



United States Department of Agriculture



On The Hunt

Wading Through Farm Specific Data For Improved
Profitability and Value-added Opportunities

Indiana CCA Conference

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Credits- Collaborative Presentation



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Photos: Jarred Brooke, Purdue Extension Wildlife Specialist
Crop Data: Joel Wahlman, SEPAC Superintendent

Measuring Success

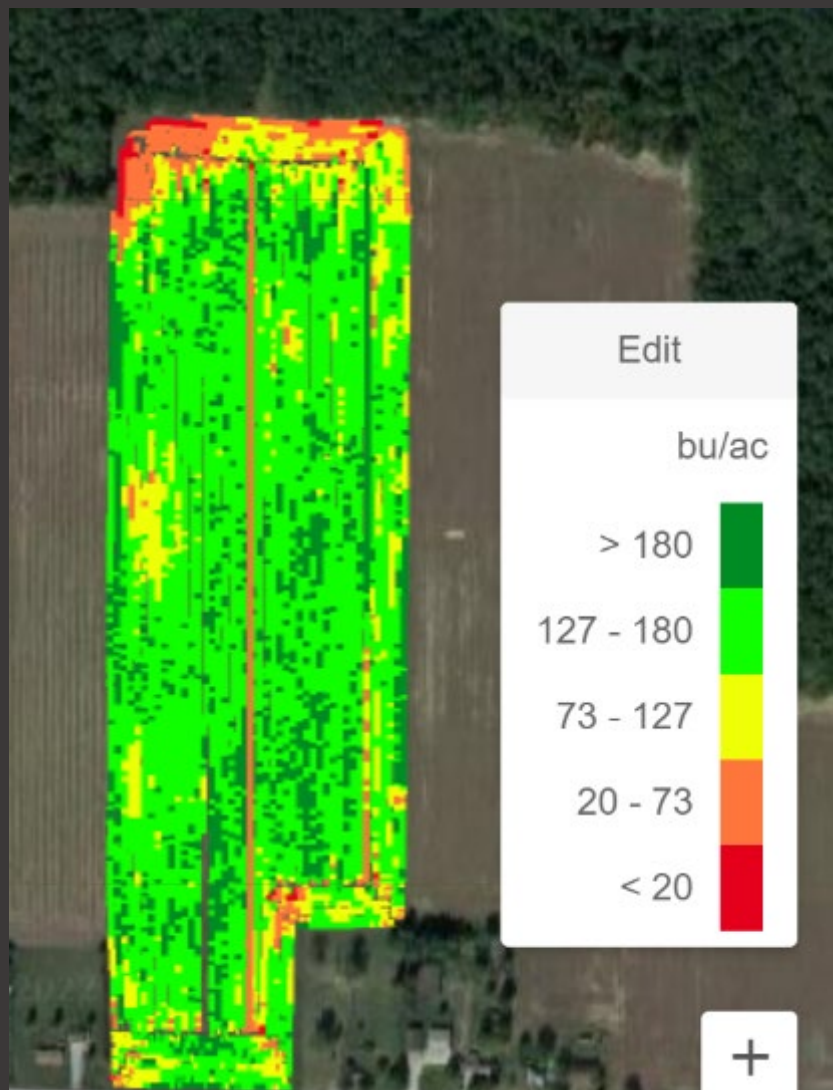


- What does yield tell us?
- Is yield the only objective?

You call that a
yield!

Yeah, but what's his ROI?

