N TRACKER SOIL

PRODUCER INFORMATION

Site ID:	100% Fall N
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 Rainfall Data: Paris, IL
Source 4" Bare Soil Temp: Champaign, IL

STAGE OF GROWTH:

TEST RESULTS

	LAB RESULTS				SOIL NITROGEN (Estimate)				
	0 - 1 ft. Sampling Depth		1 - 2 ft. Sampling Depth		0 - 2 FT. SAMPLING DEPTH				
Date	NO3-N (ppm)	NH4-N (ppm)	NO_3-N (ppm)	NH_4-N (ppm)	NO3-N (Lbs/A)	NH4-N (Lbs/A)	TOTAL PAN (lbs/A)	% NH4 PAN	Total N Applied (Lbs/A)
11/9/16	6.3	3.0	5.3	3.0	46.4	24.0	70.4	34.1%	0
11/17/16	12.0	27.0	6.0	3.7	72.0	122.7	194.7	63.0%	180
12/6/16	10.7	23.7	8.0	3.3	74.7	108.0	182.7	59.1%	180
1/3/17	8.7	27.7	5.0	3.0	54.8	122.8	177.6	69.1%	180
1/30/17	11.7	17.0	7.3	4.3	76.0	85.2	161.2	52.9%	180
3/1/17	16.0	18.0	9.0	3.0	100.0	84.0	184.0	45.7%	180
3/29/17	11.7	12.0	11.0	2.3	90.8	57.2	148.0	38.6%	180
4/24/17	25.0	16.0	12.0	4.0	148.0	80.0	228.0	35.1%	180
5/19/17	20.7	7.7	18.0	4.0	154.8	46.8	201.6	23.2%	180

NITROGEN APPLICATIONS

Date Applied	Direction Applied	N Source	Placement	N Rate Applied (Lbs/A)	Stabilizer Used
11/14/16	Parallel	Anhy. Ammonia	Injected	180	N-Serve

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 close to what was applied (180 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 samplng 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: The concentration of Plant-Available N at 0-2 ft. was essentially the same as the last testing date. However, the concentration of nitrate N decreased approximately 20 lbs N/Acre while ammonium-N went up 20 lbs N/Acre. The reason for this shift currently is unexplained. A similar reversal was noted in 2015-16 as well. We'll keep our attention focused on the total Plant-Available N as well as this shift in N form.

1/30/17: The concentration of Plant-Available N at 0-2 ft. dropped approximately 16 pounds from the first part of January. This may be the result of warmer-than-expected temperatures in January (no frost on some days) and unexpected rainfall during the same period of time. It will be interesting to see if the downward trend continues at the next sampling date.

3/1/2017: Test results show a shift in Plant-Available N from ammonium to nitrate-N as well as a slight increase in Plant-Available N. The results suggest soil biological processes are jump-started a little early this year. Nitrification is driven by two soil bacteria, Nitrosomonas and Nitrobacter and the increase in PAN may be related to a start-up of mineralization. We also

