N TRACKER SOIL

PRODUCER INFORMATION

Site ID:	50% Fall - 50% Spring 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 of Rainfall Data:	Paris, IL
Source of 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	8.0	4.0	6.0	3.0	56.0	28.0	84.0	33.3%	0
11/17/16	11.0	12.0	6.7	3.3	70.7	61.3	132.0	46.5%	90
12/6/16	9.3	14.3	8.0	2.7	69.3	68.0	137.3	49.5%	90
1/3/17	8.7	15.0	6.0	2.7	58.8	70.8	129.6	54.6%	90
1/30/17	10.0	11.3	7.0	2.7	68.0	56.0	124.0	45.2%	90
3/1/17	16.0	23.0	10.0	5.3	104.0	113.3	217.3	52.1%	180
3/29/17	17.7	13.7	9.3	3.3	108.0	68.0	176.0	38.6%	180
4/24/17	24.0	20.0	12.0	4.0	144.0	96.0	240.0	40.0%	180
5/19/17	30.0	11.0	18.7	4.7	194.8	62.8	257.6	24.4%	180

NITROGEN APPLICATIONS

Date Applied	Direction Applied	N Source	Placement	N Rate Applied (Lbs/A)	Stabilizer Used
11/15/16	Parallel	Anhy. Ammonia	Injected	90	N-Serve
2/25/17	Parallel	Anhy. Ammonia	Injected	90	

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 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: Sample results show little change from the previous week. Nitrate-N concentration declined by 10 lbs. N/Acre which may be the result of sampling error or loss of nitrate-N from the 1-2 ft. sampling depth. The higher-than-applied concentration

1/30/17: Sample results show a slight decrease in Plant-Available N from the previous week. It will be interesting to see if the next sampling date continues to trend downward. Warmer-than-normal and unexpected rainfall in January may be the cause of the decreasing trend.

3/14/2017: Test results continue to track residual and applied N indicating no significant losses since November (when testing was initiated). Based upon the total Plant-Available N detected (upper 2 ft.) there is 217 lbs. of N with 54% in the ammonium-N form. Ammonium-N is considered a stable form of N, since it's positive charge attracts it to the soil's Cation Exchange Capacity, resisting any significant movement with soil water (leaching).

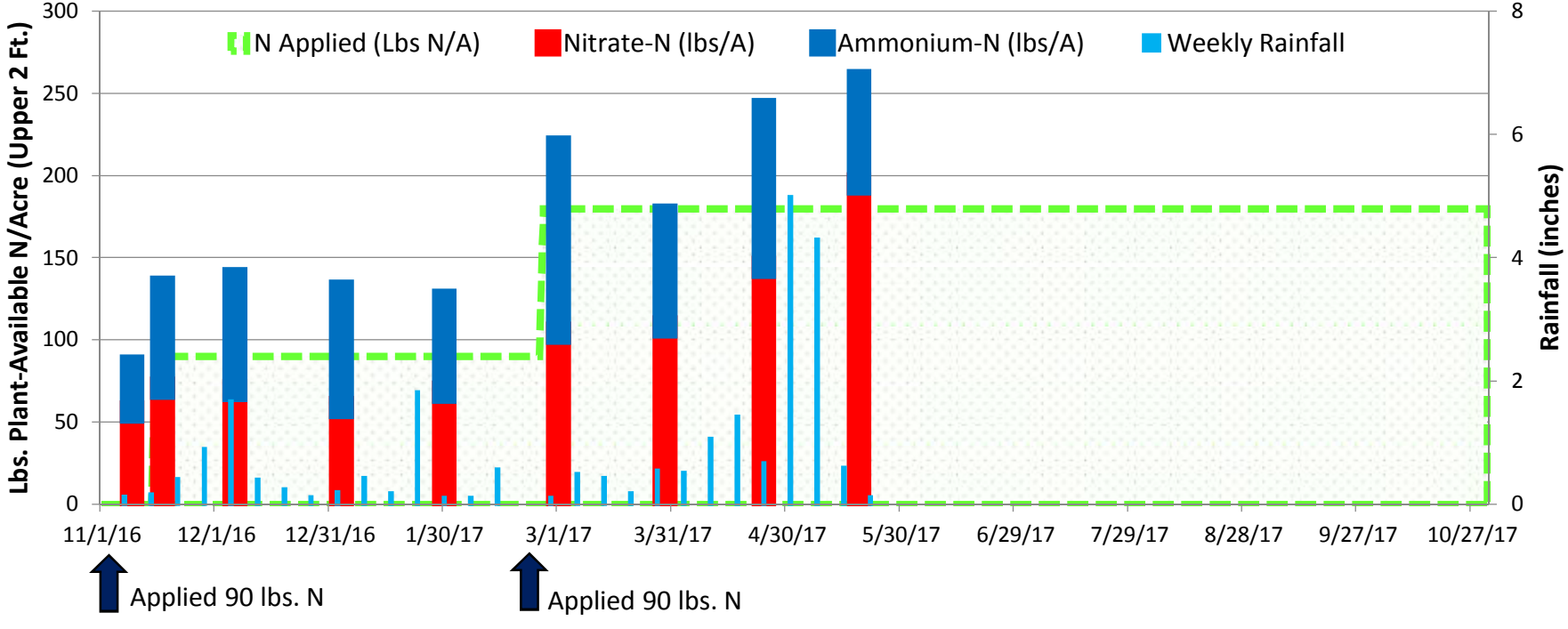
3/29/2017: Soil tests show a decline in Plant-Available N (PAN) in the upper 2 ft. The % ammonium-N decreased which would be expected with our warmer-than-usual late winter/early spring temperatures. Although the amount of detected PAN has decreased the amount of N detected is still close to the total amount of N applied.

