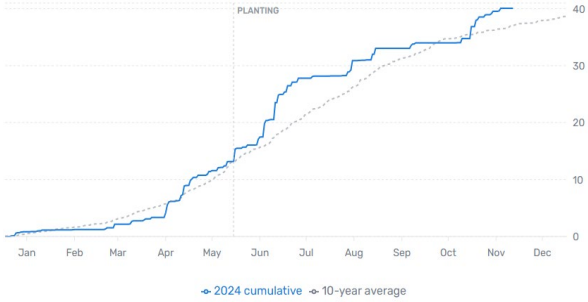
Soybean Tillage Study

Study ID: 0510147202403
County: Richardson
Soil Type: Haynie Silt Loam; deep loess, 0-2% slope
Leta silty clay, 0-2% slope
Planting Date: 5/29/24
Harvest Date: 10/14/24
Population: 130,000 seeds/ac
Row Spacing (in): 15”
Hybrid: Pioneer® P37A18E
Reps: 4
Previous Crop: Corn
Tillage: Variable
Herbicides: ***Pre:*** 8 oz/ac Authority Supreme® + 21 oz/ac glyphosate + 12.8oz/ac Zaar® + 16oz/ac 2,4-D
Post: 32 oz/ac Enlist One® + 24 oz/ac glyphosate + 2.5 pt/ac Warrant® + 12.8 oz/ac clethodim + 12.8 oz/ac Zaar®
Foliar Insecticides: 1.5 oz/ac Province II® + 1.5 oz/ac Brigade® applied at R3 with fungicide
Foliar Fungicides: 3 oz/ac propiconazole + 3 oz/ac Priaxor®
Fertilizer: March variable rate of 45 lb MAP/acre + 96 lb potash/acre + 52 lb gypsum/acre
Irrigation: None
Rainfall (in):



Introduction: This study was designed to test the effectiveness of tillage following corn harvest in the fall. Tillage can be an effective way to incorporate corn stalks after harvest or help reduce fall weed pressure. According to the 2024 UNL crop budget, the cost of the tillage pass was estimated at $23.25/ac, and this value was used to estimate marginal net return.

Figure 1: Project Design and Layout. Light green: no-till. Dark green: Tillage

Results:

Treatment	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
No Tillage	76 A*	841 A
Fall Tillage	77 A	825 A
P-Value:	0.34	0.12

*Values with the same letter are not significantly different at a 90% confidence level
† Bushels per acre are corrected to 13% moisture
‡ Marginal Net Return based on $11/bu soybeans, tillage cost of $23.25/ac.

Summary:

- There were no significant differences in yield or marginal net return between treatments.
- No significant yield difference was associated with either fall tillage (77 bu/acre) or no tillage (76 bu/acre).
- Furthermore, no significant difference was found in marginal net return between the two systems ($825/ac and $841/ac).
- Tillage has benefits/drawbacks not noted in this study.