

Thank you for attending our 2018 NLID Field Day

NLID Plot
NUTRIENT LOSS INHIBITOR DEMONSTRATION
FIELD DAY August 17, 2018



Additional information on the NLID Plot, including harvest data,
will be available on our website and social media platforms...

www.waynecfb.com

www.wabashvalleyfs.com

www.ilfb.org

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WHAT IS NLID?

The Nutrient Loss Inhibitor Demonstration (N-LID) Plot is a project that uses nitrogen and phosphorus inhibitors and enhancers, as well as micro and secondary nutrient applications, to demonstrate improved fertilizer efficiency and economic advantages over traditional fertilizer applications.

NLID PROJECT GOALS

- Produce a demonstration plot that focuses on the achieving the core nutrient loss management strategies outlined in the Nutrient Loss Reduction Strategy (NLRS) for Phosphorus and Nitrogen.
- Demonstrate the efficacy of various nutrient enhancers and nutrient loss inhibitors available to farmers.
- Demonstrate how farmers can maximize their return on their fertilizer investment by utilizing and protecting all available nutrients in the field.
- Demonstrate how farmers and retailers are working together to research what practices will best reduce nutrient loss from farm fields and build grower awareness.

PROJECT PARTNERS

Fred & Louisa Blessing

Orlyn Blessing purchased the original farm in December of 1948. After being discharged from World War II, he raised corn, soybeans, wheat, clover seed, and hay in addition to hogs and cattle. Today, the original 500 acres is owned by his 3 children Barbara Bozarth, Fred Blessing, & Bruce Blessing. Orlyn's sons planted their first crop in 1974, shortly after his passing, under the supervision of their uncle Darrell Blessing. Fred & Louisa Blessing currently operate the farm, raising corn and soybeans.

Wabash Valley Service Company

The Wabash Valley Service Company is a full service, farmer-owned agricultural cooperative serving producers in Crawford, Edwards, Gallatin, Hamilton, Jasper, Lawrence, Richland, Wabash, Wayne, and White counties in southeastern Illinois and Posey, Gibson, and Vanderburgh counties and southwestern Indiana.

Wayne County Farm Bureau

The Wayne County Farm Bureau is a 501(c)5 non-profit organization based in Fairfield, IL serving 2,100 members. The mission of the Wayne County Farm Bureau is...“To maintain a strong, well organized association of farmers dedicated to sounding a strong voice for agriculture, meeting farmer’s needs, and preserving and enhancing the quality of family farm life.”

Illinois Farm Bureau

Illinois Farm Bureau (IFB) is a membership organization controlled by farmers who join IFB through their county Farm Bureau. IFB's mission is “To improve the economic well-being of agriculture and enrich the quality of farm family life.” We work to keep agriculture, Illinois' biggest economic engine, fueling families in both rural and urban communities throughout Illinois. Illinois Farm Bureau is a member of the American Farm Bureau Federation, a national organization of farmers and ranchers including Farm Bureaus in all 50 states and Puerto Rico.

ILLINOIS FARM BUREAU'S NUTRIENT STEWARDSHIP EFFORTS

Illinois Farm Bureau is committed to helping farmers and the state of Illinois reach the ambitious goals set forth in Illinois' Nutrient Loss Reduction Strategy (NLRS). Illinois farmers want to do the right thing, and they are proving, all across the state, that voluntary conservation measures can move the needle on water quality improvements.

The Illinois Farm Bureau has awarded \$300,000 in grants since 2016 for over 50 projects around the state to improve nutrient stewardship. Projects include tile drain testing, saturated buffer strip demonstrations, confidential water testing for farmers, cover crop field demonstrations, livestock manure trials, bioreactor installations, and streambank stabilization.

The Wayne County Farm Bureau received a Nutrient Stewardship Grant in the amount of \$5,000 for the Nutrient Loss Inhibitor Demonstration Plot in 2017 and a \$2,000 grant for our project in 2018. We appreciate Illinois Farm Bureau's dedication to supporting voluntary nutrient stewardship projects in Illinois.

FIELD DAY AGENDA

Welcome

Doug Anderson, FBCM

Manager, Wayne County Farm Bureau

IFB Nutrient Stewardship Priorities & NLRS

Lauren Lurkins

Director of Natural & Environmental Resources

Illinois Farm Bureau

Importance of Micro & Secondary Nutrients

Amir Sadeghpour, Ph.D.