4/24/2017: The additional 60 lbs. of plant-available N detected beyond what was applied can be attributed to mineralization of soil organic N. The N management system appears to be on-target as planned. Samples were collected before the 6+ inches of rain received at Paris, IL however.

5/25/2017: Splitting the N application 50% fall/50% spring appears to provide more plant-available N to detect than the 100% fall application. This comparison reinforces the need to evaluate N management systems that apply all the N in the fall with or without a nitrification inhibitor (N-Serve).

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

Paris, IL



N Applied To-Date: 180

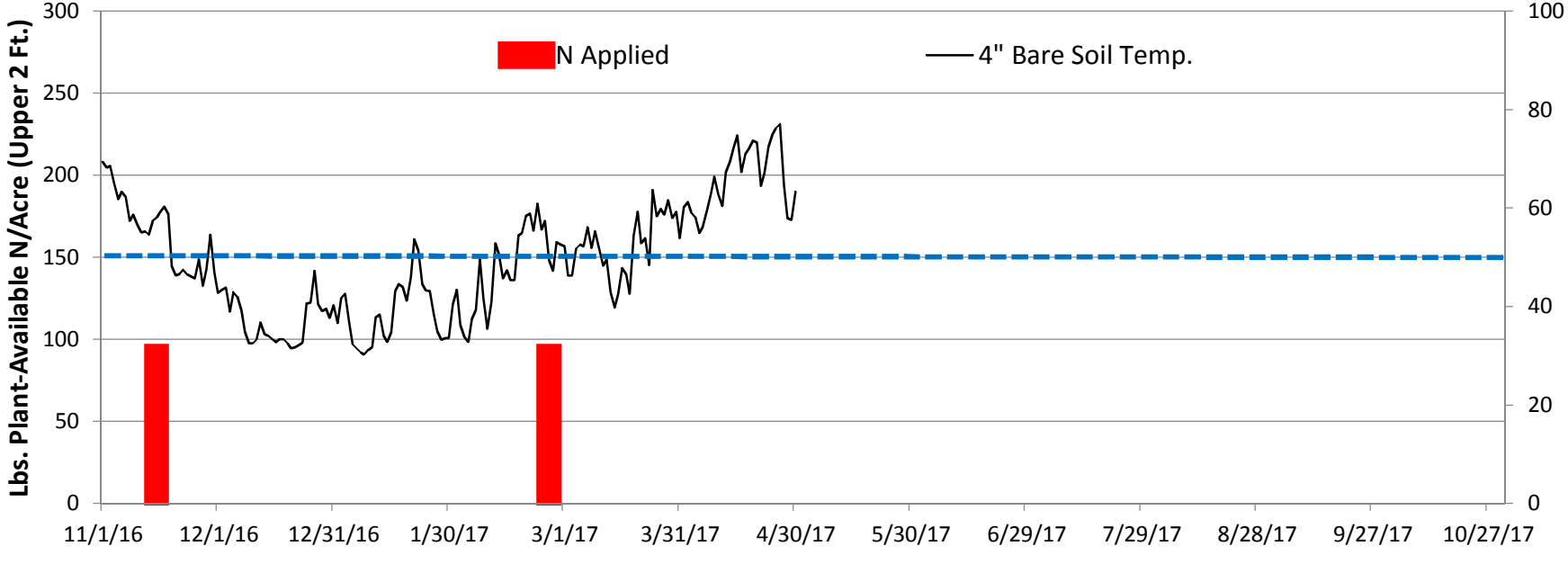
N Detected in Upper 2 Ft: 258

Difference (Detected-Applied): 78

