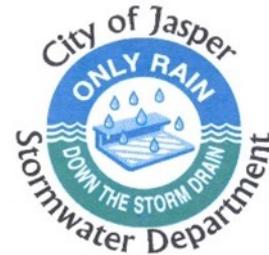


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Dubois County SWCD

Mill Creek Farms



VUJC
Land Stewardship
Initiative
soil health...the root of everything

2023 Annual Report





Created in 2012, the Land Stewardship Initiative (LSI) farm is a partnership between the Dubois County Soil and Water Conservation District (SWCD) and Vincennes University Jasper Campus (VUJC). LSI's goal is to be a demonstration site for No-till farming practices and to educate the community about soil health practices. 50 acres of land have been set aside at VUJC to be farmed using continuous no-till and cover cropping systems in a corn and bean rotation.

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Dubois
 County
 SWCD

This fall a "Data Driven Decisions" workshop was held at LSI. Joel Reddick, a regenerative ag farmer from Kentucky, and Purdue Extension Educator, Adam Shanks, both spoke. Joel shared how data gathered from his farm has influenced his decisions on his own farm. Adam explained some of the cutting-edge technologies available to farmers and how to decide what to add to benefit their operation.



3. Soil/plant testing HANEY SOIL HEALTH ANALYSIS

Lab #	Nitrogen				Phosphorus			
	HSA Extract		H2O Extract		HSA Extract		H2O Extract	
	Nitrate	Ammonium	Biog. N	Total N	Total P	Biog. P	Total P	Biog. P
2227	150	3.6	9.4	28.4	19.0	2.84	18.0	16.2
Rank								

Lab #	Other Soil Measures				Fertility			
	Soil pH	Buffer pH	Mobile Cat	Exchange	Soil CEC	Phosphorus	Cationic	Magnesium
		Mod. Water	Capacity	% CEC	ppm/lb	ppm/lb	ppm/lb	ppm/lb
2227	6.3	0.7	0.18	MONI	2.8	39	527	49
Rank								

Lab #	Soil Health		Nitrogen Comparison				Reviewer Comments
	Soil Respiration	Soil C	Traditional	Hay	Other	Soil	
	ppm CO2-C	%	lb/acre	lb/acre	lb/acre	lb/acre	
2227	29.8	1.06	10.3	13.50	40.0	14.0	
Rank							

Lab #	Intended		N Credits, lbs/A		Fertility Recommendations, lbs of Required Nutrients per Acre						
	Crop	Yield Goal	Plant C	Soil C	N	P	K	S	Zn	Cu	Mn
2227	CORN/BEAN	200	40	40	121	30	55	20			
2227	CORN/BEAN	40	40	52.4							

Weed control

32% Y Drop Sat. 07/02/2022

On the horizon for the project in 2024 are: two farmer workshops and three educator trainings to be held at VUJC this year.

If you would like to learn more about the LSI, request a site visit, or classroom presentation- contact Melissa Ruschau at 812-482-1171 ext 3 melissa.ruschau@in.nacdnet.net

LSI was excited to host 30 high school freshmen from around the county for the Tour of Opportunities Day held in October. The students were exposed to a variety of aspects of agriculture in the morning at Precision Farming Solutions. After lunch, they toured LSI and saw conservation practices on the ground and learned how to calculate yield estimates. They also tested the soybeans for moisture content.



Upper left: Students testing soybean moisture.

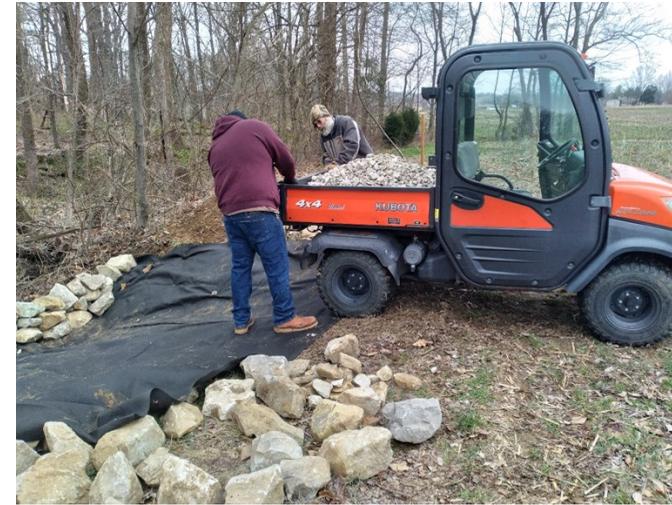


Upper right: An explanation of the function of a rock chute at the end of a grassed waterway in LSI field 7.



Right: Melissa gives a demonstration of the CEC (cation exchange capacity) of clay. This shows the soil's ability to hold onto essential nutrients. Soils with a higher clay fraction tend to have a

NOTES FROM THE FIELD



A few small additions and repairs were completed this year around the LSI farm. This included repairing two suck holes in field 2. We repaired a cut that was beginning to deepen in the grassed border of field 5 and a rock chute was added to handle the flow of water coming from the farm field. In addition, several grassed waterways and filter strips were reseeded with the district's new multi-purpose

Above: Rock chute construction.



Middle: In 2022 the SWCD invested in this multi-purpose seeder which is useful in both pasture renovations and reseeding waterways.

Below: Pat Eckerle checking soybean planting depth.



On May 5th, Pat Eckerle planted soybeans green into the standing cover of Cereal Rye and Crimson Clover. The cereal rye was the only cover crop planted in the Fall of 22. The crimson clover grew from seed that volunteered from the 2022 summer cover mix. This was Pat's first time planting the LSI fields. A HUGE thank you should be given to Duane Hopf for sharing his digital planting files with Pat and for Duane's planting of the corn and soybeans over the last 10 years of the project. And thank you to Pat for taking on this new aspect of the LSI project.

Some challenges arose this year from the 2022 summer cover crop. In a few sparse patches in the fields, Sorghum Sudan grass and Sunn Hemp reseeded itself and began competing with the soybeans. A quick herbicide pass took care of the issue. In addition, Callery pear trees had become an issue in the WASCOB series in field 2. These trees were terminated with herbicide and later mowed down.



Left: Sorghum Sudan competition in a soybean field.
 Below: before and after images of Callery Pear.
 Right: Picture of Jack Welp's clover cover crop as it was in March.
 Far right: Aaron Kreuger and his cover crops.



On a positive note, the crop acres achieved the highest yield to date of beans, averaging 69 bushels to the acre. Currently, the fields are growing with Barley and Balansa Clover in anticipation of the 2024 crop.

EDUCATION AND DEMONSTRATION

A spring field day "Getting to the Root of Cover Crops" was held at Jack Welp's farm in Birdseye. Both Jack and Aaron Krueger (Gibson County farmer) shared their experiences with a variety of cover crops. They shared cover crop mixes that they find work on their operations and showed what the plants they had growing at the time looked like. Participants explored how deep cover crop roots could potentially grow. The first 6 cover crop "Root Banners" were borrowed from CCSI and premiered at this event.



Melissa hosted a soil health booth at the FFA job fair held at VUJC this fall. She borrowed the "Root Banners" from CCSI again this time with the full set of 12. She also demonstrated soil health for students with the slake and slump tests using soil samples gathered from the farm.



Left : Display .
 Right: Melissa showing a student how deep cover crop roots have the potential to grow.

