

Nebraska On-Farm Research Network

Anhydrous Ammonia Fertilizer vs. Liquid (28%) Fertilizer-Corn

Study ID: 070155199401

County: Saunders

OBJECTIVE: To determine and document the profitability of anhydrous ammonia fertilizer

versus liquid (28%) fertilizer using preplant versus split applications on corn.

HIGH RATE LOW RATE

Treatment: Treatment:

Fertilize: Anhydrous Ammonia at 160 Fertilize: Anhydrous Ammonia at 120

pounds per acre (actual), pounds per acre (actual), 46 pounds per acre 10-34-0 46 pounds per acre 10-34-0

and liquid 28% at 40 pounds and liquid 28% at 40 pounds

per acre (actual) per acre (actual)

Plant

Cultivate

Harvest Harvest

Comparative cost (per acre) Comparative cost (per acre)

	<u>1994</u>			<u> 1994</u>	
	Anhydrous Ammonia	Anhydrous & Liquid (28 %)		Anhydrous Ammonia	Anhydrous & Liquid (28 %)
Fertilizer Anhydrous Rig Liquid, Sprayer	\$18.53 \$ 6.00 \$ 0.00	\$21.88 \$ 6.00 \$3.50	Fertilizer Anhydrous Rig Liquid Sprayer	\$13.87 \$ 6.00 \$ 0.00	\$17.32 \$ 6.00 \$ 3.50
Total	\$24.53	\$31.38	Total	\$19.87	\$26.82

Nebraska Soybean & Feed Grains Profitability Project



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VARIABLE	1994 CORN				
Early population (plants/acre) High rate preplant [160# NH ₃] High rate split [120# NH, + 40# liquid (28%)	25,100 25,000				
Low rate preplant [120# NH,] Low rate split [80# NH,+ 40# liquid (28%)]	24,500 24,400				
Moisture (%)					
High rate preplant High rate split	14.8 14.7				
Low rate preplant	14.8				
Low rate split	14.5				
Test Weight (pounds/bushel)					
High rate preplant	59.8				
High rate split	59.5				
Low rate preplant	59.9				
Low rate split	59.9				
Yield (15.5%) (bushels/acre)					
High rate preplant	123				
High rate split	128				
Low rate preplant	120				
Low rate split	135				
Mean Preplant	122 *				
Mean Split	132				
Mean High rate	126 ns				
Mean Low rate	128				

^{*} **application** timing significantly different at 90% confidence level ns no statistical difference

Summary: A significant yield difference was found between the preplant and split sidedress fertilizer applications. Although fertilizer rates did not significantly impact yield, application timing did. It appears that delayed application was beneficial; however, further testing is desirable.

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