



## **SERVICE & PRODUCT GUIDE**





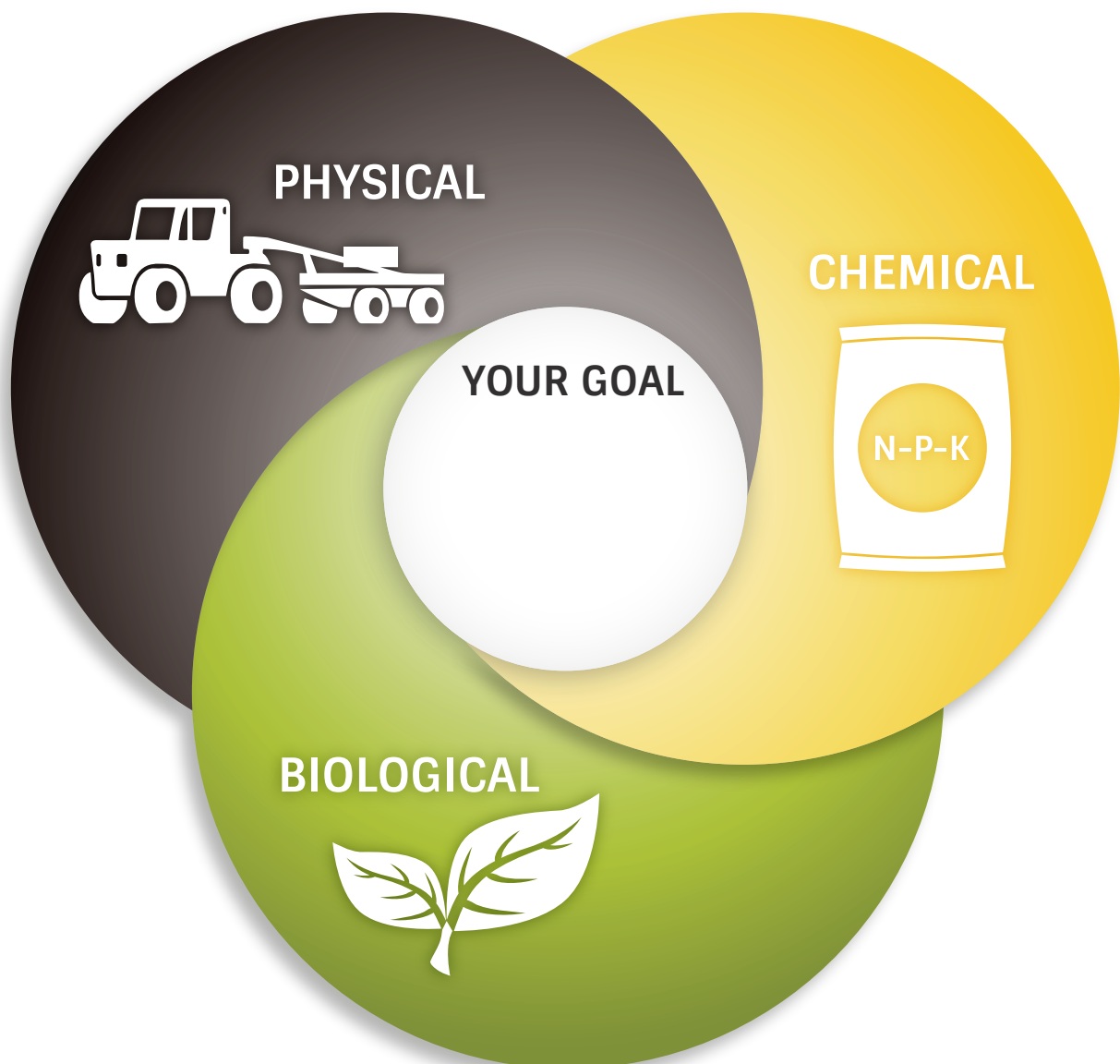


# MISSION STATEMENT

Helping to find the balance between physical, chemical, and biological soil properties on every customer's fields to achieve their individual yield and revenue goals.

## Three Main Components of Soil

Each field is different. How we manage each field is different. We see every service we offer as a piece in a larger puzzle, which is unique to you. How can we help you look at the physical, chemical, and biological soil properties and put the right pieces together to achieve your farm goals.





# Physical Soil Properties

Physical is feeling the texture of the soil in our hands. Seeing the different colors of bare soil when looking across a field. Seeing the change in elevation. The smell of the soil. It is our day-to-day interaction with the soil as farmers. This is why we came up with this tag line...

*See it. Map it. Manage it.*

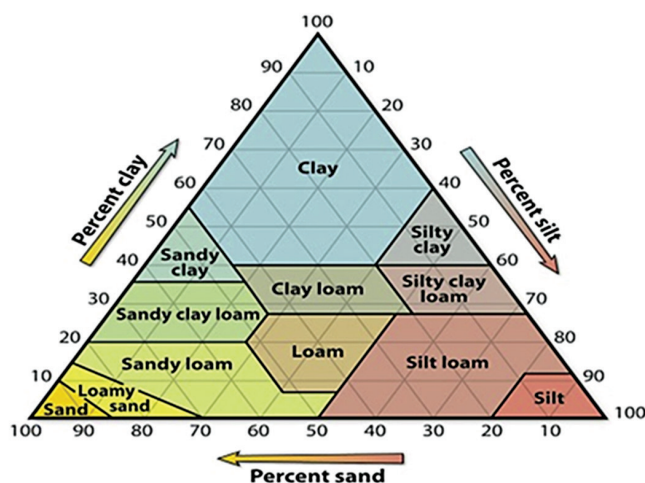
## Soil Mapping

One thing that is constant on the farm is the variation of soil type from year to year. Soil Mapping allows us to get a well-defined map of the physical properties in the field and how to manage it at a higher level. This is the baseline for production zones that we use in soil sampling, variable rate seeding, and variable rate nitrogen. Without an accurate soil analysis map, how can you accurately manage your fields at a production zone level to maximize profitability? This is a critical portion that grid sampling overlooks.

