

Williamson County Result Demonstration Report



EVALUATION OF NEW FORMULATION OF AZTEC[®] 3.8 COMPARED TO AZTEC[®] 2.1 FOR CONTROL OF MEXICAN CORN ROOTWORM

Cooperator:
Clifton Kotrola

Dale A. Mott
Extension Agent-IPM

Ron Leps/Josh Blanek
Extension Agent-Agriculture/Natural Resource

Taylor, Williamson County, Precinct #4

SUMMARY:

A new formulation of Aztec[®], Aztec[®] 3.8, soil applied insecticide was evaluated to compare efficacy to the current labeled product Aztec[®] 2.1G for control of Mexican corn rootworm (MCR) in a field that had been planted to continuous corn for at least the last six years. MCR pressure was relatively light for this evaluation, but both formulations of Aztec[®] provide a lower mean MCR root damage rating compared to the untreated check, although the differences were not statistically different (LSD, P=0.05).

OBJECTIVE:

The Mexican Corn Rootworm (MCR) is a serious pest of corn in the Central Texas area. As more continuous corn and sorghum are being grown in Williamson County, the potential for this pest to cause severe economic damage will increase as its population increases. MCRWs are especially a problem in fields that have had continuous corn for three or more years, although there is a potential for fields of second year corn to be completely destroyed even with the use of full label rates of soil insecticides. Crop rotation to any crop other than corn therefore is the most effective control practice for MCR. However, the economic benefit of corn production and limited land available for rotation often requires continuous corn production without rotation.

As more producers adopt the use of seed treatments for their insect management program in order to limit the amount of chemical they have to handle, conventional soil insecticide products that have lower use rates will have a more competitive advantage in the marketplace. The objective of this trial was to evaluate a new, more concentrated formulation of Aztec soil-applied insecticide that has a lower use rate to compare its effectiveness to the current formulation.

MATERIALS & METHODS:

The trial was established in a commercial dryland corn field near Granger, TX on April 16, 2004. Plot size was 4-38" rows by 100' in length. The variety used was Garst 8270RR. The trial contained 3 treatments, an untreated check, Aztec® 2.1G @ 6.7 oz/1000 row feet seed, and Aztec® 3.8 @ 3.7 oz/1000row feet. Fertilizer consisted of 350 lbs of 27-6-0-2 per acre. The roots of six plants were dug from the two center rows of each plot on June 18 and were cleaned and rated on a 0-3 scale for damage from Mexican corn rootworm (MCR). Higher root damage ratings indicate greater damage by MCR.

RESULTS AND DISCUSSION:

The plots were inspected bi-monthly following planting for insect pressure, but the plots remained free of chinch bugs and white grubs. Mean MCR root damage ratings are shown in Table 1. Heavy rains in mid-May which caused excessive erosion to the plots destroyed much of the study by causing stand loss and lodging, however, root damage ratings were obtained. There was no significant differences between any of the treatments. However, the two Aztec® formulations, 2.1G and 3.8 G, had numerically lower mean root damage ratings than the untreated check. Aztec® 2.1G had a mean root damage rating of 0.08 compared to 0.13 for Aztec® 3.8G and 0.44 for the untreated check, respectively.

Table 1. Mean MCR Root Damage Ratings. Clifton Kotrola, Williamson Co., TX. 2004

Treatment	Rate (/1000 row ft)	MCR root damage rating (0-3)¹
Untreated	---	0.44
Aztec® 2.1 G	6.7 oz	0.08
Aztec® 3.8 G	3.7 oz	0.13
LSD (P=0.05)		0.376
P>F		0.107

¹ Mean MCR Rating. Iowa State University 0-3 MCR rating scale: 0 = no feeding damage, 1 = 1 node of roots eaten within 2 inches of stalk, 2 = 2 nodes of roots eaten, and 3= 3 or more nodes of roots eaten.

ACKNOWLEDGMENTS:

Appreciation is expressed to Clifton Kotrola for providing the field location. Appreciation is also expressed to Mr. Gary Schwarzlose with Bayer CropScience for providing product and financial support for this study.

Trade names of commercial products used in this report are included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response would occur where conditions vary.

Trade names of commercial products used in this report are included only for better understanding and clarity. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas A&M University System is implied. Readers should realize that results from one experiment do not represent conclusive evidence that the same response

H:\Ag Extension\Dale\IPM\Demos\Demo Handbook Writeups\Cruiser vs Temik cotton 2003
StilesFarm.wpd