



PRODUCER INFORMATION

Site ID: 50% Fall-25% Spr.-25% Post
 Account: 42201
 Name: Paris High School
 E-mail: 0
 Address: 14040E 1200th Rd.
 City: Paris
 State: IL
 Zip: 61944
 Cell Phone: 217-466-1175
 Program: Special Project with Illini FS

SITE INFORMATION

Package: Monthly sampling
 Collection: Illini FS
 Field Name: Sullivan's Farm
 Latitude: 0
 Longitude: 0
 Prev. Crop: Soybeans
 Target N Rate: 180
 Target Yield: 220
 Tillage: No-Till

ACCOUNT INFORMATION

Crop Specialist: Jeff Williamson
 Site Cost: Outreach Project
 Reviewed by: Howard Brown

Current Sampling Date: 5/19/2017
Source of Rainfall Data: Paris, IL
Source of 4" Bare Soil Temp: Champaign, IL

STAGE OF GROWTH:

TEST RESULTS

Date	LAB RESULTS				SOIL NITROGEN (Estimate)				Total N Applied (Lbs/A)
	0 - 1 ft. Sampling Depth		1 - 2 ft. Sampling Depth		0 - 2 FT. SAMPLING DEPTH				
	NO ₃ -N (ppm)	NH ₄ -N (ppm)	NO ₃ -N (ppm)	NH ₄ -N (ppm)	NO ₃ -N (Lbs/A)	NH ₄ -N (Lbs/A)	TOTAL PAN (lbs/A)	% NH ₄ PAN	
11/9/16	6.0	3.3	4.7	2.7	42.7	24.0	66.7	36.0%	0
11/17/16	10.0	13.7	6.0	3.7	64.0	69.3	133.3	52.0%	90
12/6/16	7.7	5.0	7.0	4.3	58.7	37.3	96.0	38.9%	90
1/3/17	8.7	15.0	6.0	3.0	58.8	72.0	130.8	55.0%	90
1/30/17	9.3	8.7	6.0	2.3	61.2	44.0	105.2	41.8%	90
3/1/17	14.3	19.0	9.0	4.0	93.3	92.0	185.3	49.6%	135
3/29/17	17.3	16.0	10.3	3.0	110.4	76.0	186.4	40.8%	135
4/24/17	25.0	16.0	15.0	5.0	160.0	84.0	244.0	34.4%	135
5/19/17	25.7	10.3	16.7	6.7	169.6	68.0	237.6	28.6%	135

NITROGEN APPLICATIONS

Date Applied	Direction Applied	N Source	Placement	N Rate Applied (Lbs/A)	Stabilizer Used
11/14/16	Parallel	Anhy. Ammonia	Injected	90	N-Serve
2/25/17	Parallel	Anhy. Ammonia	Injected	45	



Reviewer: Howard Brown

REVIEWER COMMENTS

11/10/16: No N was applied prior to the first sampling date. The Plant-AvailableN (PAN) detected is considered residual soil N remaining after the previous crop whether applied, left-over, or released from the soil organic matter (mineralization).

11/15/16: Sample results suggest supplemental N was detected where N was applied. The concentration detected was in excess of what was applied (90 lbs. N/Acre). It needs to be mentioned that N was applied the day prior to sample collection. Collecting samples close to the date of N injection may introduce variation in test results due (may miss some of the N application between the 3-inch core collection). It will be interesting to see what the next testing date detects compared to this sampling date.

Note: This was the first sampling date for students participating in the project. Each student was trained prior to this date on how to collect soil samples according to the N-TRACKER protocol. Samples were collected the day following anhydrous ammonia application. There were two reasons for pulling samples so quickly following application. 1-There appeared to be an opportunity to beat a weather break and get the first treatments applied. (It was also convenient for IFCA to fit the application into their heavy work schedule). 2- The day after N was applied was a prescheduled sampling date for the students. Sampling dates must be prescheduled to fit the student's calendar.

12/6/16: Sample results show little change from the previous week suggesting that detected Plant-Available N was not effected much by sampling close to the time of application. However, looking at each of the replication's from the different sampling dates suggest that sampling close to the time of applications introduces more variation to the test results. ***It is advised that sampling be delayed (7-10 days) after an injected application of N if possible.***



Reviewer: Howard Brown

REVIEWER COMMENTS

1/3/17: Sample results show a significant increase from the last testing date. It is suspected that the increase originated from a sampling error on 12/6/16 than anything else. The results are now similar to the other N Management System where 90 lbs N was applied in the Fall. The additional N above what was applied is likely due to detection of residual N remaining in the soil prior to any Fall N application.