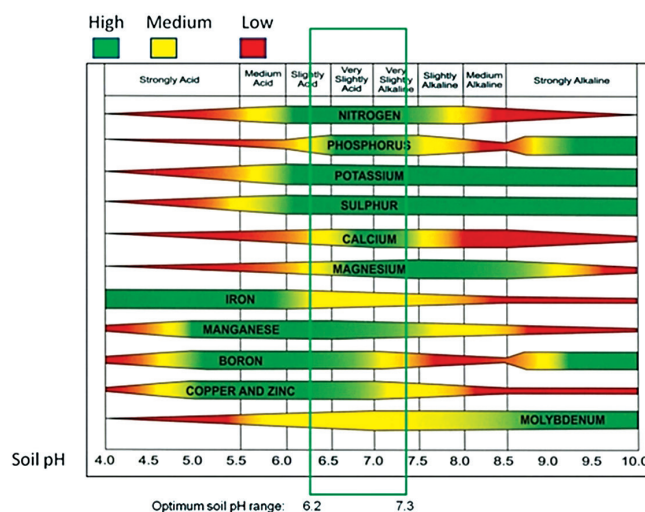
**That is precision agriculture.**

Soil Mapping is done one time. Currently we map five different soil properties:

- Soil Texture (EC - Electrical Conductivity)
- Organic Matter (OM)
- Elevation
- Slope
- Curve

