# 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**

**Treatment:**

Fertilize: Anhydrous Ammonia at 160 pounds per acre (actual), 46 pounds per acre 10-34-o and liquid 28% at 40 pounds per acre (actual)

Plant

Cultivate

Harvest

**Comparative cost (per acre)**

| | 1994 Anhydrous Ammonia | 1994 Anhydrous & Liquid (28 %) |
|---|---|---|
| Fertilizer | $18.53 | $21.88 |
| Anhydrous Rig | $ 6.00 | $ 6.00 |
| Liquid, Sprayer | $ 0.00 | $3.50 |
| **Total** | **$24.53** | **$31.38** |

**LOW RATE**

**Treatment :**

Fertilize: Anhydrous Ammonia at 120 pounds per acre (actual), 46 pounds per acre 10-34-o and liquid 28% at 40 pounds per acre (actual)

Plant

Cultivate

Harvest

**Comparative cost (per acre)**

| | 1994 Anhydrous Ammonia | 1994 Anhydrous & Liquid (28 %) |
|---|---|---|
| Fertilizer | $13.87 | $17.32 |
| Anhydrous Rig | **$ 6.00** | **$ 6.00** |
| Liquid Sprayer | $ 0.00 | **$ 3.50** |
| **Total** | **$19.87** | **$26.82** |

**Nebraska Soybean & Feed Grains Profitability Project**

University of Nebraska Lincoln

# Nebraska On-Farm Research Network

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



| VARIABLE | 1994 CORN |
|---|---|
| Early population (plants/acre) | |
| High rate preplant [ 160# $NH_3$] | 25,100 |
| High rate split [ 120# NH, + 40# liquid (28%)] | 25,000 |
| Low rate preplant [ 120# NH,] | 24,500 |
| Low rate split [ 80# NH,+ 40# liquid (28%)] | 24,400 |
| Moisture (%) | |
| High rate preplant | 14.8 |
| High rate split | 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.**