

## Non-irrigated Soybeans Planted into Cereal Rye Cover Crop

**Study ID:** 0136109201901

**County:** Lancaster

**Soil Type:** Yutan silty clay loam; Aksarben silty clay loam; Judson silt loam

**Planting Date:** 5/15/19

**Harvest Date:** 10/22/19

**Seeding Rate:** 140,000

**Row Spacing (in):** 15

**Variety:** Asgrow® AG39X7

**Reps:** 8

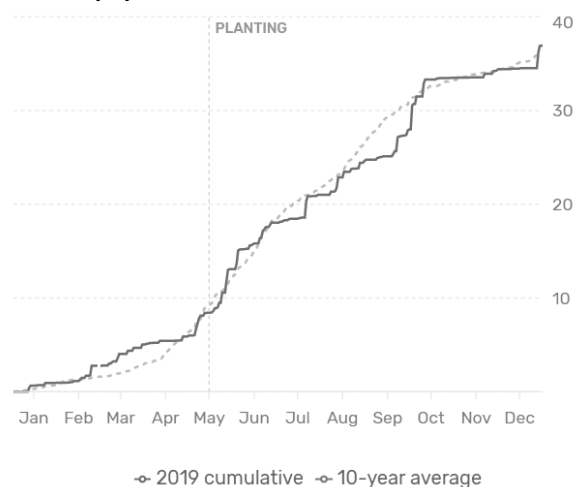
**Previous Crop:** Corn

**Tillage:** No-Till

**Fertilizer:** None

**Irrigation:** None

**Rainfall (in):**



**Introduction:** The purpose of this study was to evaluate the impact of a rye cover crop on subsequent soybean crop production. There are two treatments, rye cover crop and a no cover crop control. This is the second year of the study, and cover crop strips were located in the same place as the previous year. Elbon cereal rye was seeded at a rate of 40 lb/ac on November 1, 2018. Soybeans were planted on May 15, 2019. The cover crop was terminated May 20, 2019 with Roundup®. At termination the cover crop was 14-18" high and was 20-40% headed out.

### Results:

|                  | Moisture (%) | Soybean Yield (bu/ac)† | Marginal Net Return‡ (\$/ac) |
|------------------|--------------|------------------------|------------------------------|
| Check            | 11.9 A*      | 60 A                   | 486.68 A                     |
| Cover Crop - Rye | 11.9 A       | 58 A                   | 453.71 A                     |
| P-Value          | 0.857        | 0.391                  | 0.119                        |

\*Values with the same letter are not significantly different at a 90% confidence level.

†Bushels per acre adjusted to 13% moisture.

‡Marginal net return based on \$8.10/bu soybean and \$16/ac rye cover crop seed and drilling cost.

**Summary:** There were no differences in soybean moisture, yield, or net return between the cover crop treatment and the no cover crop control.

## Summary of Previous Year (Year 1)

### 2018

In year one (2018), the rye cover crop was drilled at a rate of 40 lb/ac on November 1, 2017 following soybean harvest. The rye was terminated with glyphosate in mid-May at a height of approximately 12". Corn was planted into the strips on April 23, 2018 with 5 gal/ac of 10-34-0 starter fertilizer.

#### Results:

|                  | Moisture (%) | Corn Yield† (bu/ac) | Marginal Net Return‡ (\$/ac) |
|------------------|--------------|---------------------|------------------------------|
| Check            | 15.5 B*      | 213 A               | 686.95 A                     |
| Cover Crop - Rye | 15.9 A       | 208 B               | 656.99 B                     |
| P-Value          | <0.0001      | 0.0099              | 0.0004                       |

\*Values with the same letter are not significantly different at a 90% confidence level.

†Bushels per acre corrected to 15.5% moisture.

‡Marginal net return based on \$3.23/bu corn, \$7.67/ac rye cover crop seed, and \$6/ac for drilling cover crop.

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