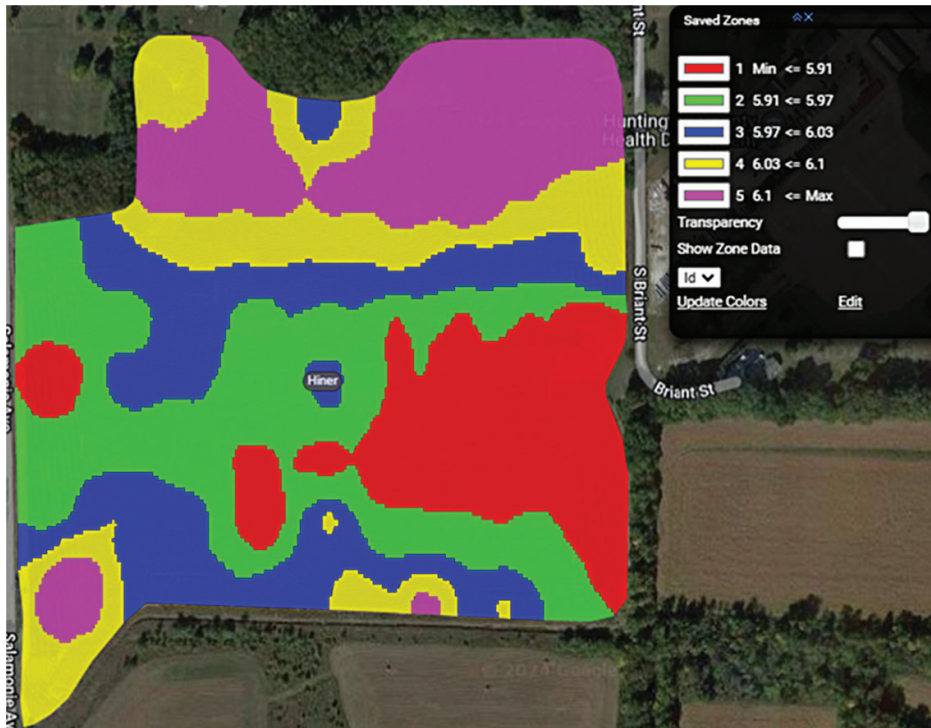


How soil pH affects availability of plant nutrients

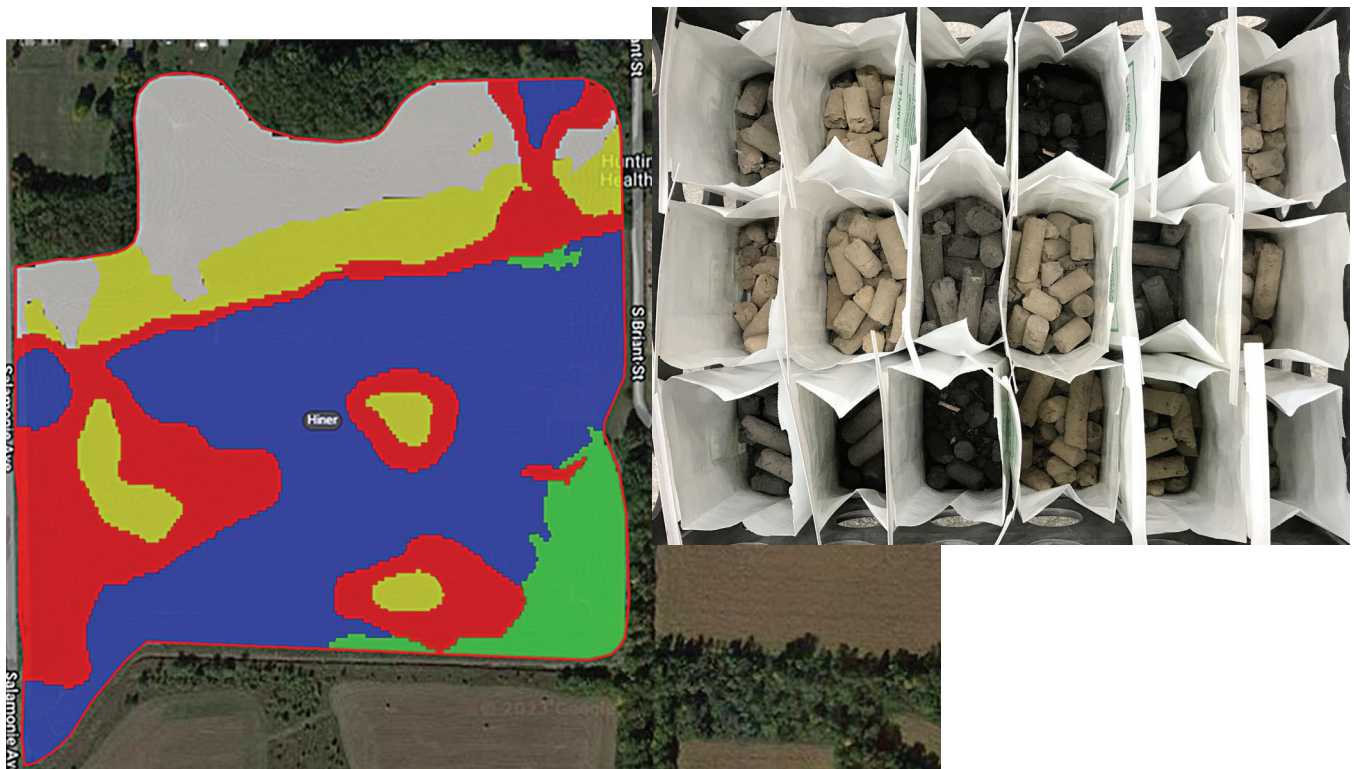




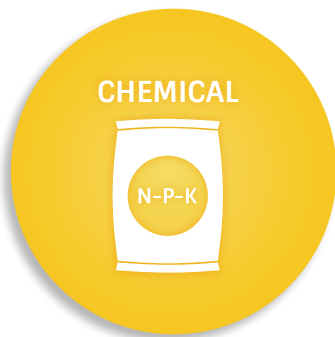
# pH Maps



# Texture Map







# Chemical Soil Properties

Chemical is all the periodic table elements that are in the soil. We use the physical soil map to devise our soil sampling zones. This allows us to start to balance the chemical and physical production zone. This is one step that grid sampling cannot do. Grid sampling does not account for any physical changes in the soil. So the best you get is average.

## Production Zone Soil Sampling

This is the first place we use the soil mapping zones. Based on the different soil properties, we are able to make the soil sampling locations. Soil Sampling is not a new concept, however sampling in the spring is relatively new.

A few main reasons we have chosen to sample in the spring are:

- consistent soil conditions
- understand what nutrients are available to the growing crop
- while scouting, we can see possible nutrient deficiency, and we can look at soil tests to help answer the “why” question
- time management to develop prescriptions

Doing routine soil sampling and tightening the schedule to every 2-3 years, we can manage the change in any single nutrient quicker. These steps lead back to the accurate use of your fertility dollars, and making the best use of them.

## Fertilizer/Lime Recommendations

Fertility recommendations are developed in a multi-step process.

**Step one.** Soil Sample results.

**Step two.** Years of field crop removal back to soil sampling date.

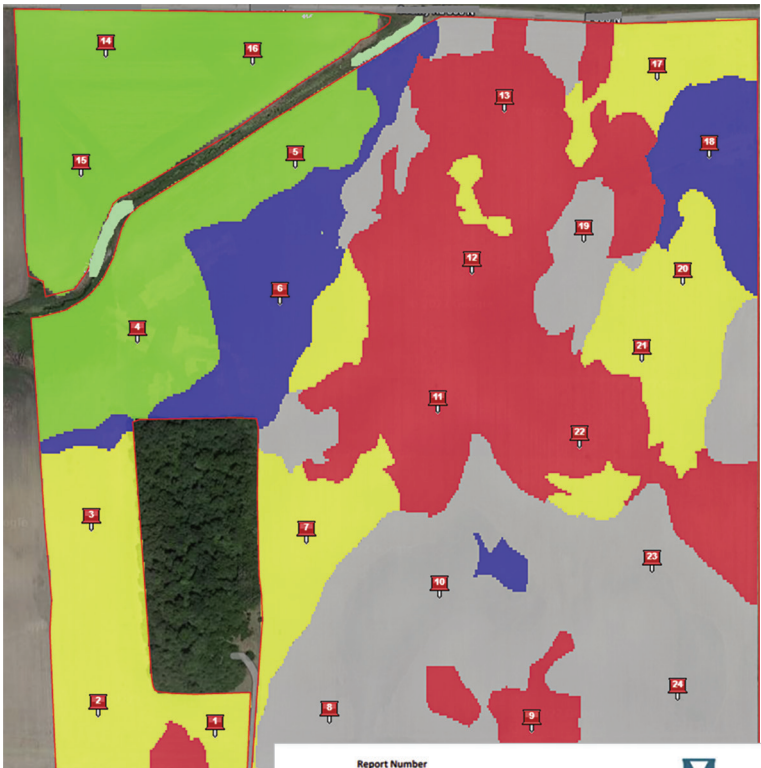
**Step three.** Years of saved fertility spread recommendations in our system.

