Nebraska On-Farm Research Network

Manure as a Source of Phosphorus

Study ID: 043155199601M4

County: Saunders

OBJECTIVE: To determine and document the effect of using commercial fertilizer vs. using feedlot manure as a source of phosphorus on the profitability of a corn/soybean rotation.

FERTILIZER	**FEEDLOT MANURE**
Treatments:	**Treatments:**
1996 - Soil P: 9ppm (Bray) 100 pounds/acre N as anhydrous ammonia + 8 gallon/acre 10-34-0 dual placed @ 30 inch spacing Plant corn	1996 - Soil P: 9 ppm (Bray) 35 ton/acre feedlot manure + 90 pounds/acre **N** as anhydrous ammonia Plant corn
1997 - Soil P: 14 ppm (Bray) Plant soybeans	1997 - Soil P: 38 ppm (Bray) Plant soybeans
1998 - Soil P: 6 ppm (Mehlich 3) Apply anhydrous ammonia Plant corn	1998 - Soil P: 14 ppm (Mehlich 3) Apply anhydrous ammonia Plant corn
1999 - Plant soybeans	1999 - Plant soybeans

Comparative cost (per acre)		**Comparative cost (per acre)**	
CORN	1996		1996
100 pounds N	$14.20	90 pounds N	$12.78
9 gallons 10-34-0	$10.64	Manure (50%)	$14.78
Application Cost (N+P)	$ 7.50	Application Cost (N)	$ 6.00
Total	$32.34	Total	$33.56

Nebraska Soybean & Feed Grains Profitability Project

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Manure as a Source of Phosphorus, Bartek

SOYBEANS	1997		1997
None	$ 0.00	Manure (25%)	$ 7.39
CORN	1998		1998
None	$ 0.00	Manure (25%)	$ 7.39
SOYBEANS	1999		1999
None	$ 0.00	Manure (0 %)	$ 0.00

RESULTS:	**1996 CORN** @15.5%	**1997 SOYBEANS** @13%	**1998 CORN** @15.5%	**1999 SOYBEANS** @ 13%
Moisture (%)				
Fertilizer	22.1***	11.6	16.9**	9.0
Manure	24.2	11.4	16.7	9.0
Test Weight (pounds/bushel)				
Fertilizer	54.7	55.1	57.5	---
Manure	54.7	55.3	57.8	---
Yield (bushel/acre)				
Fertilizer	124***	51***	196	54***
Manure	137	54	199	57

** significantly different at 95% confidence level
*** significantly different at 99% confidence level

Summary: **Use of manure resulted in higher grain yield than from fertilizer in 1996; however, the grain was wetter at harvest. In 1997, soybean seed yield was higher where manure was applied in 1996. In 1998, corn grain was drier where manure was applied in 1996. Grain yield difference was significant at the 80% confidence level. Soybean seed yield was significantly higher in 1999 where manure was applied in 1996.**