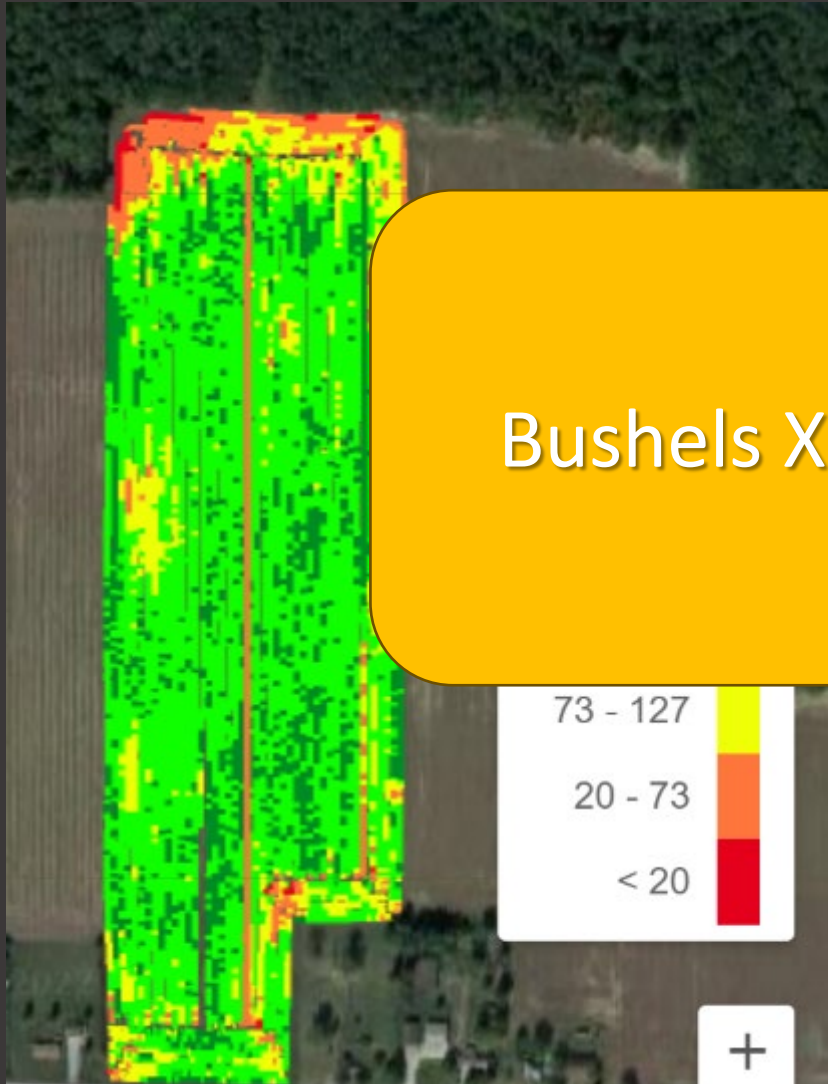




23 bushels

95 bushels

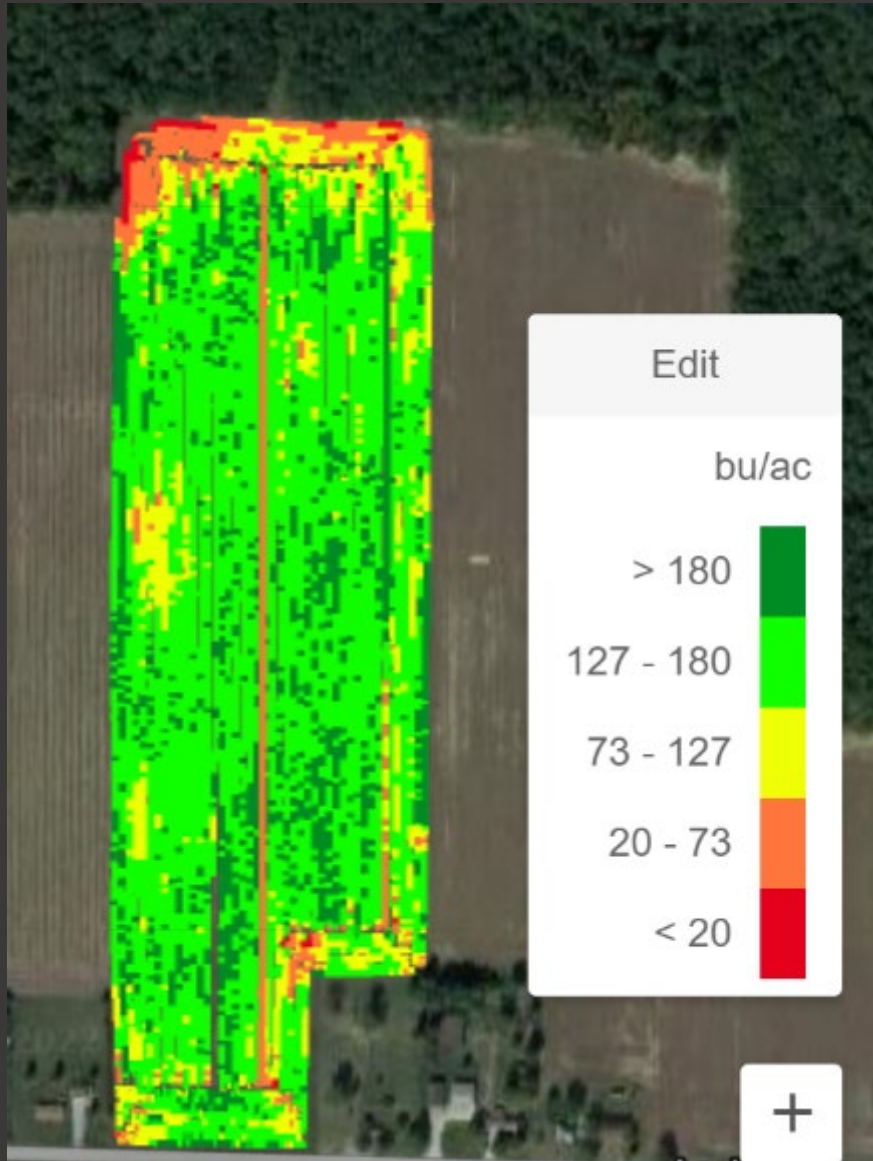
140 Bushels



23 bushels

Bushels X Price Per Bushel = Gross Income

140 Bushels



What is your
Break-Even Yield?



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What Is Your Expected Revenue?



PURDUE
UNIVERSITY

PURDUE EXTENSION

ID-166-W

2023 Purdue Crop Cost & Return Guide

March 2023 Estimates

Both product prices and input prices may have significantly changed since these estimates were prepared.

Table 1. Estimated per Acre Crop Budgets for Low, Average, and High Productivity Indiana Soils

