Nebraska On-Farm Research Network

Feedlot Manure as a Source of Fertilizer for Irrigated Corn on Sandy Soil

Study ID: 086155199801M2

County: Saunders

Principal Investigator: Dr. Dan Walters, University of Nebraska Agronomy Department Soil Scientist

OBJECTIVE: To determine and document the effect of using feedlot manure as a replacement for fertilizer on the profitability of corn production on a sandy soil.

TREATMENTS: Various rates of nitrogen applied without manure vs. various rates of nitrogen applied where 30 tons per acre manure was applied in 1998.

RESULTS:

	Treatments	Grain Yield Bu/ac @ 15.5%	Cost
1998	None	100	------
	120 lbs. N	139	$13.20 + 6.75 Appl.
	180 lbs. N	150	$19.80 + 6.75 Appl.
	Manure alone	198	$10.00
	Manure + 120 lbs. N	209	$23.20 + 6.75 Appl.
	Manure + 180 lbs. N	220	$29.80 + 6.75 Appl.
1999	None	143	------
	50 lbs. N	191	$6.00 + 6.75 Appl.
	100 lbs. N	214	$12.00 + 6.75 Appl.
	150 lbs. N	224	$18.00 + 6.75 Appl.
	200 lbs. N	230	$24.00 + 6.75 Appl.
	Manure in 1998	161	------
	Manure + 50 lbs. N	188	$6.00 + 6.75 Appl.
	Manure + 100 lbs. N	216	$12.00 + 6.75 Appl.
	Manure + 150 lbs. N	226	$18.00 + 6.75 Appl.
	Manure + 200 lbs. N	229	$24.00 + 6.75 Appl.

Summary: **In 1998, the application of 30 tons/acre of manure (230 lbs/ac plant available nitrogen) resulted in a grain yield that was higher than was achieved with 180 lbs/ac nitrogen from fertilizer. The addition of nitrogen with the manure increased yield above manure alone. In 1999, corn yields were increased by increasing rates of nitrogen. Manure applied in 1998 had no effect on grain yield except where no nitrogen was applied.**