

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

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**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

## LOW RATE

### Treatment :

Fertilize: &hydrous 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)

	<u>1994</u>	
	<u>Anhydrous Ammonia</u>	<u>Anhydrous &amp; Liquid (28 % )</u>
Fertilizer	\$18.53	\$21.88
Anhydrous Rig	\$ 6.00	\$ 6.00
Liquid, Sprayer	\$ 0.00	\$3.50
<b>Total</b>	<b><u>\$24.53</u></b>	<b><u>\$31.38</u></b>


### Comparative cost (per acre)

	<u>1994</u>	
	<u>Anhydrous Ammonia</u>	<u>Anhydrous &amp; Liquid (28 % )</u>
Fertilizer	\$13.87	\$17.32
Anhydrous Rig	<b>\$ 6.00</b>	<b>\$ 6.00</b>
Liquid Sprayer	\$ 0.00	<b>\$ 3.50</b>
<b>Total</b>	<b><u>\$19.87</u></b>	<b><u>\$26.82</u></b>

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<b>VARIABLE</b>	<b>1994 CORN</b>
Early population (plants/acre)	
High rate preplant [ 160# NH <sub>3</sub> ]	25,100
High rate split [ 120# NH <sub>3</sub> , + 40# liquid (28%)]	25,000
Low rate preplant [ 120# NH <sub>3</sub> ]	24,500
Low rate split [ 80# NH <sub>3</sub> , + 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
<b>Yield (15.5%) (bushels/acre)</b>	
High rate preplant	123
High rate split	128
Low rate preplant	120
Low rate split	135
<b>Mean</b> 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**  It appears that delayed application was beneficial; however, further testing is desirable.