	Crop Budgets for Three Yield Levels ¹														
	Low Productivity Soil					Average Productivity Soil					High Productivity Soil				
	Cont. Corn	Rot. Corn	Rot. Beans	Wheat	DC Beans	Cont. Corn	Rot. Corn	Rot. Beans	Wheat	DC Beans	Cont. Corn	Rot. Corn	Rot. Beans	Wheat	DC Beans
Expected yield per acre ²	143	152	46	65	32	173	184	56	79	39	203	216	66	93	46
Harvest price ³	\$5.25	\$5.25	\$12.40	\$6.40	\$12.40	\$5.25	\$5.25	\$12.40	\$6.40	\$12.40	\$5.25	\$5.25	\$12.40	\$6.40	\$12.40
Market revenue	\$751	\$798	\$570	\$416	\$397	\$908	\$966	\$694	\$506	\$484	\$1,066	\$1,134	\$818	\$595	\$570
Less variable costs ⁴															
Fertilizer ⁵	\$247	\$221	\$73	\$105	\$54	\$260	\$235	\$86	\$133	\$63	\$272	\$248	\$100	\$161	\$73
Seed ⁶	102	102	74	44	86	124	124	74	44	86	124	124	74	44	86
Pesticides ⁷	126	119	75	45	65	126	119	75	45	65	126	119	75	45	65
Dryer fuel ⁸	45	36	N/A	N/A	4	54	43	N/A	N/A	5	63	51	N/A	N/A	6
Machinery fuel @ \$3.61	27	27	16	16	12	27	27	16	16	12	27	27	16	16	12
Machinery repairs ⁹	34	34	29	29	24	34	34	29	29	24	34	34	29	29	24
Hauling ¹⁰	15	16	5	7	3	18	19	6	8	4	21	23	7	10	5
Interest ¹¹	34	32	17	15	15	37	34	18	16	16	37	35	19	18	16
Insurance/misc. ¹²	43	43	38	9	9	48	48	41	9	9	53	53	43	9	9
Total variable cost	\$673	\$630	\$327	\$270	\$272	\$728	\$683	\$345	\$300	\$284	\$757	\$714	\$363	\$332	\$296
Contribution margin ¹³ (Revenue - variable costs) per acre	\$78	\$168	\$243	\$146	\$125	\$180	\$283	\$349	\$206	\$200	\$309	\$420	\$455	\$263	\$274

¹Estimated yields and costs are for yields with average management for three different soils representing low, average, and high productivity. The high productivity soils represent soils capable of producing corn and soybeans with yields about 20% higher than average soils. Low productivity soils represent soils capable of producing corn and soybeans with yields about 20% lower than the average soils.

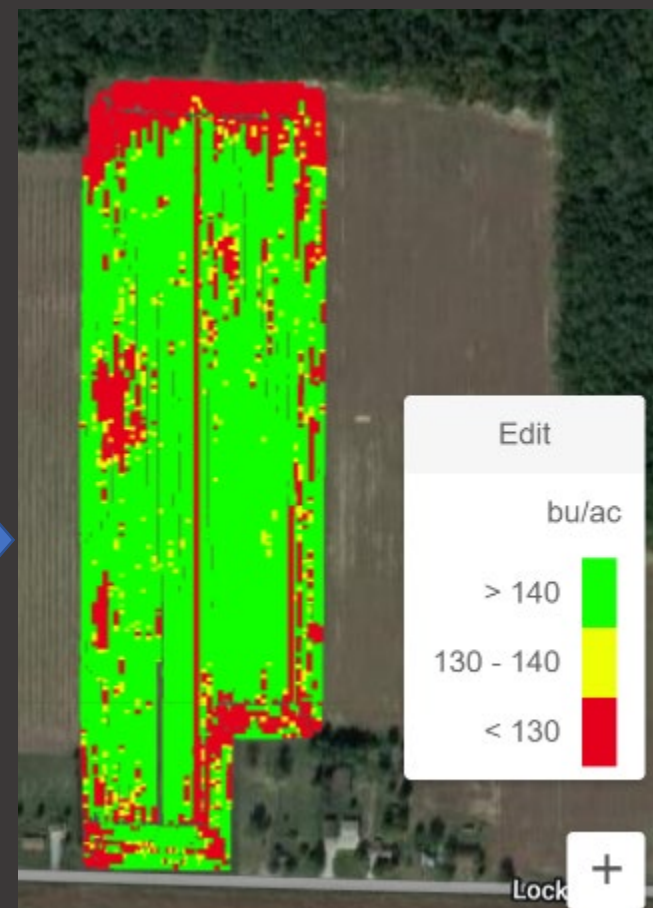
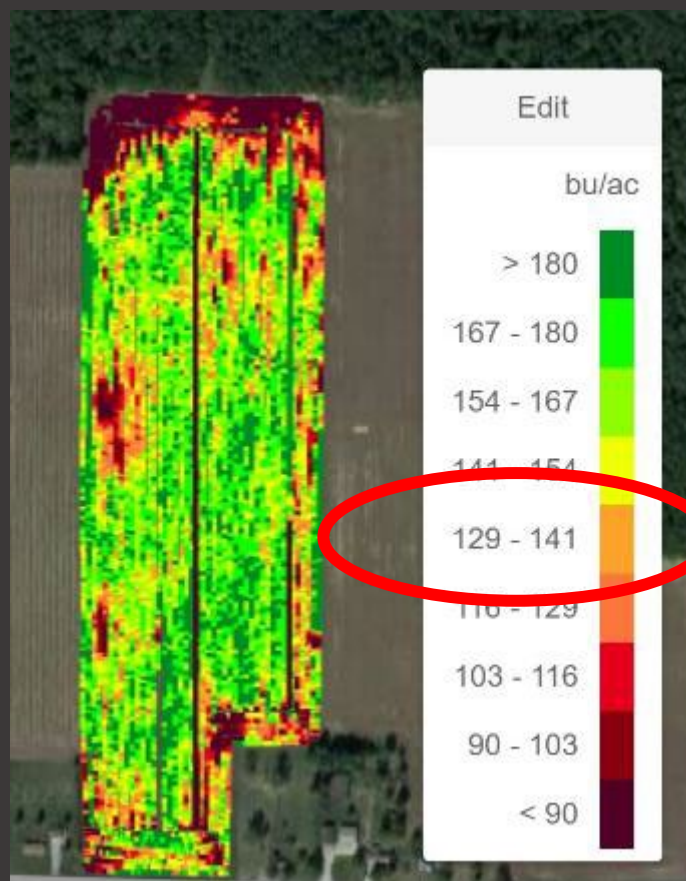
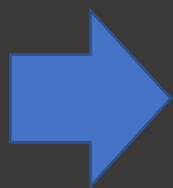
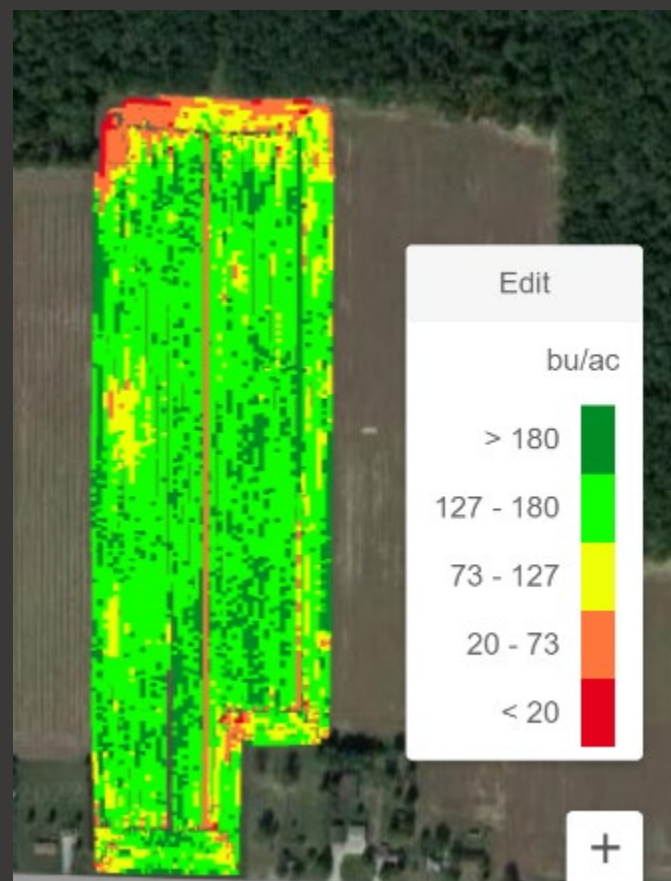
²These yields assume average weather conditions and timely plant/harvest dates, except soybean double-crop yield, which is based on a July 1 planting date. Rotation corn, rotation soybean, and wheat yields for average soils are based on the long-run trends in state average yields reported by the Indiana office of the National Agricultural Statistics Service. Continuous corn yields are 94% of rotation corn yields. Double-crop soybean yields are 70% of full-season soybean yields. Continuous corn yields assume a chisel plow tillage system. Double-crop soybean yields apply to central and southern Indiana.