Assis. Professor of Soil Management & Integrated Cropping Systems

Southern Illinois University

Tour of Plot, Explanation of Replications, Estimated Yields, and Plot Conclusions

Mike Wilson, CCA

Specialty Product Marketing Coordinator

Wabash Valley Service Company

Questions & Discussion

Lunch

PRODUCTS USED - SOYBEANS

TAKE OFF ST[®]

Take Off ST accelerates germination, emergence, establishment and canopy closure and pushes the seed toward a faster start.

TagTeam LCO is a triple action inoculant that combines three strong biological technologies to drive optimum legume yield potential.

TagTeam[®] LCO

PRESIDECL[®]

Preside CL soybean inoculant brings more nitrogen into the plant by adding more nodules and making more efficient use of supplied nitrogen.

Tuxedo is formulated to nourish crops as they germinate. Its patented technology ensures essential micronutrients are available for immediate plant uptake.

tuxedo[®]



QuickRoots is a microbial seed inoculant that can help your fertilizer dollar go further. Two powerful microbes work simultaneously to help release nutrients bound in the soil, thereby increasing the availability and uptake of nitrogen, phosphate and potassium.

TakeOff ST, Preside CL, and Tuxedo are registered products and trademarks of Verdesian Life Sciences, LLC. TagTeam LCO and QuickRoots are registered products and trademarks of Monsanto Technology LLC.

ABOUT OUR PRESENTORS

Doug Anderson, FBCM

Doug Anderson holds the Farm Bureau Illinois Farm Bureau Certified Manager designation and has served as the County Manager for the Wayne and White County Farm Bureaus since 2003. He has served in dozens of leadership roles within the organization and throughout the communities in the two counties.

Dr. Amir Sadeghpour, Ph.D.

Dr. Amir Sadeghpour is the Assistant Professor of Soil Management and Integrated Cropping Systems in the Department of Plant, Soil and Agricultural Systems at Southern Illinois University in Carbondale. Dr. Sadeghpour's research focus is on the climate variability challenges to sustainable food production. His focus is design regionally adapted cropping systems that are profitable, efficient, sustainable, and resilient while using various agroecological principles and precise nutrient management practices.

Lauren Lurkins

Lauren serves as the Director of Natural and Environmental Resources in the Governmental Affairs and Commodities Division of the Illinois Farm Bureau. Lauren is responsible for developing and coordinating the organization's natural resources and environmental programs. Prior to her position with the Illinois Farm Bureau, Lauren practiced environmental law with the law firm of Hodge Dwyer & Driver in Springfield, IL.

Mike Wilson, CCA

Mike Wilson currently serves as the Specialty Product Marketing Coordinator for Wabash Valley Service Company. A major part of his duties involve soil fertility and nutrient management with a strong focus on nutrient efficiency with increased attention to secondary and micro nutrients. He is an Illinois Certified Crop Advisor, and holds the 4R's Nutrient Management Specialist Certification and is a Pest Resistance Management Specialist.

PLOT CONCLUSIONS

By Mike Wilson

In 2017, we looked at different nitrogen stabilizers as well as different rates of both secondary and micro nutrients on corn in the NLID plot. For the 2018 version, we decided to concentrate more on Nitrogen rates as well as micro and secondary nutrients to see their effect on yield along with different N rates. This is very basic information and is intended as a guideline for you to use as you test different products and practices on your farm. With the Illinois Nutrient Loss Reduction Strategy now in full swing we need to look at ways to reduce our loss of both nitrogen and phosphorus to the environment. Phosphorus loss is best addressed through soil conservation as it is tightly held in the soil and travels with the soil particle it is attached to. That makes cover crops, drainage structure and erosion control vital to keeping the P where we put it and out of streams and rivers.

Nitrogen, however, is another story. Being an anion, it is subject to loss through both volatilization and leeching. Therefore, the need to apply N in multiple applications at reduced rates can enhance both vegetative growth, reproduction, and grain fill. Our corn genetics today use a great deal more of their N late in the season. Early applied N may no longer be in the field by the time the crop is ready to use it. We have treatments in the plots looking at N rate response to timing including a side-dress application of NH₃ this year, as well as different micro and secondary nutrients. We are also looking at the effects of a nitrogen stabilizer on yield. Our aim is to show these practices can reduce input costs, increase return on investment (ROI), and protect our expensive inputs from loss to the environment.