1/30/17: It is difficult to explain the changes between sampling dates for this specific site. I'll invest some additional time thinking about the outcome before concluding anything. It will be interesting to see what the concentration of Plant-Available N will be at the next sampling date.

3/1/2017: Test results detect enough N in the upper 2 ft. of the soil profile to account for the 135 lbs. of N applied as well as up to approximately 50 lbs. N/Acre residual N (beyond what was applied). This indicator is a good sign that Fall-applied N remains in or close to the zone of application.

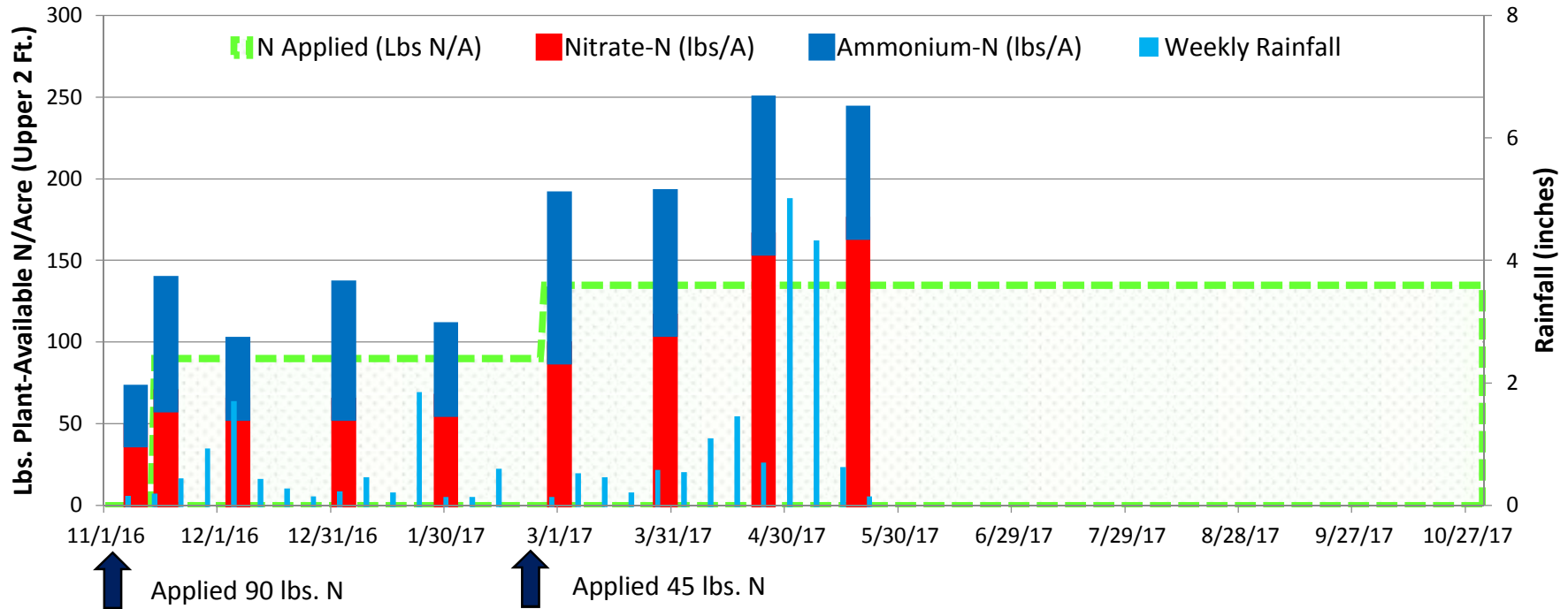
3/29/2017: Soil test results has detected more N than what was applied. If we look at this N Mgt. System (50/25/25) and compare it to the next treatment (50/50) it would appear we have the treatments reversed. Unfortunately, we don't think we do. We are double checking the application order to make sure there was not a reversal in treatments. This N Management System is currently on target to deliver the required N to optimize yield.

4/24/2017: The amount of plant-available N detected with this N management system is characteristic of sites that have received 100% of the N for the 2017 corn crop, but it still is awaiting an application of 50 lbs. N/acre. I will not attempt to explain why this value is so high compared to the other treatments until there is time to review the "as applied" map for the spring N application (prior to next sampling date hopefully). The N management system appears to be beyond expectations so

5/19/2017: Results show there is additional N not accounted for with applications. This additional N is likely N that has been released by the natural breakdown of soil organic matter, referred to as Mineralization. Soil organic matter can release as much as 20-30 lbs. plant-available N/percent organic matter found in the soil. The challenge we have in agriculture is to know how much is released (related to weather) and when it will be released. Projects, like this one, will contribute to our overall knowledge of soil N dynamics (behavior). A final treatment of 45 lbs. N will be applied soon.