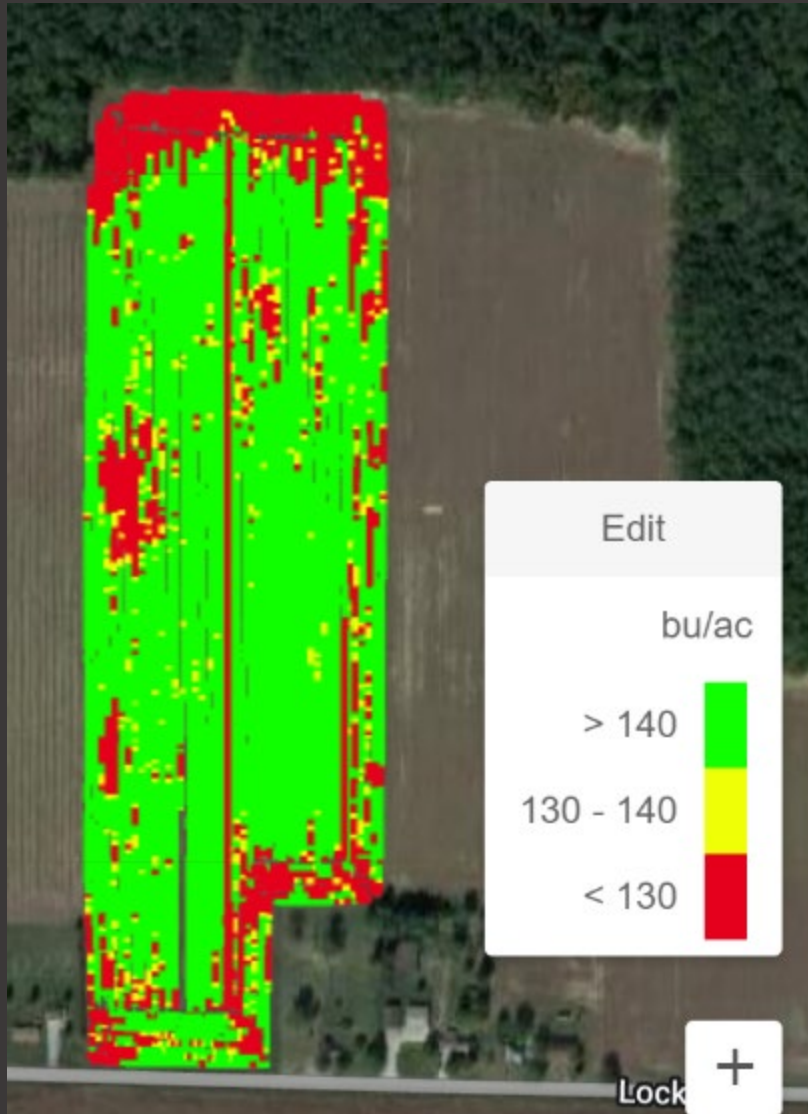
³Harvest corn price is December 2023 CME Group futures price less \$0.25 basis. Harvest soybean price is November 2023 CME Group futures price less \$0.35 basis. Harvest wheat price is July 2023 CME Group futures price less \$.35 basis. Harvest prices were based on opening prices on March 23, 2023. These prices will change.

