

Project Title: Soybean Seeding Rates

Authors: Chuck Burr, Extension Educator, Lincoln County

Funding: Self-Funded

Objectives: To determine optimum seeding rate for soybeans in Lincoln and Keith Counties.

Results: Two studies were planted, one at WCREEC and one at the Brule South East Pivot.

WCREEC Soybean Population – Four seeding rates were used with four replications. Plots were planted with a John Deere planter with Precision technology. Tukey HSD All-Pairwise Comparisons Test with Alpha of 0.10 was used to make comparisons. There were no significant differences in yield or Returns.

WCREEC Soybean Population

Treatment	Yield, bu/ac		Returns, \$/ac	
180,000	41.73	A	\$ 260.83	A
150,000	40.67	A	\$ 265.10	A
120,000	40.32	A	\$ 275.15	A
100,000	39.60	A	\$ 277.89	A

Brule SE Soybean Population – Five seeding rates were used with four replications. Plots were planted with the John Deere Exact Emerge Planter. Tukey HSD All-Pairwise Comparisons Test with Alpha of 0.10 was used to make comparisons. While there was a significant yield difference, the Returns per acre were not significantly different. Yields were limited at Brule due to hail.

Brule SE Soybean Population

Treatment	Yield, bu/ac		Returns, \$/ac	
180,000	31.109	A	\$ 174.84	A
150,000	28.931	AB	\$ 170.05	A
120,000	27.25	BC	\$ 169.30	A
100,000	26.477	C	\$ 171.61	A
80,000	25.985	C	\$ 176.20	A

Summary

This study confirms studies with the Nebraska On Farm Research that soybean seeding rates above 140,000 do not provide enough yield increase to pay for additional seed.

Project Title: Soygreen® Treatments for Iron Deficiency Chlorosis

Authors: Chuck Burr, Extension Educator, Lincoln County

Funding: Self-Funded

Objectives: To determine if Soygreen® is effective in reducing the effects of Iron Deficiency Chlorosis.

Results: Two studies were planted, one at WCREEC and one at the Brule South East Pivot.

Iron deficiency chlorosis (IDC) of soybeans is a common problem in fields with high pH levels (alkaline soils). Soygreen® is an iron chelate of ortho-ortho EDDHA form that can help make iron more available to plants. The field in this study has areas in the field which have high pH and are susceptible to IDC. In this study, Soygreen® was applied in a liquid formulation (1.8%) at a rate of 1 gal/ac and was compared to an untreated check. Tukey HSD All-Pairwise Comparisons Test with Alpha of 0.10 was used to make comparisons. Yields at Brule were limited by hail. Yields at WCREEC were limited by herbicide resistant weeds.

WCREEC Soygreen® Study

Treatment	Yield, bu/ac		Returns, \$/ac		
Check	31.13	A	Check	\$ 252.12	A
Soygreen®	29.90	A	Soygreen	\$ 214.18	B

Brule Soygreen® Study

Treatment	Yield, bu/ac		Returns, \$/ac	
Soygreen®	23.93	A	\$ 165.83	B
Check	23.37	A	\$ 189.32	A

Summary:

- The use of Soygreen® did not increase soybean yield at this location.
- Marginal net return was lower where Soygreen® was used due to the additional product cost which was not offset by increased yield.