

BECK'S Corn Nitrogen Timing Study – 2010

Planted: April 20, 2010
Harvested: September 7, 2010
Soil Type: Ragsdale Silt Loam
Population: 34,000 seeds/A.
Previous Crop: Corn

Tillage: Disc Ripper / Field Cultivator
Herbicide: Pre: 1.5 qts. Lexar
 1 qt. Atrazine
 Post: 32 oz. Cornerstone
Insecticide: 6 oz. Artic
Product Tested: BECK 6903HR™* (Rep 1)
 BECK 6733HXR™* (Rep 2)

RAINFALL	
April	4.0 in.
May	3.1 in.
June	2.5 in.
July	2.5 in.
August	1.4 in.
Total	13.5 in.

Purpose: Increased input prices have made us re-evaluate the way we fertilize our crops in recent years. In addition to studies that identify the optimum rate of nitrogen fertilizer, it appears that the timing of these applications may also affect the efficiency of the nitrogen applied to a crop. This study was conducted to see if yields could be raised by applying nitrogen at different times. All treatments in this study received a total of 200 lbs./A. of nitrogen.

Application	Harvested Population	Test [†] Weight	Percent Moisture	Bushels [†] Per Acre	Net [^] Return	Adv. Over Pre-Plant NH ₃
200 lbs. N Pre-plant NH ₃	32,000	59.8	17.4	182.3	\$ 609.24	
200 lbs. N Sidedress UAN V3	33,125	60.7	19.2	215.0	\$ 698.08	\$ 88.84
200 lbs. N Sidedress UAN V6	32,625	59.4	19.8	210.3	\$ 675.96	\$ 66.72
30 lbs. N 2x2 UAN + 170 lbs. Sidedress UAN V3	32,250	61.0	17.9	218.4	\$ 721.79	\$ 112.55
100 lbs. N PPI UAN + 100 lbs. Sidedress UAN V5	32,250	60.6	17.8	207.8	\$ 683.57	\$ 74.33
200 lbs. N PPI UAN	<u>33,250</u>	<u>60.3</u>	<u>16.2</u>	<u>187.3</u>	<u>\$ 619.95</u>	\$ 10.71
AVERAGE	32,583	60.3	18.1	203.5	\$ 668.10	

[†]Bushels per acre and test weight corrected to 15% moisture.

*XL™ brand seed is distributed by Beck's Superior Hybrids, Inc. ™XL is a trademark of Pioneer Hi-Bred.

[^] Net Return based on gross income minus the cost of nitrogen and drying. Corn price based on \$3.80/Bu. corn. Nitrogen costs based on \$232/ton 28% nitrogen, \$546/ton NH₃.

Summary: Applying nitrogen at pre-plant with anhydrous ammonia (NH₃) is a common practice for many growers in the southern marketing area. This is driven by the fact that NH₃ is often the least expensive form of N available, the risk of weather delaying side-dress applications is eliminated, and irregular fields often make side-dressing more difficult. This year's study shows that side-dress applications of 28% at both the V3 and V6 growth stage increased yields and profits significantly over the pre-plant NH₃ applications. Splitting nitrogen by applying 30 lbs./A. with the planter (2x2) and side-dressing the balance at V3 provided an additional profit of \$112.55/A. These yield trends correlate with data collected from similar nitrogen studies conducted at the Southern IN PFR farm over the past 4 years. Applying a portion of the crop's nitrogen with the planter or as a pre-plant incorporated applications helps to manage the risk associated with the potential for weather delays with side-dressing.



Beck's uses Sukup Nitrogen applicators at their home base operations in Central Indiana.