Product Efficacy on Asiatic Garden Beetles in Field Corn

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Objective

To evaluate soil insecticide product efficacy on Asiatic garden beetles in field corn by measuring grain yield.

Background

	Farm A	Farm B	Farm C
Crop Year:	2014	2014	2014
Location:	Wauseon, OH	Delta, OH	Swanton, OH
County:	Fulton	Fulton	Fulton
Soil Type:	Tedrow/Gilford	Tedrow/Granby	Tedrow/Granby
Drainage:	Undrained	Systematic	Systematic
Previous Crop:	Soybeans	Soybeans	Soybeans
Tillage:	No-till	No-till	No-till
Soil Test:	pH 6.8, P 143 ppm, K 151 ppm	pH 6.5, P 51 ppm, K 190 ppm	pH 5.9, P 110 ppm, K 197 ppm
Planting Date:	May 19, 2014	May 14, 2014	May 8, 2014
Seeding Rate:	34,000	33,000	33,000
Harvest Date:	Nov 3, 2014	Oct 23, 2014	Sept 30, 2014
Rainfall (Apr-Sept):	10.94”	14.64”	16.28”

Methods

This study was designed with three treatments replicated four times in a randomized complete block design. Furthermore, the trial was replicated on three different Fulton County, Ohio farms in 2014. Treatment plots were roughly 15 feet wide by field length (1,000 feet minimum). In treatment 1 (untreated check), no soil insecticide was applied at planting. In treatment 2, soil insecticides Lorsban or Empower, both dry, were t-banded over the furrow at planting at a rate of 9 lbs/acre. In treatment 3, 10 ounces/acre of Capture LFR was applied in furrow at planting.

All plots were planted with a White 6100 planter using Pioneer 0636AMX at a rate of 33,000-34,000 seeds per acre depending on producer preference. Asiatic garden beetle larva pressure was evaluated weekly from late May through June. Plots were harvested with a Case 2388 combine. Yield measurements were taken with a scale wagon (Farm A) or Ag Leader Integra monitor (Farms B &C) and shrunk to 15% moisture.

Treatments

1) Untreated, no soil applied insecticide at plant
2) Empower at 9 lbs/acre (dry *bifenthrin)* in Farm A and Lorsban (*chloropyrifos)* in Farms B & C
3) Capture LFR at 10 oz/acre

Results

Table 1. Corn Yield (bu/ac) Response to Soil Applied Insecticide at plant Farm A

Treatment	AGB pressure	Moisture	Dry Yield
Untreated check	Low	19.6%	121.0 a
Empower at 9 lbs/ac	Low	20.3%	120.3 a
Capture LFR at 10 oz/ac	Low	19.9%	117.8 a

LSD 9.61 (p<.05), CV 4.64 – No significant difference between treatments

Table 2. Corn Yield (bu/ac) Response to Soil Applied Insecticide at plant Farm B

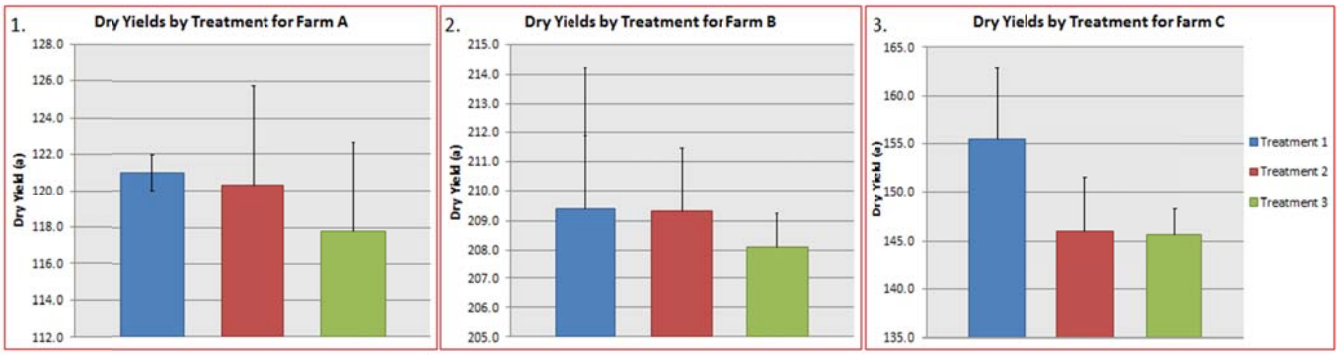
Treatment	AGB pressure	Moisture	Dry Yield
Untreated check	Very high	26.1%	209.4 a
Lorsban at 9 lbs/ac	Very high	26.2%	209.3 a
Capture LFR at 10 oz/ac	Very high	26.1%	208.1 a

LSD 7.14 (p<.05), CV 1.97 – No significant difference between treatments

Table 3. Corn Yield (bu/ac) Response to Soil Applied Insecticide at plant Farm C

Treatment	AGB pressure	Moisture	Dry Yield
Untreated check	Low to moderate	26.9%	155.5 a
Lorsban at 9 lb/ac	Low to moderate	27.8%	146.1 a
Capture LFR at 10 oz/ac	Low to moderate	27.1%	145.7 a

LSD 26.09 (p<.05), CV 7.72 – No significant difference between treatments



Figures 1, 2 and 3. Dry yields for each treatment illustrated for Farm A, Farm B, and Farm C ± standard errors and there are no significant differences between any treatment and any farm.

Summary

There was no statistically significant difference in grain yield among all trials across all farms. Further data in the form of multi-year replications will add to the validity of these results.

Acknowledgement

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