Yield Comparisons of Soybeans Treated with Rhizobium Inoculants

Greg LaBarge, AGNR Extension Educator- Fulton County

Objective

To determine if soybeans inoculated with rhizobium can increase yield over native rhizobium populations under three different pH levels.

Background

Crop Year:	1997	Previous Crop:	Wheat
Cooperator:	Hoytville Branch, OARDC	Tillage:	None
County/Town:	Wood/ Custer	Variety:	Pioneer 9294 RR
Drainage:	Tile	Planting Date:	June 12, 1997
Major Soil Type:	Hoytville	Harvest Date:	September 26, 1997

Materials and Methods

Soybeans were established on a Hoytville soil with three different pH levels, 5.2 to 5.3, 5.8 to 6.0, and 6.4 to 6.6 in the spring of 1997. The beans were treated with humus rhizobium inoculants of either USDA brand or HiStick Brand. An untreated check was included. The inoculum treatments were replicated eight times and the pH treatments were replicated four times. Individual inoculum plots were 10' x 40' in size.

Results

Treatment	Yield (bu/A)
pH 5.2 to 5.3	50.3
pH 5.8 to 6.0	49.6
pH 6.4 to 6.6	49.2
USDA inoculant	48.9
HiStick inoculant	50
Check	50.2

LSD (p=.05) for pH treatments = 1.51 bu/A

LSD (p=.05) for inoculant treatments = .77 bu/A

Summary and Notes

According to the results of this trial, there were no significant differences among the pH levels on the yield of soybean variety Pioneer 9294 Roundup Ready. There were significant differences among inoculant types with the USDA inoculant yielding lower than the other inoculant and the check treatment. There was no significant interaction (pH x inoculant) effect on soybean yield. The coefficient of variation (c.v.) for whole plots (pH) was 2.7% and the c.v. for split plots (inoculants) was 2.6%.

For additional information, contact: Greg LaBarge
                                                The Ohio State University
                                                labarge.1@osu.edu