**Step four.** Knowing the next crop.

Lime recommendations are developed the year of soil sampling. Recommendations are generated to raise the pH to 6.5 based on the buffer pH.



# Soil Sampling Summary Report



Report Number  
F20139-0121  
Account Number



3505 Conestoga Dr.  
Fort Wayne, IN 46808  
260.483.4759  
aigreatlakes.com

To: FOREFRONT AG SOLUTIONS LLC  
8507 N 300 W  
HUNTINGTON, IN 46750-9708

For:  
Farm:  
Field:

Date Received:  
Date Reported:

Attn: ERICH ELLER

## SOIL TEST REPORT

Page: 1 of 2

Sample ID	Lab Number	Organic Matter %	Phosphorus		Potassium	Magnesium	Calcium	Soil pH	Buffer	Cation Exchange Capacity	Cation Saturation				Sulfur	Zinc	Manganese	Iron	Copper	Boron
			P-M3 ppm	Bray-2 ppm	K-M3 ppm	Mg-M3 ppm	Ca-M3 ppm	(1:1 HgCl)	pH (saturated)	meq/100g	% K	% Mg	% Ca	% Na	% H	S-M3 ppm	Zn-M3 ppm	Mn-M3 ppm	Fe-M3 ppm	Cu-M3 ppm
1	52802	3.6	63		131	311	1844	6.9		12.3	2.7	21.1	75.0	1.2						
2	52805	2.6	33		111	307	1597	6.7	6.9	12.0	2.4	21.3	66.4	10.0						
3	52806	2.9	43		117	296	1857	6.9		12.2	2.5	20.2	76.1	1.2						
4	52807	25.4	54		156	531	3841	5.8	6.5	30.0	1.3	14.7	64.0	20.0						
5	52808	4.5	45		132	471	3226	6.9		20.6	1.6	19.0	78.1	1.2						
6	52809	5.6	74		167	476	3552	6.8		22.7	1.9	17.5	78.2	2.5						
7	52810	2.8	66		167	305	1473	6.4	6.9	11.5	3.7	22.0	63.8	10.4						
8	52811	4.3	59		167	630	3457	6.4	6.7	26.6	1.6	19.8	65.1	13.6						
9	52812	2.9	47		131	325	1994	5.9	6.7	16.6	2.0	16.3	60.0	21.7						
10	52813	5.9	92		200	561	4043	6.7	6.9	26.6	1.9	17.6	76.0	4.5						
11	52814	2.4	30		98	305	1778	6.6	6.9	12.9	2.0	19.7	69.0	9.3						
12	52815	2.8	37		104	299	1813	6.6	6.9	13.0	2.0	19.1	69.6	9.2						
13	52816	3.3	51		130	245	1693	5.8	6.7	14.4	2.3	14.1	58.6	24.9						
14	52817	23.8	60		259	674	3075	5.6	6.5	27.7	2.4	20.3	55.6	21.7						
15	52818	46.6	61		160	693	4555	5.8	6.5	35.0	1.2	16.5	65.1	17.2						
16	52819	47.3	65		287	832	4830	6.0	6.5	37.8	1.9	18.3	63.9	15.9						

Report reviewed and approved by our professional agronomy staff.

01/09/2017





# Biological Soil Properties

Biologicals have always been in the soil. We are discovering how important it is to production, soil health, sustainability, and regenerative Ag. As commercial fertilizer were discovered and yields increased we relied on the chemical property to continue which then make the biological portion sluggish and imbalanced. The goal is to bring this back into balance, to increase overall farm profitability.

We work with a biological company, BW Fusion. We have seen great success using their products and use them regularly in farm planning. This is a systems approach to balance physical, chemical, and biological.





