ILLINOIS PFR PRACTICAL FARM RESEARCH®

University of Illinois
Nitrogen Rate Study – 2009

Corn After Corn (CAC) & Corn After Soybeans (CAB)

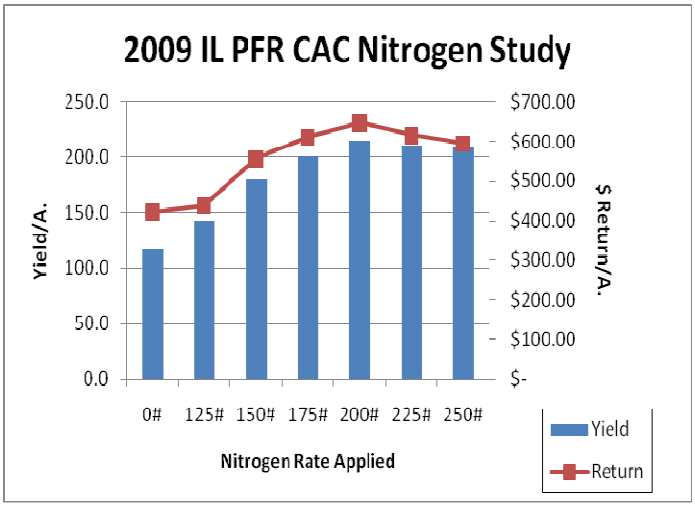
Planted:	May 25, 2009	**Tillage:**	Chisel / Field Cultivate
Harvested:	November 3, 2009	**Herbicide:**	1.75 pt. SureStart
Rows:	Twelve 30" rows		26 oz. Roundup Orig. Max
Population:	34,000 seeds/A.	**Insecticide:**	None
Soil Type:	Catlin Silt Loam	**Fungicide:**	6 oz. Headline
Replications:	Two (averaged)	**Product Tested:**	BECK 5608VT3

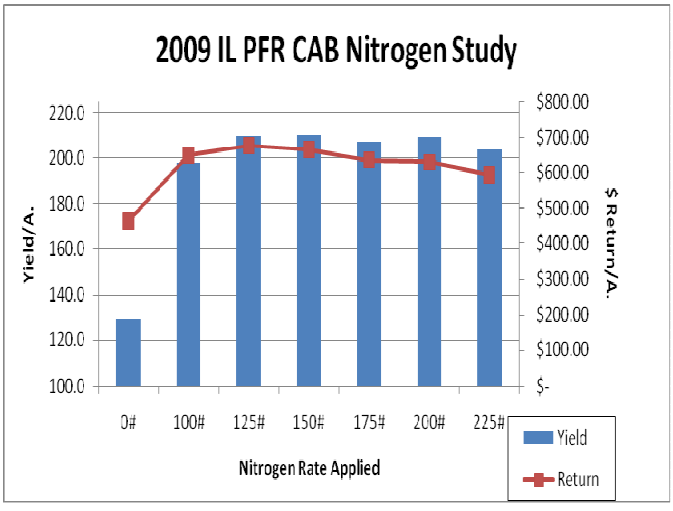
RAINFALL	
April	10.0 in.
May	4.9 in.
June	4.6 in.
July	4.0 in.
August	3.6 in.
Total	27.1 in.

Purpose: This study was set up to help gather nitrogen data for a state-wide database coordinated by the University of Illinois. Seven nitrogen rates ranging from 0 lb. to 250 lbs./A., were replicated to determine the optimum economic rates of nitrogen in a CAC and CAB rotation.

Lbs. of Nitrogen	Percent Moisture	Bushels† Per Acre	Net Income/A.	Cost of Nitrogen	Return on Additional 25 lbs. of N
Corn After Corn:					
250 lbs.	33.2	209.1	$595.26	$157.50	-$20.97
225 lbs.	32.8	210.6	$616.23	$141.75	-$31.41
200 lbs.	32.5	214.9	$647.64	$126.00	$35.37
175 lbs.	32.6	200.7	$612.27	$110.25	$57.15
150 lbs.	31.8	180.5	$555.12	$94.50	$117.63
125 lbs.	31.0	143.4	$437.49	$78.75	----
0 lbs.	33.2	117.2	$421.92	$0.00	----
AVERAGE	32.4	182.3			
Corn After Soybeans:					
225 lbs.	26.4	204.1	$593.01	$141.75	-$36.81
200 lbs.	26.2	210.0	$629.82	$126.00	-$6.03
175 lbs.	26.0	207.3	$635.85	$110.25	-$29.43
150 lbs.	25.7	211.1	$665.28	$94.50	-$12.69
125 lbs.	25.4	210.2	$677.97	$78.75	$27.63
100 lbs.	25.2	198.2	$650.34	$63.00	----
0 lbs.	25.4	129.5	$466.02	$0.00	----
AVERAGE	25.8	195.8			

†Bushels per acre corrected to 15% moisture. ^Gross income based on $3.60/Bu. Corn. Nitrogen price based on $355/ton for 28% liquid nitrogen.





University of Illinois
Nitrogen Rate Study – Cont.

Summary: In the CAC nitrogen study, the 200 lbs. nitrogen rate gave us the highest yield of 214.9 Bu./A. and also netted the highest return at $647.64 per acre.

In the CAB nitrogen study, the 150 lbs. nitrogen rate gave us the highest yield of 211.1 Bu./A., but after taking into account the cost of nitrogen, price of corn, and yield/A., the 125 lbs. nitrogen rate netted the highest return at $677.97 per acre.

In comparing the crop rotations, corn after corn needed an additional 50 lbs./A. of nitrogen over corn after soybeans.

Avail® Study – 2009

Planted: May 25, 2009
Harvested: November 5, 2009
Rows: Six 30" rows
Seeding Rate: 34,500 seeds/A.
Replications: Two (averaged)

Previous Crop: Soybeans
Tillage: Chisel / Field Cultivator
Herbicide: 1.75 pts. SureStart
32 oz. Credit Extra
Insecticide: None
Product Tested: BECK 5779VT3

RAINFALL	
April	10.0 in.
May	4.9 in.
June	4.6 in.
July	4.0 in.
August	3.6 in.
Total	27.1 in.

Purpose: AVAIL for LIQUID PHOSPHATE FERTILIZERS is designed to be mixed into liquid phosphate fertilizers (i.e.10-34-0 and other liquid phosphate fertilizers), to reduce tie-up of phosphate and make phosphate more available to the plant. AVAIL increases phosphate availability through all stages of plant growth, including the early development period crucial for increasing yield potential. AVAIL is a patented technology that surrounds phosphorus fertilizer in a water-soluble "shield". By blocking the bonds of attraction of chemical elements in the soil to the phosphorus, more of the phosphorus is available for your crop. When phosphorous fertilizer is applied, it is a negative charged material in the soil. When this fertilizer is applied, the positive ions in the soil attach to the phosphorous fertilizer and can make it unavailable to plants. Avail is a negative charged product and thus attracts the positive charges in the soil and leaves the phosphate free and available for plant uptake.

Treatment	Percent Moisture	Bushels Per Acre[†]	+/- Control
Control with 2 gal. Starter	26.6	233.7	
Avail P with 2 gal. Starter	26.3	240.4	+6.7

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

Summary: Starter fertilizer applied with Avail increased yields by 6.7 Bu./A. in this study. This is encouraging, as other starter fertilizer studies at the Central Illinois PFR Center did not show any yield response. This is the first year of testing Avail at this research site and more work needs to be done to analyze the product.