Effect of Quilt XL on Soybean Grain Yield

Jason Hartschuh, OSU Extension Crawford Country, Agricultural and Natural Resources Program Coordinator
Steve Prochaska, Ohio State University Extension Field Specialist, Agronomic Crops

Objective

To evaluate yield response of soybeans to Quilt XL (Azoxystrobin & Propiconazole) when applied at soybean growth stage R3/R4.

Background

Crop Year:	2013	SCN Count 3:	1689 eggs per 100cc
Location:	OSU Unger Farm	Soybean Planting Date:	May 16, 2013
County/Town:	Crawford	Soybean Variety:	Pioneer P93Y06
Soil Type:	Blount/Pewamo	Herbicide:	3.5 oz Canopy, 1 qt glyphosate
Drainage:	Systematic		
Previous Crop:	Corn	Herbicide (Post):	1 qt glyphosate 2 times
Tillage:	No – tillage	Treatment Date:	June 25 2013
Soil Test:	pH 5.9, P 34 ppm, K 146 ppm	Soybean Seeding rate:	168,000 seeds/acre
SCN Count 1:	0 eggs per 100cc (drained)	Date of Harvest:	October 2, 2013
SCN Count 2:	2920 eggs per 100cc	Rain fall:	25.57 inches (5/16-10/2)

Methods

Pioneer P93Y06 soybeans containing SCN resistance PI88788 were planted at a rate of 168,000 seeds per acre on May 16th with a Great Plains 2010P, 10 inch precision drill. Pre-emergent herbicides were applied on April 24: Canopy at a rate of 3.5 oz/acre with 1 quart/acre glyphosate. Post emergence weed control was accomplished with two applications of 1 quart of glyphosate/acre, applied on June 18 and July 22. The field was both systematically tiled at one end and spot tiled at the other allowing for 2 trials in the field. SCN sample 1 was taken from the systematically tiled trial while samples 2 and 3 were taken in the spot tiled trial.

This study was arranged in a randomized complete block design replicated four times. This design was used in both a systematically tiled section of the field and a spot tiled section. Foliar Fungicide Quilt XL applied at 10.5 oz/acre was compared to an untreated control. Plots were treated on June 25 with a 10 foot CO_2 plot sprayer calibrated to apply 15 gallons of water/acre at 40 PSI. Each plot was 10 feet wide and 40 feet long. Plots were trimmed to 35 feet in length. Plots were harvested on October 2nd using a Hege 140 small plot combine harvesting the center five feet of the plot and the entire 35 foot length.

Treatments

1) Quilt Excel at 10.5 oz/acre applied in 15 gallons of water at 40 psi
2) Control (no fungicide application)

Results

Table 1. Soybean yield adjusted to 13.5 % moisture (Well Drained Soil)

Treatment	Mean yield (bu/acre)
Quilt Excel 10.5 oz	58.9
Control	54.4

P>F=.16, NS; LSD= 6.99, CV =6.94, s=4.46

Table 2. Soybean yield adjusted to 13.5 % moisture (Poorly Drained Soil)

Treatment	Mean yield (bu/acre)
Quilt Excel 10.5 oz	54.6
Control	49.9

P>F=.11 NS; LSD=6.58, CV =5.6, s=8.4

Summary

There were no significant differences observed over treatments on either of the two field sites (same field, but different drainage). Quilt Excel cost $21.10/acre for the product and another $10.00/acre for application and adjuvants for a total cost of $31.10/ acre. If soybeans were $12.23/bushel (cash price on harvest date), it would take 2.54 bushels/acre to cover costs.

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For more information, contact:
Name: Steve Prochaska
Address: 222 W. Center St.
Marion, Ohio 43302
prochaska.1@osu.edu

For more information, contact:
Name: Jason Hartschuh
Address: 112 East Mansfield Street
Suite 303
Bucyrus, Ohio 44820
hartschuh.11@osu.edu