

## BECK'S P & K Study Soybeans after Corn and Corn after Soybeans – 2010

**SOYBEANS AFTER CORN:**

**Planted:** May 18, 2010      **Tillage:** Various  
**Harvested:** September 30, 2010      **Herbicide:** 32 oz. Cornerstone  
**Rows:** 30" rows  
**Seeding Rate:** 140,000 seeds/A.  
**Product Tested:** BECK 451NR  
**Previous Crop:** Corn

RAINFALL	
April	4.0 in.
May	3.1 in.
June	2.5 in.
July	2.5 in.
August	1.4 in.
<b>Total</b>	<b>13.5 in.</b>

**CORN AFTER SOYBEANS:**

**Planted:** April 17, 2010      **Previous Crop:** Soybeans  
**Harvested:** September 2, 2010      **Tillage:** Various  
**Rows:** 30" rows      **Herbicide:** Pre: 1.5 qts. Lexar  
**Seeding Rate:** 34,000 seeds/A.      1 qt. Atrazine  
**Product Tested:** BECK 5716A3      Post: 32 oz. Cornerstone  
**Insecticide:** 6 oz. Artic

**Purpose:** This study was set up to evaluate the practice of banding fertilizer in a corn/soybean rotation over a long term period of time compared to broadcast applications. Both corn and soybeans were planted in 30" rows in order to place strips and plant between the rows from the previous crop in the strip-till replication.

Planting Order	Fertilizer	Soybeans After Corn			Corn After Soybeans		
		Harvested Population	Bushels <sup>††</sup> Per Acre	Yield Advantage	Harvested Population	Bushels <sup>†</sup> Per Acre	Yield Advantage
<b>CONVENTIONAL-TILL</b>							
1	400 lb. 4-11-45	142,304	66.7	+5.9	33,875	195.8	+15.9
2	300 lb. 4-11-45	142,304	64.5	+3.7	32,250	178.0	-1.9
3	200 lb. 4-11-45	144,240	68.2	+7.4	29,625	169.2	-10.7
4	100 lb. 4-11-45	144,240	70.4	+9.6	29,875	176.6	-3.3
5	No P & K Plow-down	<u>148,113</u>	<u>60.8</u>	----	<u>30,500</u>	<u>179.9</u>	----
	AVERAGE	144,240	66.1		31,225	179.9	
<b>STRIP-TILL</b>							
6	400 lb. 4-11-45	136,496	63.6	-3.7	34,375	199.1	+15.4
7	300 lb. 4-11-45	129,719	64.9	-2.4	34,125	191.1	+7.4
8	200 lb. 4-11-45	136,496	62.8	-4.5	32,375	193.3	+9.6
9	100 lb. 4-11-45	124,879	65.1	-2.2	32,750	189.0	+5.3
10	No P & K Plow-down	<u>134,560</u>	<u>67.3</u>	----	<u>32,500</u>	<u>183.7</u>	----
	AVERAGE	132,430	64.7		33,225	191.2	

<sup>†</sup>Bushels per acre corrected to 15% moisture. <sup>††</sup>Bushels per acre corrected to 13% moisture.

**Summary:** In the conventional-till entries, dry fertilizer was applied with an air-boom truck prior to deep tillage. In the strip-till area, dry fertilizer was banded with a Remlinger strip-till bar in late November. Soil tests pulled from this field in the fall of 2007 showed adequate to high levels of phosphorus and high to very high levels of potassium at that time. That suggested that it would probably be a few years before we started to see differences between fertilizer rates. 2010 is the first year that there seems to be a yield trend developing as fertilizer rates increase over the untreated in the corn strip-till and soybean conventional tillage portions of the study. Yields were significantly lower in the conventional tillage corn as compared to the strip-till corn. This is most likely due to water-logged soils in this area of the field in 2009 that resulted in heavy compaction last fall. Conventional-till soybeans out yielded the strip-tilled portion by an average of 1.4 Bu./A.