Rotation Corn @\$5.25/bushel

- Low Productivity Soils (152 bu)
 - \$168
- Avg Productivity Soils (184 bu)
 - \$283
- High Productivity Soils (216 bu)
 - \$420

Using the Data





<130 bushels

- acres loses money

130-140 bushel

- Acres break even

>140 bushel

- Acres turn the total profit

Resource Concerns Lowering Profitability

- Hard pan (Compaction)
- Flooding/Ponding
- Erosion
- Trees/Field edges
- Drought
- Wind





Traditional Agronomic Solutions

- Improve Fertility
 - Soil Tests
- Improve Drainage
 - Swampbuster
- Clear more acres
 - Swampbuster
 - Highly Erodible Land
- Obtain more acres
 - Purchase
 - Lease





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How does USDA help Farmers improve the water quality leaving their farms?

Soil Health



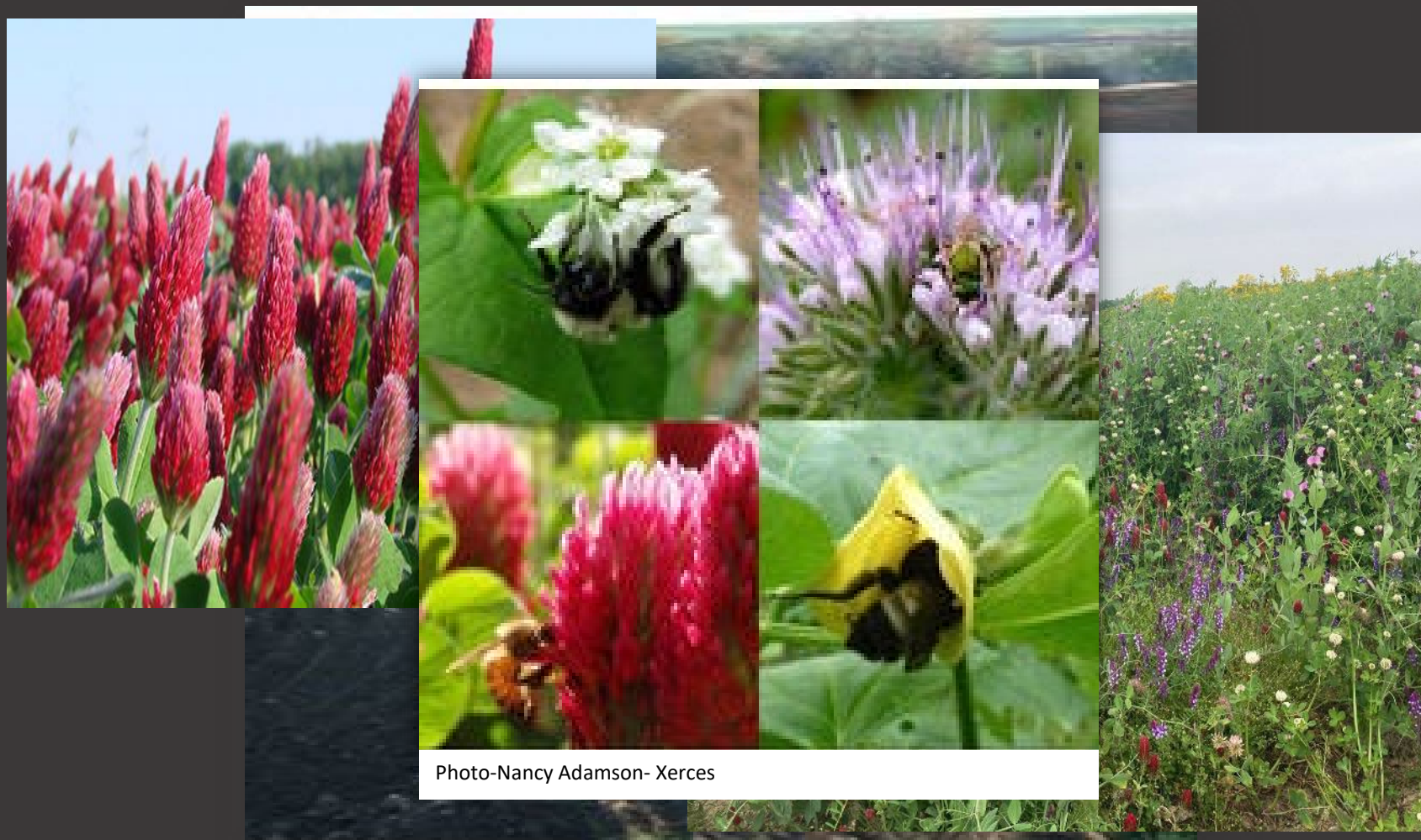


Soil Health Management Systems

Increasing Return on Investment

- Less Erosion
- Fewer passes with equipment
 - Reduced wear and tear
 - Reduced diesel usage
 - Reduced Compaction
- Nutrient Use Efficiency
- Better water infiltration - less ponding
- Better water retention - less drought

No-Till (329) and Cover Crops (340)



Permanent Cover

Increasing Return on Investment

- Flooding/Ponding, Erosion, Drought, Wind
- Types of Practices
 - Conservation Cover
 - Wildlife Habitat Planting
 - Critical Area Plantings (HEL)
 - Tree and Shrub / Wind break



