

Soybean Yield in MRI versus Double Cropping Systems

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Objective

To evaluate yield response of MRI in comparison with double cropping.

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 S34-U2

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

Post: 1 quart glyphosate

Treatment Date: May 23, 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 gallon of water and 10 gallon of 28% were applied on April 13, 2014. Modified Relay Intercropping plots were planted into twin row (rows 8 inches apart with a 22 in skip) wheat on May 23, 2014. Wheat was harvested on July 11, 2014. Post emergence weed control applied to the entire plot in the soybeans was accomplished with one applications of 1 quart of glyphosate/acre, applied on July 29th. The field is systematically tilled. Treatments were MRI soybeans planted on May 23; double crop soybeans planted as soon as wheat harvest was completed on July 11; and no soybeans planted. The double crop soybeans were planted using a Great Plains YP-425A twin row planter. All soybeans were treated with CruiserMaxx with Vibrance.

This study was arranged in a randomized complete block design replicated four times. Each plot was 10 feet wide and 45 feet long. Plots were trimmed to 40 feet in length. Plots were harvested on November 3rd using a Kincaid 8 XP small plot combine harvesting the center five feet of the plot and the entire 40 foot length.

Treatments

- 1) NK S34-U2 (MRI)
- 2) NK S34-U2 Double crop planted 7/11/14

Results

Table 1. Soybean yield adjusted to 13.5 % moisture

Treatment	Mean yield (bu/acre)	
NK S34-U2 (MRI)	34.22	a
NK S34-U2 (DC)	7.8	b

$P > F = 0.0$, $LSD = 8.3$; $CV = 19.3$

Summary

There was a significant advantage to Modified Relay Intercropping over double cropping of over 25 bushels per acre. We would expect a significant yield difference with 49 days difference in planting. This is the major advantage of modified relay intercropping compared to double crop soybeans.

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