

Effect of Copper Sulfate Applied at the R3 Growth Stage on MRI Soybeans

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Objective

To evaluate yield response of MRI soybeans to 2 pounds of copper sulfate per acre applied at soybean growth stage R3.

Background

Crop Year: 2014

Location: OSU Unger Farm

County/Town: Crawford

Soil Type: Blount/Pewamo

Drainage: Systematic

Previous Crop: Wheat (fall 2013/spring 2014)

Tillage: No – tillage

Soil Test: pH 6.1, P 65 ppm, K 194 ppm

Fertilizer: (wheat and soybeans) 98-67-90

Soybean Planting Date: May 23, 2014

Soybean Variety: NK S 35-C3

Herbicide: (4/13/14) 1 pt 2-4,D, .5 oz Harmony

Post: 1 quart glyphosate

Treatment Date: August 5, 2014

Soybean Seeding Rate: 200,000 seeds/acre

Date of Harvest: November 3, 2014

Rainfall: 12.5 inches (from 5/11-9/1)

Methods

Pioneer 25R39 wheat was planted using a YP1225 planter on October 15, 2013 at 100 pounds per acre. 1pt 2-4,D Ester and .05 oz Harmony Extra in 10 gallons of water and 10 gallons of 28% were applied on April 13, 2014. Modified Relay Intercropping plots were planted into twin row (rows 8 inches apart with a 22 inch skip) wheat on May 23, 2014 using a custom built 3 point interseeder. A no-till counter ran directly in front of each row opener. Openers were Great Plains 10 series openers in a twin row configuration so that two rows 8 inches apart ran between each set of twin row wheat, and seed flow was metered through ground drive Great Plains fluted feed cups from an 800 series drill.

Wheat was harvested on July 11, 2014. Post-emergence weed control in the soybeans was accomplished with one application of 1 quart of glyphosate/acre, applied on July 29th.

Treatments were applied using a 10 foot plot sprayer applying 2 pounds per acre of copper sulfate in 30 gallons of water.

This study was arranged in a randomized complete block design replicated four times. Each plot was 10 feet wide. Plots were harvested on November 3rd using a Kincaid 8 XP small plot combine harvesting five feet of the plot.



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Treatments

- 1) 2 pounds of Copper Sulfate in 30 gallons of water per acre
- 2) Untreated control

Results

Table 1. Soybean yield adjusted to 13.5 % moisture

Treatment	Mean yield (bu/acre)
Copper Sulfate	30.55
Control	34.08

$P > F = 0.55$, $LSD = 8.2$; $CV = 12.2$

Summary

There was no significant difference between the treatment and control in soybean grain yield.

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