Wetland Restoration (657)



Alternatives to New Land

Increasing Return on Investment

- Field Edge/Shade
- Types of Practices
 - Field Border
 - Edge Feathering



Alternatives to New Land

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Field Border (386) – Wildlife Habitat Planting (420)

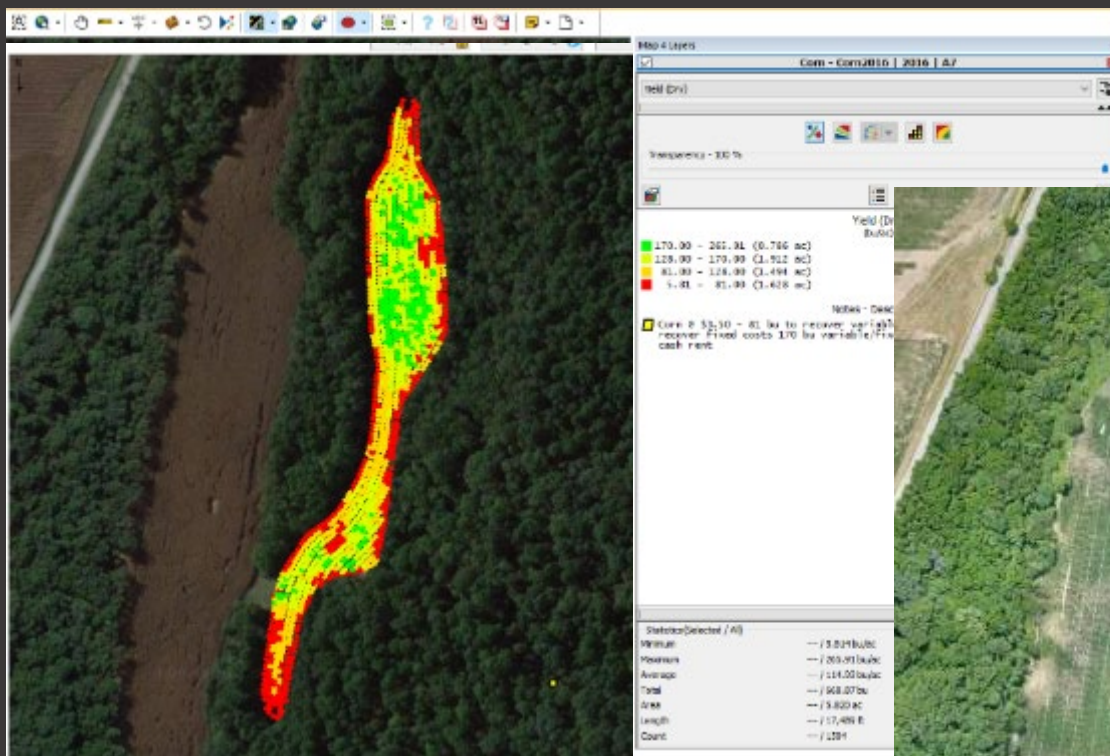


Southeastern Purdue Agricultural Center



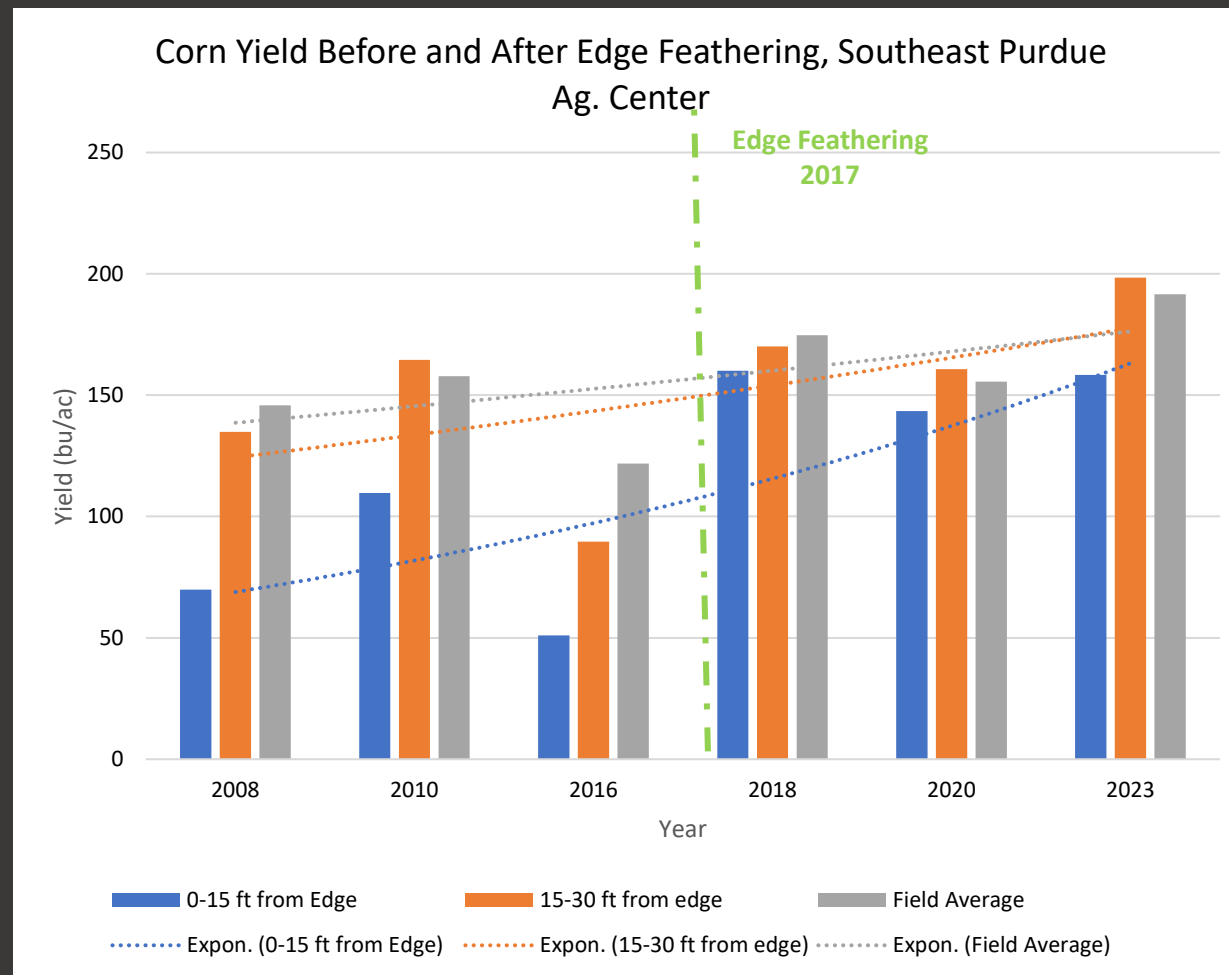
SEPAC Corn Yield and Edge Feathering

- Field A7 (pictures on right)
 - Long and narrow field, lots of edge
 - 5.6 acres
 - 2 ac of “interior” (>60 ft from edge)
 - 3.6 ac of “edge” (<60 ft from edge)
- Edge feathered western edge of field
 - Roughly 2 acres of trees removed
 - 1,600 ft of field edge



SEPAC Corn Yield before and after Edge Feathering

- X-axis = year
- Y-axis = corn yield (bu/ac)
- Yield near the edge is becoming more similar to field average after edge feathering
- Also, the field average increased following edge feathering
- *Caveat – this is just one field, not replicated across multiple fields.
 - The field is also long, narrow, and contains lots of edge.



May 2017





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May 2018



USDA is an equal opportunity provider, employer and lender.