PLANT-AVAILABLE N vs. WEEKLY RAINFALL and N APPLIED (Accumulated) Champaign, IL



N Applied To-Date: 135

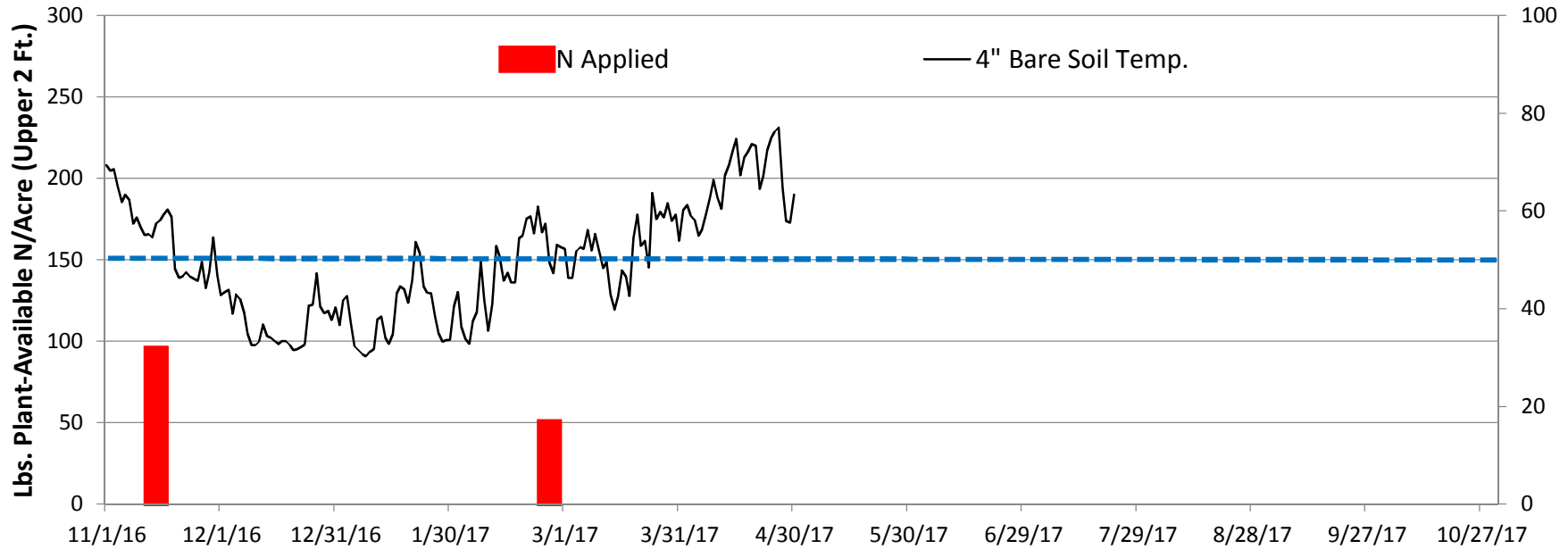
N Detected in Upper 2 Ft: 238

Difference (Detected-Applied): 103

COMMENTS:



N APPLIED vs. 4" BARE SOIL TEMPERATURE Champaign, IL



N Applied To-Date: 135

N Detected in Upper 2 Ft: 238

Difference (Detected-Applied): 103

COMMENTS:

0 to 1 ft. Sampling Depth

Date of Sampling	NO ₃ -N (ppm)	NH ₄ -N (ppm)
11/9/16	6.0	3.3
11/17/16	10.0	13.7
12/6/16	7.7	5.0
1/3/17	8.7	15.0
1/30/17	9.3	8.7
3/1/17	14.3	19.0

1 to 2 ft. Sampling Depth

Date of Sampling	NO ₃ -N (ppm)	NH ₄ -N (ppm)
11/9/16	4.7	2.7
11/17/16	6.0	3.7
12/6/16	7.0	4.3
1/3/17	6.0	3.0
1/30/17	6.0	2.3
3/1/17	9.0	4.0

0 to 1 ft. Sampling Depth

Date of Sampling	NO ₃ -N (ppm)	NH ₄ -N (ppm)
3/29/17	17.3	16.0
4/24/17	25.0	16.0
5/19/17	25.7	10.3

1 to 2 ft. Sampling Depth

Date of Sampling	NO ₃ -N (ppm)	NH ₄ -N (ppm)
3/29/17	10.3	3.0
4/24/17	15.0	5.0
5/19/17	16.7	6.7