# Nitrogen Management

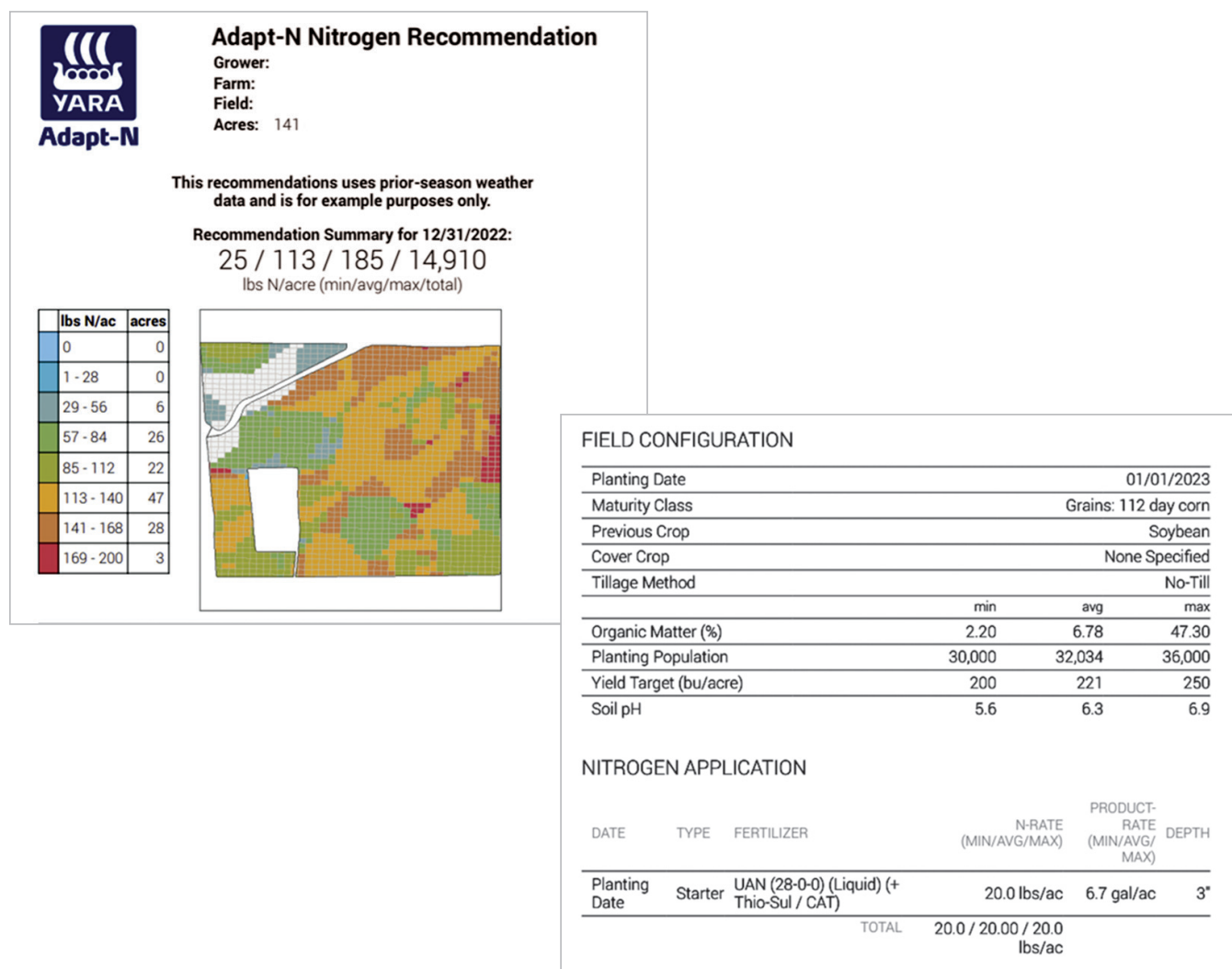


Nitrogen is a unique element. It takes an understating of the physical, chemical, and biological portions of the soil to manage the different forms of nitrogen. The use of production zones are highly critical for the nitrogen program. The mapping of soil texture and organic matter influence nitrogen throughout the growing season. We use information gained from soil tests; hybrid maturity, planting date, starter fertilizer, previously applied nitrogen, and manures. It takes different bacteria and soil microbes to move nitrogen through the nitrogen cycle.

TrailBlazing - Stand Count helps us to understand yield potential in different production zones which is a big factor in determining nitrogen rates.

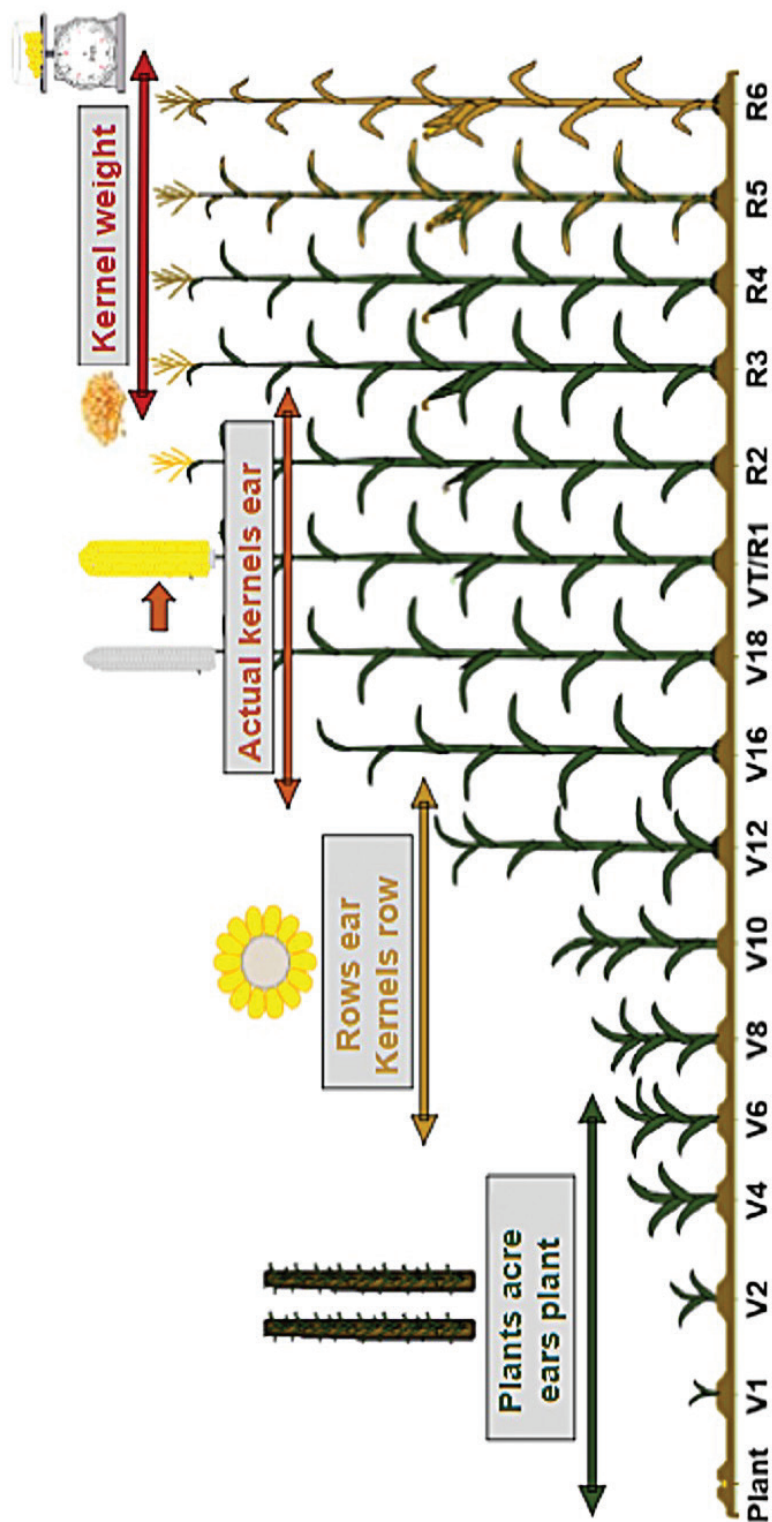
Daily weather is monitoring for nitrogen loss factors; volatilization, leaching or denitrification.