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Feb 2019



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July 2020



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Alternatives to New Land

Increasing Return on Investment

- Field Edge/Shade
- Types of Practices
 - Field Border
 - Edge Feathering
 - Leaving Standing Grain



328 Conservation Crop Rotation Enhancement: Leaving Standing Grain Crops Unharvested For Wildlife



Farm Bill Programs

Conservation Technical Assistance (CTA)

Provides assistance in planning and implementing conservation systems that address natural resource issues. It helps people voluntarily conserve, improve and sustain natural resources.



Farm Bill Programs

Conservation Reserve Program (CRP)

Annual Rental
(\$/acre/Year)

- Indiana Average = \$257
- Indiana High = \$500
- Indiana Low = \$75

+ Practice Cost-Share

- Up to 50% of installation and seed costs.

+ Practice & Signup Incentives

- Continuous CRP
 - Sign-up Incentive=
 - 32.5% first annual rental
 - Practice Incentive=
 - 50% practice installation

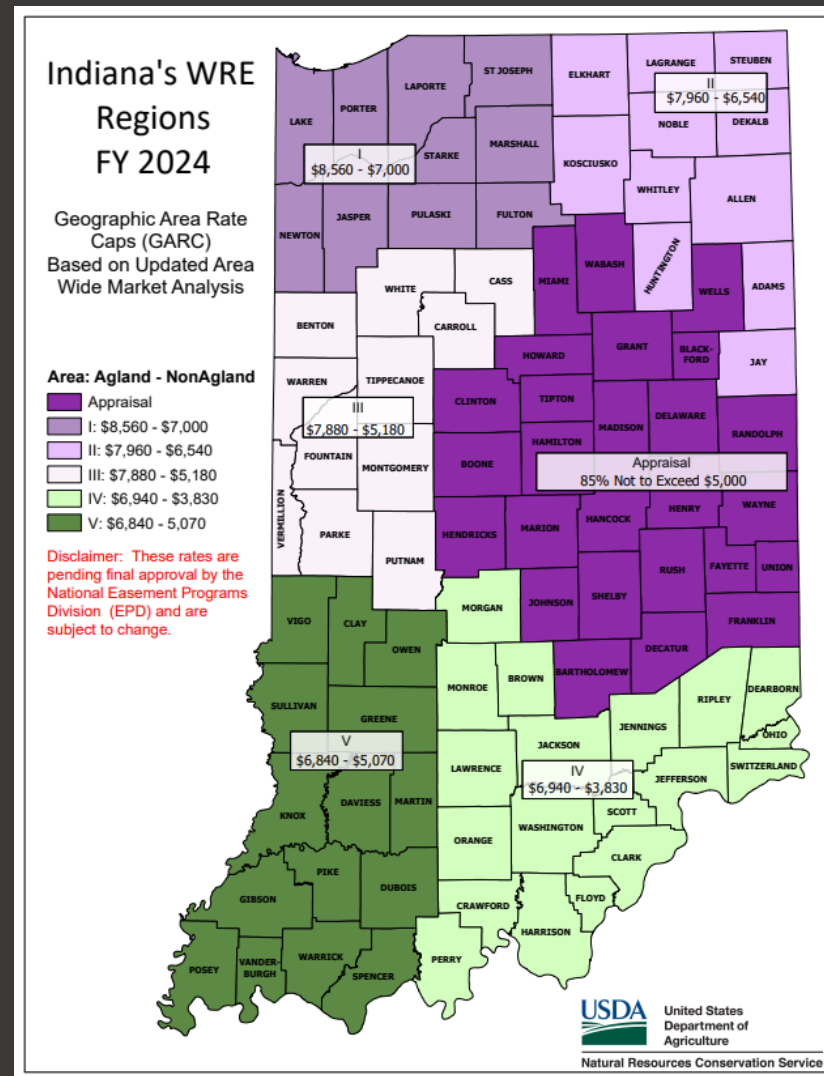


Farm Bill Programs

Agricultural Conservation Easement Program (ACEP)

Wetlands Reserve Easements (WRE) NRCS helps to restore, protect and enhance enrolled wetlands.