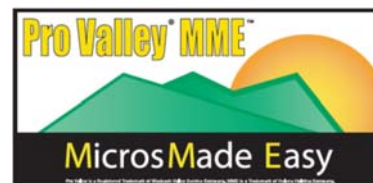
In 2018 we have also added a treatment plot of soybeans with differing seed and in-furrow treatments. We have 13 treatments of different products that should, demonstrate the soybeans ability to produce its own nitrogen. Our aim in this trial is to stimulate the soybeans ability to fix its own nitrogen and eliminate the need for added N that is subject to loss to the environment. One unexpected outcome was we greatly inhibited population with large seed and the amount of seed treatment we applied. The treatment with double inoculation actually dropped below 90K seeds per acre. However, the variety we picked has closed the rows and compensated for lost population. As always, we shall see at harvest.

PRODUCTS USED - CORN

NUTRISPHERE-N®

NutriSphere-N keeps more nitrogen available for plant uptake by slowing the conversion of nitrogen into forms that can be lost through volatilization, leaching and denitrification.

Pro Valley MicroBurst provides a superior balance of nutrients precisely formulated to prevent or correct micronutrient deficiencies. This combination micronutrient formulation contains a unique combination of Sulfates and Sucrates for enhanced microbial activity and bioavailability.



Pro Valley MME is a homogenous blend of micro, macro and secondary nutrients for easy blending and even spreading. Developed using soil tests, tissue tests and trial data southern Illinois farms.

Sul4R-PLUS B+Z is an granular Calcium Sulfate product proven to enhance soil quality and increase crop yields. It has a high solubility for immediate impact, maximizes nutrient uptake for stronger



*Nutrisphere-N is a registered products and trademarks of Verdesian Life Sciences, LLC.
SUL4R-PLUS B+Z is a registered product and trademark of SUL4-PLUS, LLC.*

CORN REPLICATIONS

Rep #	Nitrogen	Secondary Nutrients	Micro Nutrients	8/6 Yield Estimate	Harvest Yield
NH3 Side	140#	-	-	154	
No N	-	-	-	90	
1	100#	-	-	179	
2	100# + NN	-	-	179	
3	100# + NN	-	20# PV MB	129	
4	100# + NN	-	50# PV MME	136	
5	100# + NN	50# AMS	-	112	
6	100# + NN	50# Sul4R B+Z	-	146	
7	100# + NN	30# AMS	10# PV MB	123	
8	100#	-	-	147	
9	100# + NN	-	-	145	
10	100# + NN	-	20# PV MB	154	
11	150# + NN	-	20# PV MB	146	
12	150# + NN	-	20# PV MME	114	
13	150# + NN	50# AMS	-	140	
14	150# + NN	50# Sul4R B+Z	-	153	
15	150# + NN	30# AMS	10# PV MB	142	
16	100#	-	-	147	
17	100# + NN	-	-	116	
18	100# + NN	-	20# PV MB	136	
19	200# + NN	-	20# PV MB	128	
20	200# + NN	-	50# PV MME	115	
21	200# + NN	50# AMS	-	127	
22	200# + NN	50# Sul4R B+Z	-	172	
23	200# + NN	30# AMS	10# PV MB	142	
24	100#	-	-	160	
NH3 Side	140#	-	-	147	

SOYBEAN REPLICATIONS

Rep #	Treatment #1	Treatment #2	Population (in thousands)	Harvest Yield
1	-	-	93	
2	Take Off ST	-	95	
3	Precide CL	-	85	
4	Tuxedo	-	98	
5	Take Off ST	Tuxedo	100	
6	Tag Team LCO	-	75	
7	QuickRoots	-	78	
8	Precide CL 2X	-	89	
9	Take Off ST	Pro Valley Blue	95	
10	Pro Valley Blue	-	98	
11	Take Off LS	Pro Valley Blue	100	
12	Start Right	Pro Valley Blue	97	
13	-	-	95	

Corn Plot Notes

Becks 5832A3, 28,500 population, planted May 1
 NN - Nutrisphere-N
 AMS - Ammonium Sulfate
 SUL4R-PLUS B+Z - Boron, Zinc, Calcium, & Sulfur
 PV MME - Pro Valley Micros Made Easy
 PV MB - Pro Valley MicroBurst

Soybean Plot Notes

FS HiSoy 38L32, 155K target population, planted April 30
(see page 8 for low population explanation)
 Fungicide & insecticide was applied