Through all of this we can produce daily nitrogen prescriptions.



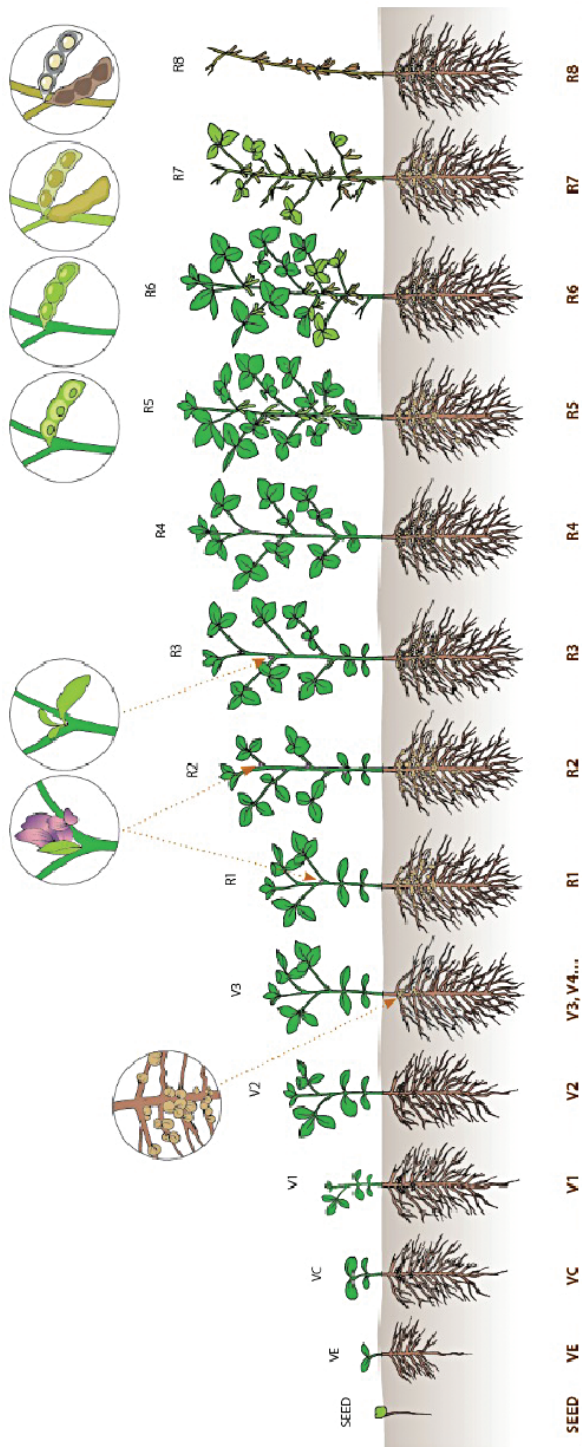


# TrailBlazing Complete



TrailBlazing Complete	Planting	V1 - V2	V3 - V5	V6 - V10	V8 - V10	VT - R2	R3 - R4	Harvest	UAN
		Fly Stand Count Scout	Fly Plant Health Scout	Fly Plant Health Scout	Fly Plant Health Scout	Fly Tassel Count Scout - Tar Spot	Fly Plant Health Scout - Tar Spot		
			LeafTech Scan	LeafTech Scan	LeafTech Scan	LeafTech Scan	LeafTech Scan		
401			Neutral Balance	Neutral Balance	Neutral Balance			MeltDown	NTrust
HF 12%			Full Sun						
BioZinc			Boron 7%						
Fixate									
NTrust									
BioBoost									
			Additional Products Needed per LeafTech Scan				Where did we end up		
							What Futures Changes		