100% Restoration costs covered



Farm Bill Programs

Environmental Quality Incentives Program (EQIP)

- 340 Cover Crop- single species ~ \$60 /ac
- 340 Cover Crop- multi species ~ \$75 /ac
- 420 Wildlife Habitat Planting- Basic ~ \$570
- 420 Wildlife Habitat Planting- Pollinator ~\$800 -\$1100/ac
- 649 Structures for Wildlife- Edge Feathering ~\$925 /ac



Farm Bill Programs

Conservation Stewardship Program (CSP)

Annual Stewardship Payment + Enhancement Payment

- E340C Cover Crop
 - Use of multi-species cover crops to improve soil health and increase soil organic matter ~ \$15/ac
- E328D Conservation Crop Rotation
 - Leave standing grain crops unharvested to benefit wildlife ~\$6/ac
- E420A Wildlife Habitat Planting
 - Establishing Pollinator Habitat (in existing cover) ~\$500/ac
- E645C Upland Wildlife Habitat Management
 - Edge Feathering for Wildlife Cover ~\$900/ac

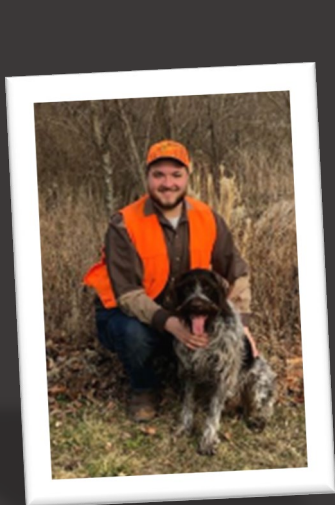


Alternative Income

DNR Indiana Department of Natural Resources

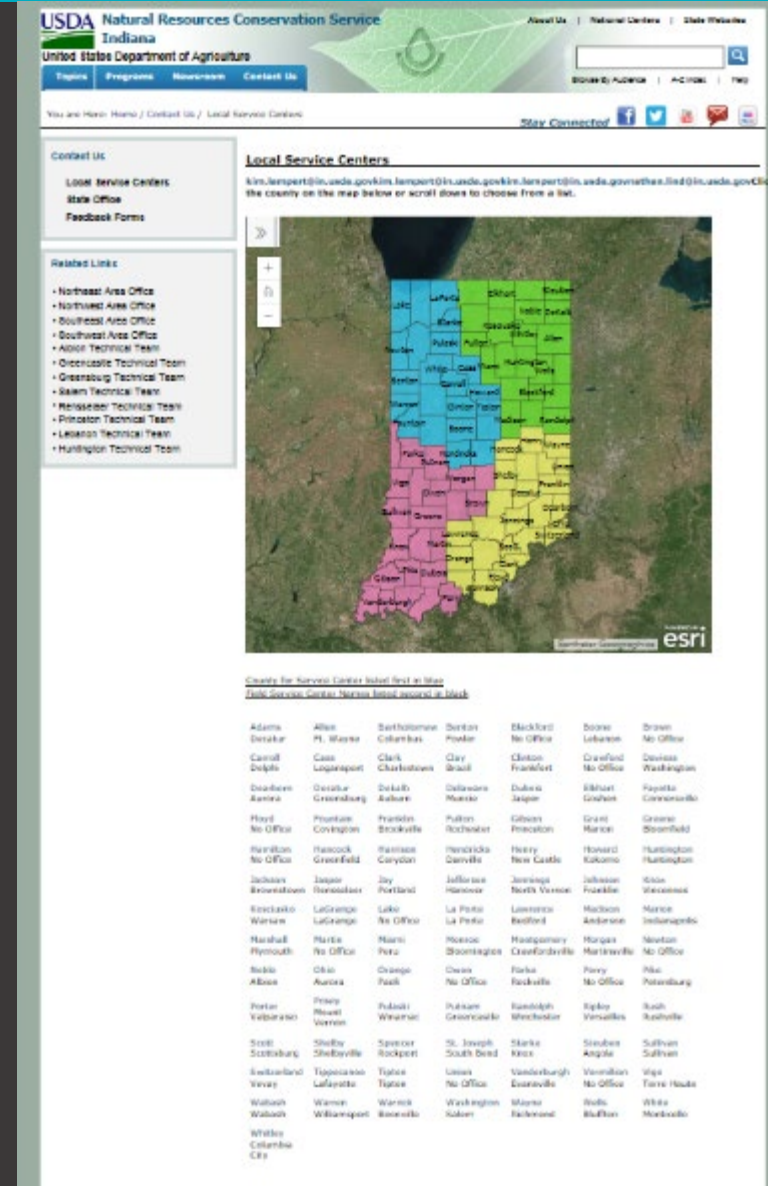
Indiana Private Lands Access Program

🏠 Fish & Wildlife > Hunting & Trapping > Indiana Private Lands Access Program



Sign Me Up!

Contact Us



WRP

Together NRCS and private landowners maintain, improve and protect the health of the land for the economic and environmental well being of our country.





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Thank you

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