BECK'S Corn Nitrogen Utilization Study – 2010

Purpose: When talking about a certain hybrid have you ever heard the statement that hybrid is a nitrogen hog? Or this hybrid needs it all upfront? If you wonder exactly what that means this study was designed to answer that question and to help better understand nitrogen use on a per hybrid basis. We designed a test using the four nitrogen programs listed below and we implemented this study at all four Practical Farm Research sites.

Nitrogen Program A: Regular N Program 75# Pre-plant and 150# Side dress **(control)**
Nitrogen Program B: 75# Pre-plant Only
Nitrogen Program C: 150# Pre-plant Only
Nitrogen Program D: 75# Pre-plant and 75# Side dress

	Bu./A. Deviation from CONTROL (Program A)		
Brand	Program B	Program C	Program D
BECK 5354HXR™*	-64.5	-43.2	-22.5
BECK 5377HR™*	-72.5	-40.7	-20.5
BECK 5435HXR™*	-70.5	-39.4	-25.2
BECK 5442VT3	**-38.0**	**-16.5**	**-9.1**
BECK 5454HXR™*	-61.2	-39.0	-22.2
BECK 5716A3	-61.6	-46.4	**-16.5**
BECK 5887HXR™*	-67.8	-40.3	**-17.8**
BECK 6077HR™*	-68.5	-34.8	**-16.7**
BECK 6179VT3	-54.3	-27.4	**-8.5**
BECK 6288A3	-53.7	**-20.0**	-20.5
BECK 6464HR™*	-59.4	-46.3	-29.2
BECK 6733HXR™*	-69.6	-39.7	-28.1
AVERAGE	-61.8	-36.1	-19.7

†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.

Summary: As we dive into this information we realize there are multiple methods to analyzing this data. We have chosen Program A to be our control rate that we compare to the rest of the programs. We did this because it contains both a pre-plant and a side dress application at a higher total rate of nitrogen. Program A is a good benchmark to compare to the other three N programs to get a feel for how each hybrid responded to different N programs. In general smaller numbers in the chart indicate hybrids that are more efficient and effective users of nitrogen.

As we evaluate this first year data, we see that in Program B, none of the twelve hybrids yielded near the control. If you look at the yield marked in orange, you can see that this hybrid is the most efficient nitrogen user in this study since the only nitrogen applied was 75# pre-plant.

Program C, with 150# of pre-plant N narrowed the window between it and the control program; hybrids in blue text responded better to N upfront then the rest of the hybrids.

We can learn some really interesting things when we study the data in Program D. Both this program and Program C end up with the same total amount of nitrogen at 150#, except that Program D's nitrogen is a split application. The five hybrids that differed the least from the control are noted in green. Program C only has three hybrids that deviate less than 30 Bu./A. from the control, whereas in Program D, all the yields deviate less than 30 Bu./A. from the control. This really emphasizes the benefit from the split application of Nitrogen. The hybrids with lower numbers are more efficiently using the lower rate of nitrogen.