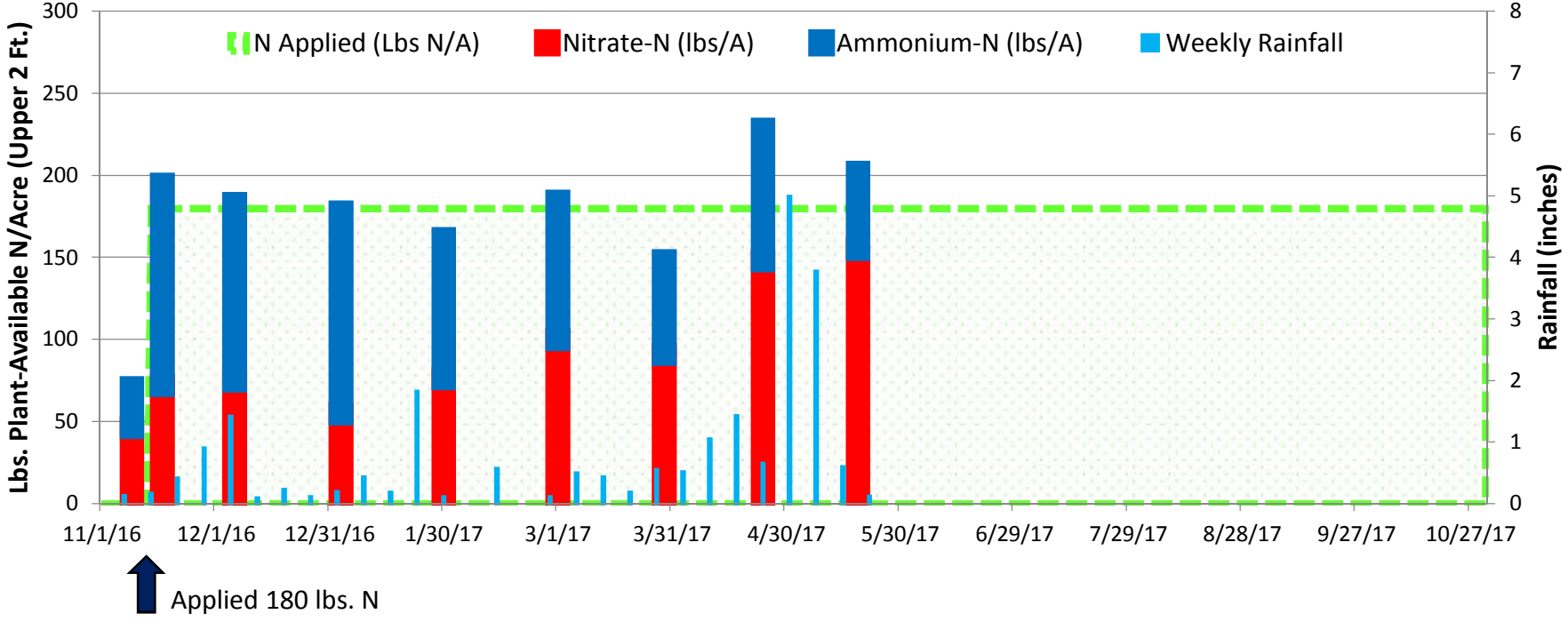
3/29/2017: Soil test results show a decrease in Plant-Available N since the last testing date with a decrease in nitrate-N in the upper 0-1 ft. and increase at 1-2 ft. Water movement through the soil may be moving nitrate-N further into the profile (leaching). The next sampling date will let us know if there is a continue movement of N (loss in the upper 0-1 ft.).

4/24/2017: Warm, moist soil conditions may be responsible for the increase in plant-available N since the last testing date. Mineralization of organic N is likely the primary source of the additional N. The next sampling date will be sooner-than-later because of the significant rain events received over a 7-10 day period. So far, data suggests that the N management system remains on-target.

5/19/2017: Heavy rains of late April/early May likely caused the decrease in plant-available N detected. Even with the slight decrease, mineralization may provide enough supplemental N to meet the corn crop's N requirement. Soil O.M. may deliver around 20-30 lbs. N/percent O.M. during the growing season.