COMMENTS:

N APPLIED vs. 4" BARE SOIL TEMPERATURE

Paris, IL



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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	8.0	4.0
11/17/16	11.0	12.0
12/6/16	9.3	14.3
1/3/17	8.7	15.0
1/30/17	10.0	11.3
3/1/17	16.0	23.0

1 to 2 ft. Sampling Depth

Date of Sampling	NO_3-N (ppm)	NH_4-N (ppm)
11/9/16	6.0	3.0
11/17/16	6.7	3.3
12/6/16	8.0	2.7
1/3/17	6.0	2.7
1/30/17	7.0	2.7
3/1/17	10.0	5.3

0 to 1 ft. Sampling Depth

Date of Sampling	NO_3-N (ppm)	NH_4-N (ppm)
3/29/17	17.7	13.7
4/24/17	24.0	20.0
5/19/17	30.0	11.0

1 to 2 ft. Sampling Depth

Date of Sampling	NO_3-N (ppm)	NH_4-N (ppm)
3/29/17	9.3	3.3
4/24/17	12.0	4.0
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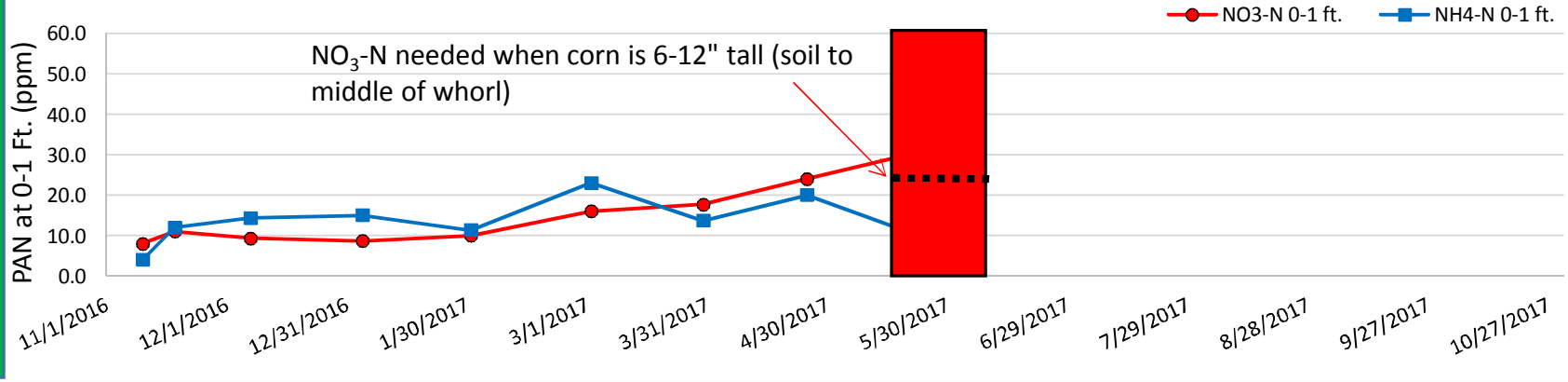
Surface



Subsurface