were applied either in-furrow (IF) or T-banded (TB) with a modified Noble applicator that was calibrated to deliver the desired rate. Two granular insecticides (Aztec 4.67G and Fortress 5G) were placed either in-furrow (IF) or T-banded (TB) with a SmartBox metering system calibrated to deliver the desired rate. The liquid insecticide Capture 2EC was applied as a T-band (TB) with a CO₂ calibrated sprayer using a TeeJet 650067 nozzle calibrated to deliver 3 gal/acre. The seed applied insecticides, Cruiser and Poncho, were commercially applied to the seed before planting. Asgrow RX708YGRW was treated with the seed applied insecticide Gaucho before planting. Counts of total stand in 100 row ft were taken on 11 July at the V8 stage of growth. Rootworm feeding injury was evaluated on 15 July by randomly digging 5 roots per replicate for each treatment. Roots were washed, examined for corn rootworm larval feeding injury and rated in accordance with the Iowa 1-6 scale and the Node Injury Scale (0-3). Plots were machine harvested on 5 Nov.

Significant differences in total stand were observed among treatments. All plants treated with an insecticide and the YieldGard Rootworm hybrid had a lower root rating than the untreated check. Significant differences in root rating were observed among the insecticide treatments. Significant differences in yield were not observed among the insecticide treatments, YieldGard Rootworm hybrid and the untreated check.

Table 1. Stand counts, root rating and yield observed in continuous corn trial.

Treatment	Application Rate	Appl. ^a Method	Stand Count		Root Rating		Yield (bu/A)
			Plants/100 Row Feet		(Average of 5 Plants/Plot)	Node Injury Scale (0-3)	
Aztec 2.1G	6.7 oz/1000'	NB TB	162.50 bcd		2.20 bcd	0.11 a	171.4 a
Aztec 4.67G	3 oz/1000'	SB TB	160.25 cde		2.35 cde	0.11 a	163.4 a
Capture 2EC	0.37 fl oz/1000'	NZ TB	169.25 a		2.10 abc	0.08 a	176.9 a
Counter 20CR	6 oz/1000'	NB TB	155.75 e		1.95 ab	0.07 a	172.4 a
Cruiser	1.25 mg ai/kernel	ST	164.25 abc		2.05 abc	0.08 a	175.8 a
Force 3G	4 oz/1000'	NB TB	167.25 ab		2.05 abc	0.08 a	181.9 a
Fortress 2.5G	7.4 oz/1000'	NB IF	156.50 de		2.45 de	0.21 a	161.5 a
Fortress 5G	3.7 oz/1000'	SB IF	160.00 cde		2.35 cde	0.09 a	172.5 a
Lorsban 15G	8 oz/1000'	NB TB	162.25 bcd		2.20 bcd	0.09 a	172.0 a
Poncho	1.25 mg ai/kernel	ST	169.00 a		2.10 abc	0.08 a	176.4 a
YieldGard Rootworm ^b			156.00 e		1.80 a	0.06 a	170.7 a
Untreated			155.75 e		2.60 e	0.20 a	167.1 a

Means in a column followed by the same letter are not significantly different (p=0.05)

^a NB TB = Noble T-band, SB IF = SmartBox In-furrow, NB IF = Noble In-Furrow, ST = Seed Treatment, NZ TB = Nozzle T-Band

^b YieldGard Rootworm hybrid treated with Gaucho at 0.16 mg ai/kernel.