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

Paris, IL



N Applied To-Date: 180

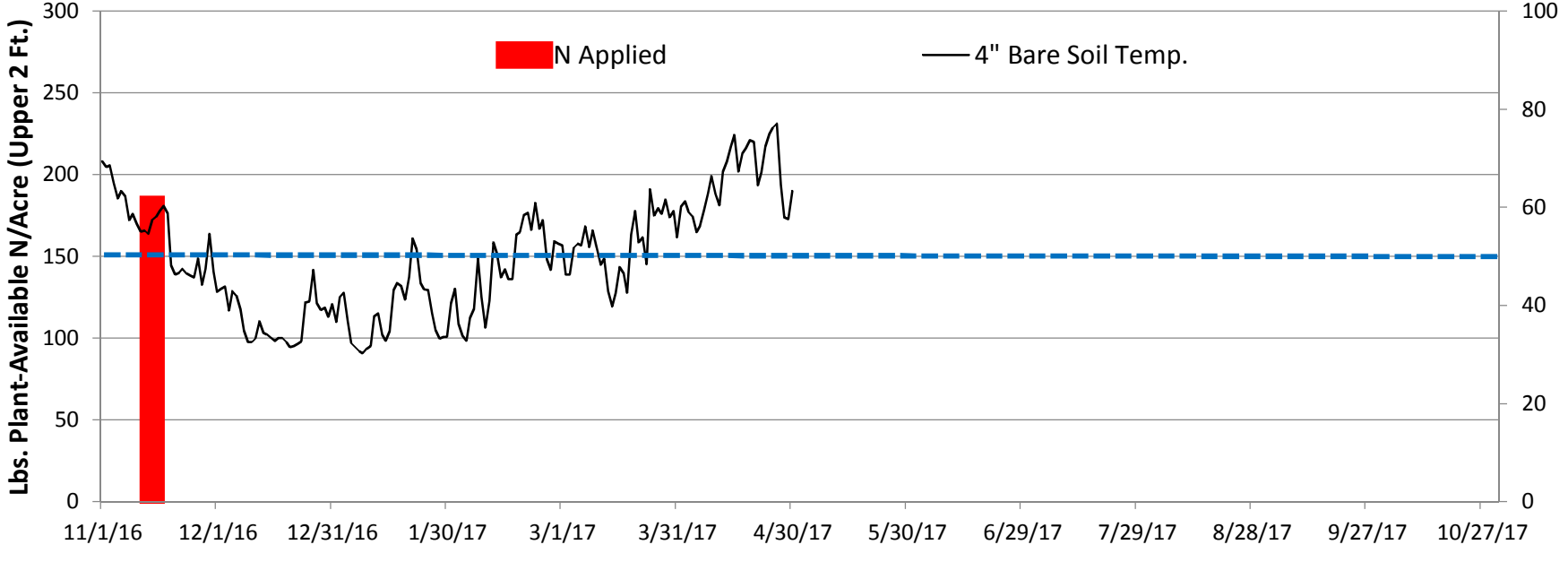
N Detected in Upper 2 Ft: 202

Difference (Detected-Applied): 22

COMMENTS:

N APPLIED vs. 4" BARE SOIL TEMPERATURE

Paris, IL



N Applied To-Date: 180

N Detected in Upper 2 Ft: 202

Difference (Detected-Applied): 22

COMMENTS:

N TRACKER SOIL

illiniFS

0 to 1 ft. Sampling Depth

Date of Sampling	NO_3-N (ppm)	NH_4-N (ppm)
11/9/16	6.3	3.0
11/17/16	12.0	27.0
12/6/16	10.7	23.7
1/3/17	8.7	27.7
1/30/17	11.7	17.0
3/1/17	16.0	18.0

1 to 2 ft. Sampling Depth

Date of Sampling	NO_3-N (ppm)	NH_4-N (ppm)
11/9/16	5.3	3.0
11/17/16	6.0	3.7
12/6/16	8.0	3.3
1/3/17	5.0	3.0
1/30/17	7.3	4.3
3/1/17	9.0	3.0

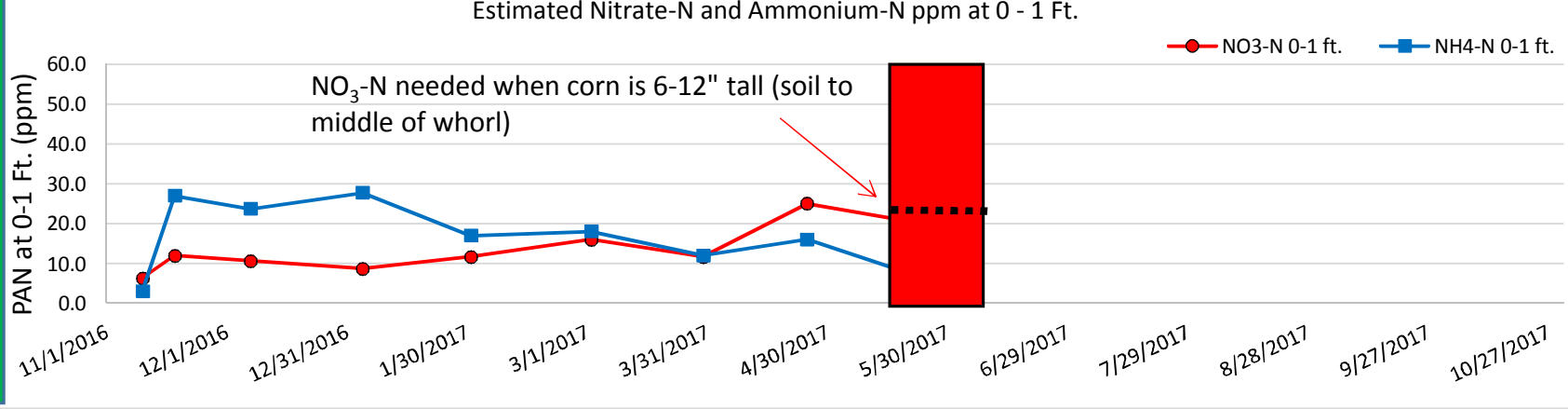
0 to 1 ft. Sampling Depth

Date of Sampling	NO_3-N (ppm)	NH_4-N (ppm)
3/29/17	11.7	12.0
4/24/17	25.0	16.0
5/19/17	20.7	7.7

1 to 2 ft. Sampling Depth

Date of Sampling	NO_3-N (ppm)	NH_4-N (ppm)
3/29/17	11.0	2.3
4/24/17	12.0	4.0
5/19/17	18.0	4.0

Surface



Subsurface