

Nebraska Soybean & Feed Grains Profitability Project

Years: 2003

Title: Nitrogen Rates Based on Soil Organic Matter

Crop: Corn

NSFGPP Operator: Willis Paulsen, Burt County

Private Industry Cooperator: Jerry Mulliken

Objective: To determine and document the effect of rate of applied nitrogen on the profitability of corn production.

Soil Tests: pH 6.0, OM 4.3%, Residual Nitrogen 57 lbs/ac, P 91 ppm, K 458 ppm

Treatments: 40 lbs N/ac vs. 70 lbs N/ac vs. 100 lbs N/ac as 28-0-0 in 2003.

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Results: 2003 Corn

<u>Variable</u>	<u>40N</u>	<u>70N</u>	<u>100N</u>	<u>Prob >F</u>
Yield, bu/ac at 15.5%	120	139 ***	152 ***	<.0001 ***
Moisture, %	16.2	16.0	16.2	0.434 ns
Test Wt., lbs/bu	58.9 **	59.3	59.3	0.053 *
Plants, 1000/ac	24.2	25.4**	24.2	0.057 *
Cost/ac	\$10.86	\$19.00	\$27.14	

Summary: Corn yields were increased with each increment of nitrogen applied. Test weight was reduced by the lowest rate of applied nitrogen. Plant population was slightly higher at the mid-rate of nitrogen; however, population does not appear to be a factor in yield.



Aerial photo shows extreme variability in plots. Fertilizer distribution appears to be non-uniform.