



## University of Illinois Nitrogen Rate Study – 2007

<b>Planted:</b> April 28, 2007	<b>Previous Crop:</b> Corn
<b>Harvested:</b> October 18, 2007	<b>Tillage:</b> Chisel / Field Cultivator
<b>Rows:</b> Six 30" rows	<b>Herbicide:</b> 1.75 pt. Sure Start
<b>Population:</b> 34,000 seeds/A.	32 oz. Credit Extra
<b>Soil Type:</b> Ipava Silt Loam	<b>Insecticide:</b> 3.5 oz. Warrior at VT
<b>Product Tested:</b> BECK 5444CBRWRR	<b>Fungicide:</b> 6 oz. Headline at VT

RAINFALL	
April	5.54 in.
May	2.29 in.
June	2.83 in.
July	3.48 in.
August	<u>2.09 in.</u>
Total	16.23 in.

**Purpose:** This study was set up to help gather nitrogen data for a state-wide database coordinated by University of Illinois. 5 nitrogen rates of 0#, 50#, 100#, 150#, and 200# were replicated three times randomly to determine optimum economic rates of nitrogen in a corn after corn rotation. 25% was applied preplant at 100#/A. (except on 0# and 50#) and 28% was then side-dressed at V6 to makeup the remaining amount of nitrogen needed. The 50#/A. received 27# of nitrogen preplant and the remaining 23# in the side-dress.

Lbs. of Nitrogen	Percent Moisture	Bushels* Per Acre	Gross Income	Gross Minus Nitrogen & Drying Cost	Return on Additional 50 lbs. of N
200 lbs.	18.9	198.4	\$664.64	\$541.43	\$15.46
150 lbs.	18.5	185.2	\$620.42	\$525.97	\$64.48
100 lbs.	19.3	158.8	\$531.98	\$461.49	\$7.00
50 lbs.	18.6	147.9	\$495.47	\$454.49	\$94.32
0 lbs.	<u>18.8</u>	<u>111.3</u>	\$372.86	\$360.17	----
<b>AVERAGE</b>	18.8	160.3			

\*Bushels per acre corrected to 15% moisture. Average of 3 replications. ^Gross income based on \$3.35 corn. Drying cost figured at \$0.03/point of moisture above 15%/bushel. Nitrogen price based on \$280/ton 28% liquid nitrogen. Plot weighed by BECK'S Hybrids – Jason Webster.

**Summary:** In this corn after corn nitrogen study, the more nitrogen we applied the higher the yield. The 200# nitrogen rates gave us the highest yield of 198.4 Bu./A. The 200# nitrogen rate also netted the highest return at \$541.43/A., indicating that the high rate of nitrogen did pay for itself. It is interesting that the 0# nitrogen rate made 111.3 Bu./A. without any nitrogen applied. The first 50# of nitrogen gave us an additional return of nearly \$100/A. Additional amounts of nitrogen always brought positive economic return, but much less than \$100/A.

In the future with new corn traits in the pipeline, such as nitrogen efficient corn, we may be able to achieve better efficiencies with nitrogen. Imagine in the days ahead using traited corn hybrids that could utilize nitrogen so efficiently that we could double the yields of 0# nitrogen rates in the above study with only 100# of nitrogen and have it yield even higher than a 200# nitrogen rate!

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Bork Farms, Inc.  
Piper City, IL

