UNIVERSITY OF Nebraska Lincoln

Nebraska Soybean & Feed Grains Profitability Project

Years: **2002-2004**

Title: **Biosolids Fertilizer vs. Commercial Fertilizer**

Crop: **Corn (02), Soybeans (03), Corn (04) (Irrigated)**

NSFGPP Operator: **Vernon Brandert, Dodge County**

Private Industry Cooperator: **Jerry Mulliken**

Objective: **To determine and document the effect of using biosolids as a replacement for commercial nitrogen fertilizer on the profitability of producing corn/soybeans in rotation.**

Soil Tests: **pH 6.4, O.M. 2.7%, P 30 ppm.**

Treatments: **Biosolids applied in 2002 vs. urea as nitrogen source for corn. Residual effects measured in 2003 and 2004.**

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Costs: **Biosolids 19.2 Tons/ac or 90 lbs of N/acre. Urea was applied at 100 lbs N/ac at $15.60/ac (product cost) … application cost $5/ac.**

Results: **2002 (Corn)**

Variable	Urea	Biosolids	Prob>/T/
Yield, bu/ac at 15.5%	212	213	0.633 ns
Moisture, %	15.0	15.0	0.815 ns
Test Wt., lbs/bu.,	59.7	59.7	0.579 ns
Plants, 1000 /ac	26.4	26.3	0.882 ns
Cost/ac (N and Appl)	$20.60	0	
Cost/ac (Spreading)	0	$17.5	

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Results: 2003 Soybeans (AG2703)

Variable	Fertilizer	Biosolids	Prob>/T/
Yield, bu/ac at 13%	60	58	0.041 **
Moisture, %	10.9	11.4	0.051 **
Test Wt., lbs/bu.,	56.3	56.0	0.280 ns
Cost/ac (spreading)	0	$8.75	

Results: 2004 Corn (DK60-19)

Variable	Fertilizer	Biosolids	Prob>/T/
Yield, bu/ac at 15.5%	231	232	0.830 ns
Moisture, %	16.7	16.7	0.908 ns
Test Wt., lbs/bu.,	56.7	56.8	0.748 ns
Cost/ac (NH3)	$40.61 (180#)	$40.61	
Cost/ac (Spreading)	0	$8.75	

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Summary: **There was no significant difference between urea and biosolids for the production of corn in 2002. In 2003, residual effects of biosolids resulted in reduced seed yield and higher seed moisture at harvest. In 2004, there were no significant yield or grain moisture at harvest effects from biosolids applied in 2002.**