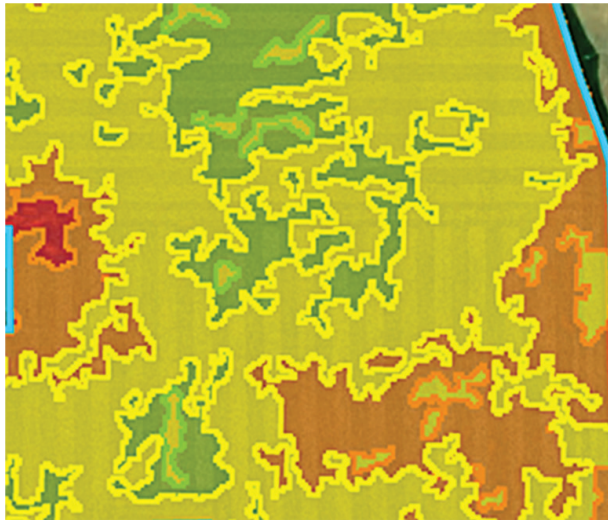
# TrailBlazing Complete



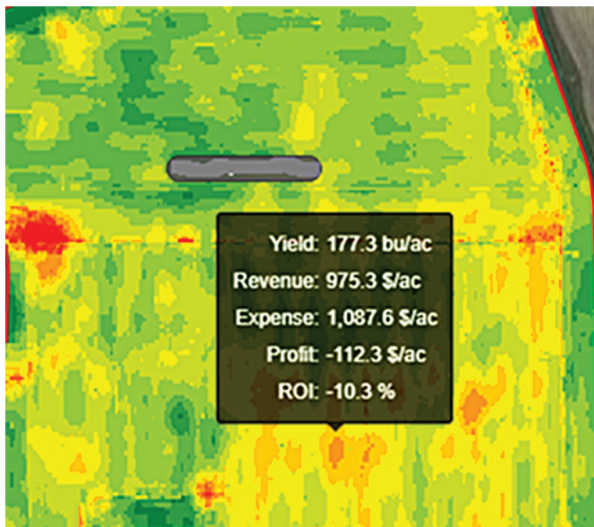
TrailBlazing Complete	Planting	V1 - V2	V3 - V5	R1 - R3	R5 - R6	Harvest
		Fly Stand Count Scout	Fly Plant Health Scout	Fly Plant Health Scout	Fly Plant Health Scout	
	Environoc ST		LeafTech Scan	LeafTech Scan	LeafTech Scan	
	401		Neutral Balance	Neutral Balance		MeltDown
	HF 12 %		Advance	AmiNo		
	AmiNo		Boron 7%	K Ace		
	BioBoost		Additional Products Needed per LeafTech Scan		Where did we end up What Futures Changes	



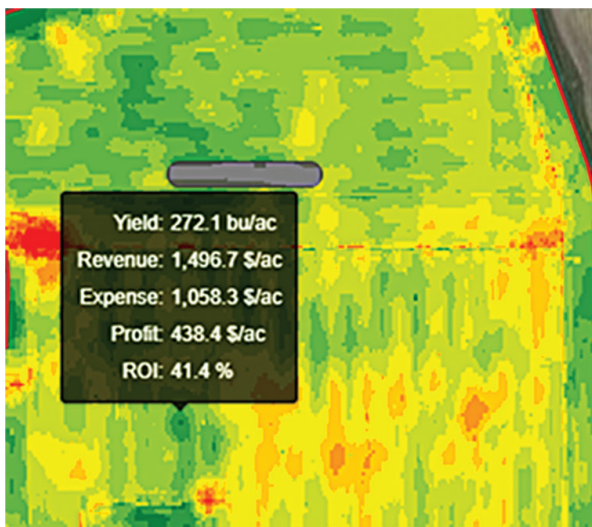
# TrailBlazing R.O.I Analysis



Acres Farmed		
Acres Improved	x	10%
Acres Improved		
Profit Improved per acre	x	\$550
Total Farm Improved		
TrailBlazing Cost per Acre	/	\$17
Value in Acres of TrailBlazing		
Acres Farmed	/	
R.O.I. of TrailBlazing		



Acres Farmed		
Acres Improved	x	%
Acres Improved		
Profit Improved per acre	x	\$
Total Farm Improved		
TrailBlazing Cost per Acre	/	\$17
Value in Acres of TrailBlazing		
Acres Farmed	/	
R.O.I. of TrailBlazing		



# Information Sharing

This allows field activities to sync to our office. FieldAlytics can sync with MYJD, Fieldview, Farmobile, Agfinity, and Slingshot. The benefits to this are numerous. Planting dates can drop in with using a plant growth model and localized weather stations. We can determine when a plant will emerge. Launching into TrailBlazing Crop Monitoring program. This information sharing can give us real-time information to get personnel out to the field quicker for you to make faster decisions when time is critical. We do business at the speed of wireless internet versus the speed of our truck. Time is money!

## Yield Data

Yield monitor calibration is important to make sure the yield information is accurate when combining the crop.

We have compiled your as applied, as planted, soil samples, tissue samples, all imagery, and collecting yield data is the final step. By completing everything mentioned we can determine the profitability for each production zone. Yield data is also used in yield removal for the fertility recommendations. This helps us makes better decisions for the next growing season. What worked? What did not work? What can we improve on?





