

Effect Planting Date on Modified Relay Intercropping Soybean Grain Yield

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Objective

To evaluate yield response of MRI Soybean to different planting dates.

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
June 4, 2014

Soybean Variety: NK

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

Post: 1 quart glyphosate

Treatment Date: May 23 & June 4

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 March 14, 2014. Modified Relay Intercropping plots were planted into twin row (rows 8 inches apart with a 22 in 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. The field is systematically tilled. Two soybean varieties all treated with CruiserMaxx and Vibrance (NK S39-U2 and S29-V2) were planted on two dates. The early planting occurred on May 23, 2014 and the late planting was a June 4, 2014. Plant populations on August 18 ranged from 85,000-115,000 which is about 100,000 less than the seeding population.

This study was arranged in a randomized complete block design replicated four times. The fourth rep was dropped from the study due to excessive wheel traffic and poor soybean stands. 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 five feet of the plot and the entire 40 foot length.

Treatments

- 1) NK S29-V2 May 23 (1)
- 2) NK S29-V2 June 4 (2)

Results

Table 1. Soybean yield adjusted to 13.5 % moisture (Trial 1)

Treatment	Mean yield (bu/acre)
NK S29-V2 (1)	27.7 a
NK S29-V2 (2)	27.3 a

P>F=0.766, STD=0.535; CV=21.8 Means with different letters are significantly different

Treatments

- 1) NK S39-U2 May 23 (1)
- 2) NK S39-U2 June 4 (2)

Results

Table 1. Soybean yield adjusted to 13.5 % moisture (Trial 2)

Treatment	Mean yield (bu/acre)
NKS39-U2 (1)	34.5 a
NK S39-U2 (2)	30.2 a

P>F=0.328; STD=2.138; CV=71.3 Means with different letters are significantly different

Summary

There was not a significant difference in yield between the planting dates for either one of the two trials that utilized different varieties.

Acknowledgement

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