

Corn Rootworm Insecticide Comparison

Alan Sundermeier, Agriculture and Natural Resources Extension Agent
Bruce Easley, Integrated Pest Management Research Associate

Objective

To evaluate corn response to soil rootworm insecticides in a field following soybeans.

Background

Cooperator:	Roland and Rob Rettig	Fertilizer:	19-17-0, 180 lb/A
County:	Henry		200 lb/A K ₂ O, 150 lb/A N
Nearest town:	Napolean	Herbicides:	Bicep
Soil Types:	Millgrove loam	Variety:	Golden Harvest N58D1
Previous Crop:	Soybean	Planting Date:	April 27, 2000
Tillage:	No-till	Planting Rate:	30,000 seeds/A
Soil Test:	pH 6.2, P 82 ppm, K 346 ppm, CEC 10.8	Row Width:	30 inches
		Harvest Date:	November 1, 2000

Methods

A randomized, complete design used four replications of three treatments. The design was duplicated at two fields about one mile apart with the same cropping history. The treatments included a check with no insecticide, corn seed encapsulated with Force insecticide, and liquid Regent insecticide applied in furrow at planting. Individual plots were 15 feet wide and 300 feet long.

On July 20, 2000, corn roots were evaluated for rootworm damage. For each treatment, five root masses were dug, washed, and inspected for rootworm damage. The Iowa scale of 1 = no damage to 3 = economic impact to 5 = severe root pruning was used.

Corn stalk population counts were taken near harvest time. Results reported are the combination of both fields and represent eight replications of each treatment.

Results

Table 1. Insecticide Treatments.

Treatment	Root Damage Index	Harvest Population (plants/A)	Yield (bu/A)
No insecticide	1.73 b	28,000 b	168.5 a
Force	1.40 a	26,500 a	169.9 ab
Regent	1.42 ab	28,750 b	174.2 b
LSD (0.05)	0.28	998	4.8

Means followed by the same letter are not significantly different.

Summary and Notes

These fields were selected because of a history of rootworm damage on past corn crops. Economic thresholds for root damage were not reached in the control treatment. This may have been due to above-average rainfall during the growing season that possibly reduced rootworm larvae numbers.

The Regent insecticide treatment had significantly better corn yield compared to no insecticide. However, the application of Regent would not have increased net return based upon the yields compared to no insecticide.

For additional information, contact:

Alan Sundermeier
The Ohio State University Extension
sundermeier.5@osu.edu