# Pricing Guide

Veris Soil Mapping		Map CEC, Organic Matter, pH, Slope, Curve, Elevation Data is loaded into FieldAlytics, used as base line in Multi-Input Zone tool	\$15.00
Veris pH			\$7.50
Production Zone Soil Sampling	Spring Fall	Based upon Multi-Input Zone tool in FieldAlytics	\$6.50 \$7.50
Production Zone Soil Sampling + Nitrate Soil Test	Spring		\$11.50
Grid Soil Sampling	Spring Fall	Based upon 2.5 acre Grids	\$9.50 \$10.50
Lime Recommendations		Created the year of soil sample	Included
Fertilizer Recommendations		Soil Sample results set base line, Deduct Yield Removal from Calibrated Combine Credit any application of Nutrients	\$1.00
Nitrogen Recommendations		Adapt-N uses Multi-Input Zone tool, Soil Sample Results Production Zone Yield Estimates, using Stand Counts Can add in PSNT test results	\$6.50
Nitrogen Soil Test		PSNT can be used to fine tune Adapt-N Great for manures - that vary	\$10.00
Seeding Recommendations		Variable Rate Seeding base upon Multi-Zone Tool	\$1.00
Manure Sampling		Per Sample Jar	\$100.00
Information Management		Creating Planting and Harvest report for Crop Insurance and USDA	\$500.00
Information Movement		FFAS employee coming out and installing Rx and downloading monitor data	\$1.00
Information Sharing		Farmobile, MYJD, Climate, AgFiniti, and others	Included

# Pricing Guide

TrailBlazing Crop Monitoring	Complete	UAV Flights, Weekly Satellite Images, Leaf Scan	
	What		
	Who	Specific scouting events with SMART device tracking in FieldAlytics Mobile	
<i>Information Sharing is Mandatory</i>	When	Corn – Stand Count, V4, V10, Tassel Count, Late Season Tar Spot Beans – Stand Count, V3, R3, R6	
	Why	Replant Decisions, Nutrient Deficiency, Weed Pressure Insect Pressure, Disease Pressure Recommendations Included	\$17.00
TrailBlazing Crop Monitoring	Tier 2	2 UAV Flights, Weekly Satellite images	
	What		
	Who	2 Specific scouting events with SMART device tracking in FieldAlytics Mobile	
<i>Information Sharing is Mandatory</i>	When	Corn – Stand Count, Tassel Count Beans – Stand Count, R3	
	Why	Replant decisions Recommendations Included	\$7.00
TrailBlazing Crop Monitoring	Wheat	2 UAV Flights, Weekly Satellite images	
	What		
	Who	4 Specific scouting events with SMART device tracking in FieldAlytics Mobile	
	When	Feekes Scale – 3, 6, 8, 10	
	Why	Stand Decisions, Nutrient Deficiency, Weed Pressure Insect Pressure, Disease Pressure, Yield Estimates Recommendations Included	\$8.00
Service Call		Customer is having issues loading our Rx Maps into monitor	
		If error is our maps	FREE
		If error is in operator ability to use monitor	\$75 hr



# ForeFront Ag Solutions Programs

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## ForeFront Financing

- Invoices Due Net 15 Days of Invoiced
- Invoices over 30 days will be charged 1.5% Monthly or 18% Annually

## Early Pay Discounts

- See sales representative for program details.

## John Deere Financing

- See sales representative for program details.

## Returns

### No Returns

- FFAS Representative will work with you using FieldAlytics Farm Plans.
- This allows us to provide a Shopping List to accurately provide quantities needed for your operation.

## Partial Totes

- Quantities purchased directly from BW of less than 100 gallons will be sold in 2.5 gal jugs and incur additional cost.
- Quantities purchased directly from BW between 100 - 264 gallons will incur a \$150 partial tote charge.
- FFAS will do their best to purchase full totes (265 gallon) and divide between multiple customers to avoid extra charge. However, this will not happen every time.

# Notes

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## Contact Us

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Scan with your smart  
phone camera to visit  
ForeFrontAg.com →



Schedule Your  
Onsite Consultation:  
**260.504.6149**



## Connect With Us

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 @ellererich  @forefrontag  ForeFront Ag Solutions #SeeMapManage



# Testimonials

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In these tougher economic times, it was hard for us to add a cost when we were looking at finding ways to cut production cost. When analyzing where to cut, the clear choice was in services. So why did we add a service when we were cutting others? Because ForeFront Ag Solutions has cut our input cost while adding yield that we had not previously been capable of recognizing. Investing in ForeFront Ag Solutions has definitely helped our bottom line.

**J. Kline, Kline Family Farms**

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Working with ForeFront Ag Solutions has give me confidence that data analysis and prescriptions are both accurate and cost effective.

**L. Hindbaugh, Hindbaugh LLC**

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Erich is going to work for you. Period. Our production achievements are his production achievements. With a bag full of tools, he allows you to tailor his skills to your needs.

**M. Stephan, Stephan and Sons**

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ForeFront Ag Solutions has mapped our fields. This has increased our accuracy and confidence in our variable rate programs. ForeFront Ag Solutions has turned data into better decisions and those decisions into more profit per acre.

**T. Landrum, Little River Farms**

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**SEE IT. MAP IT. MANAGE IT.**

812 West Tipton St. | Huntington, IN 46750

**260-504-6149**

ForeFrontAgSolutions.com

