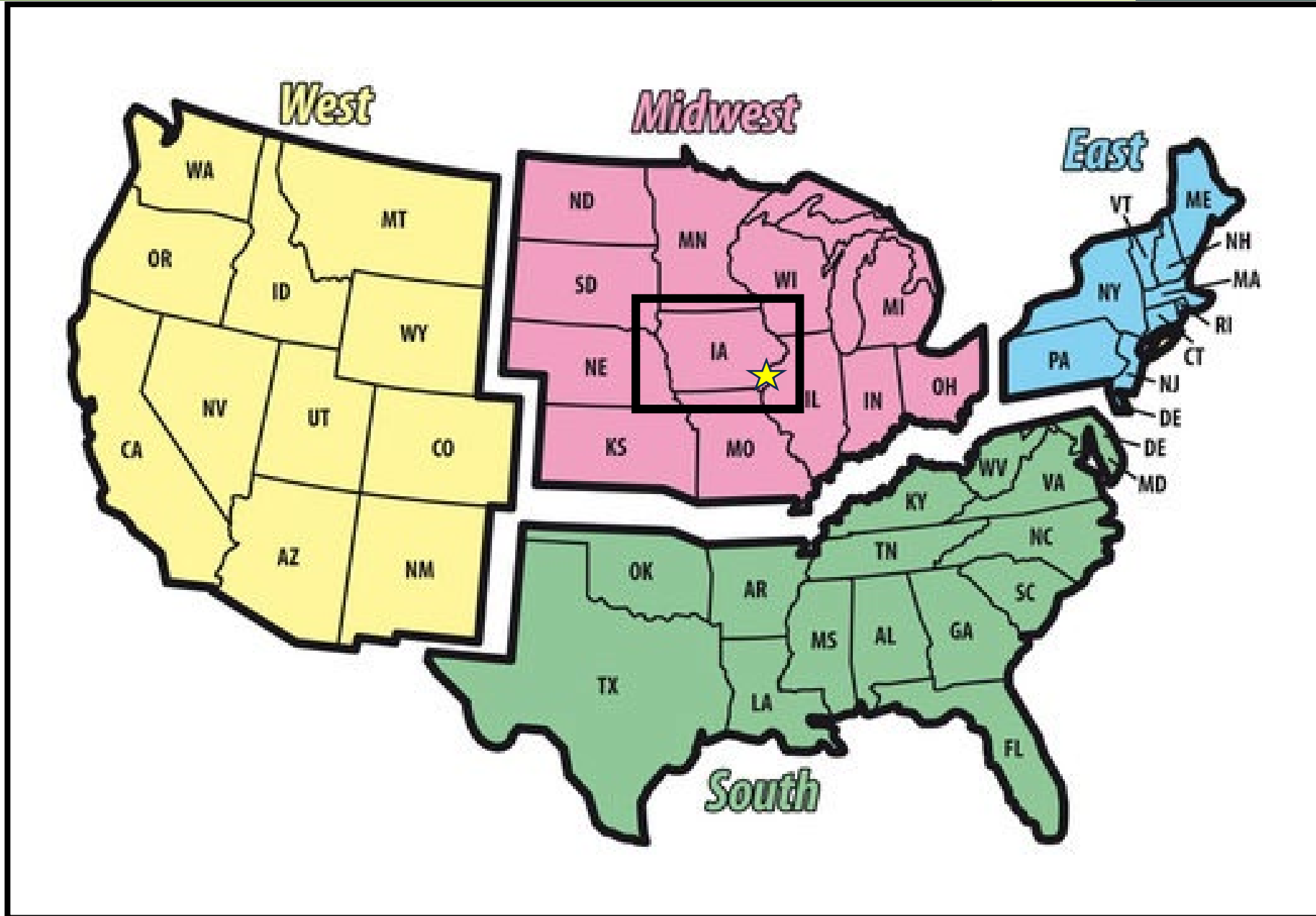




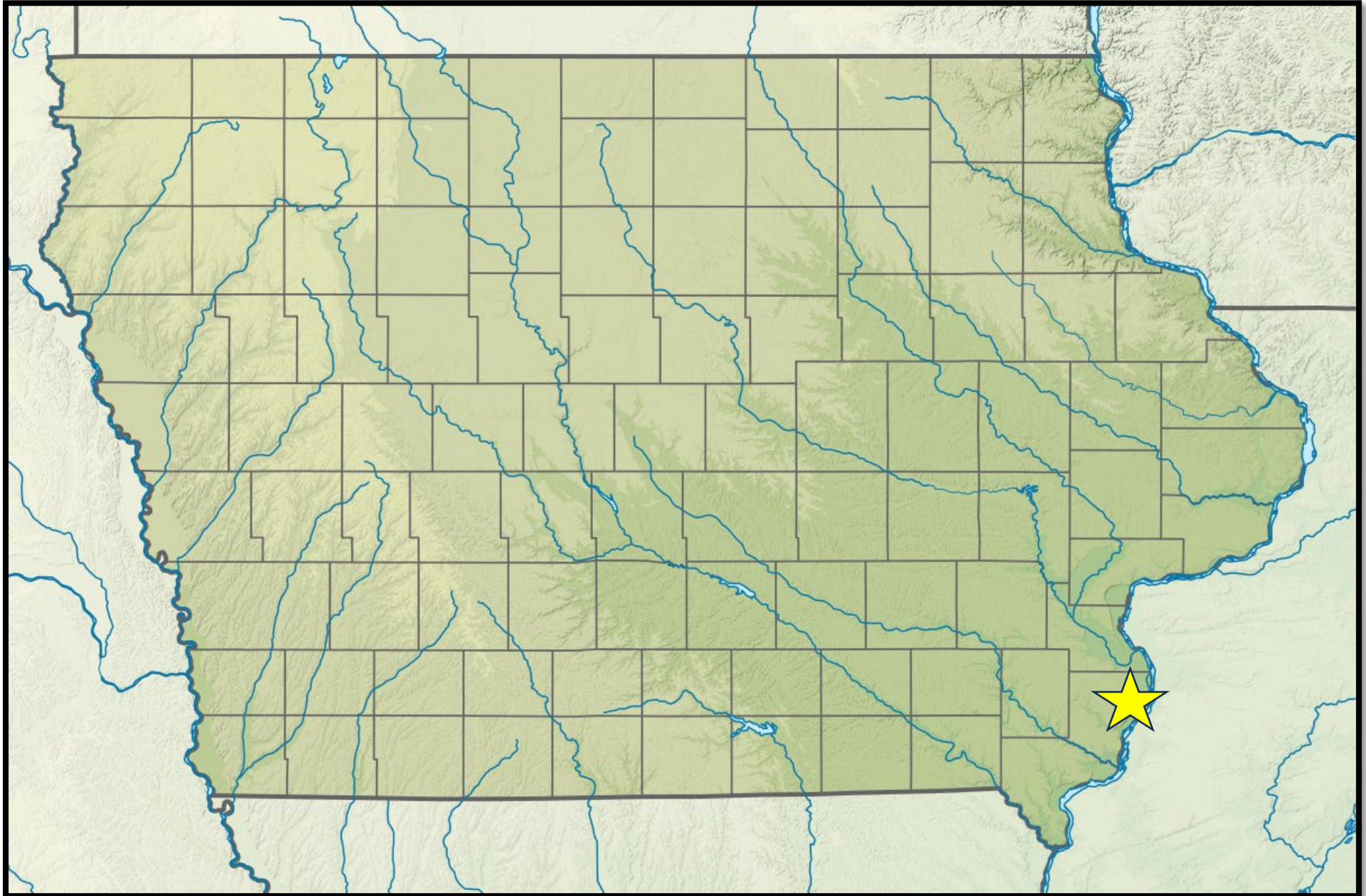
# 2024 U.S. Corn and Ethanol Conference

June 26<sup>th</sup>, 2024 - Tokyo, Japan

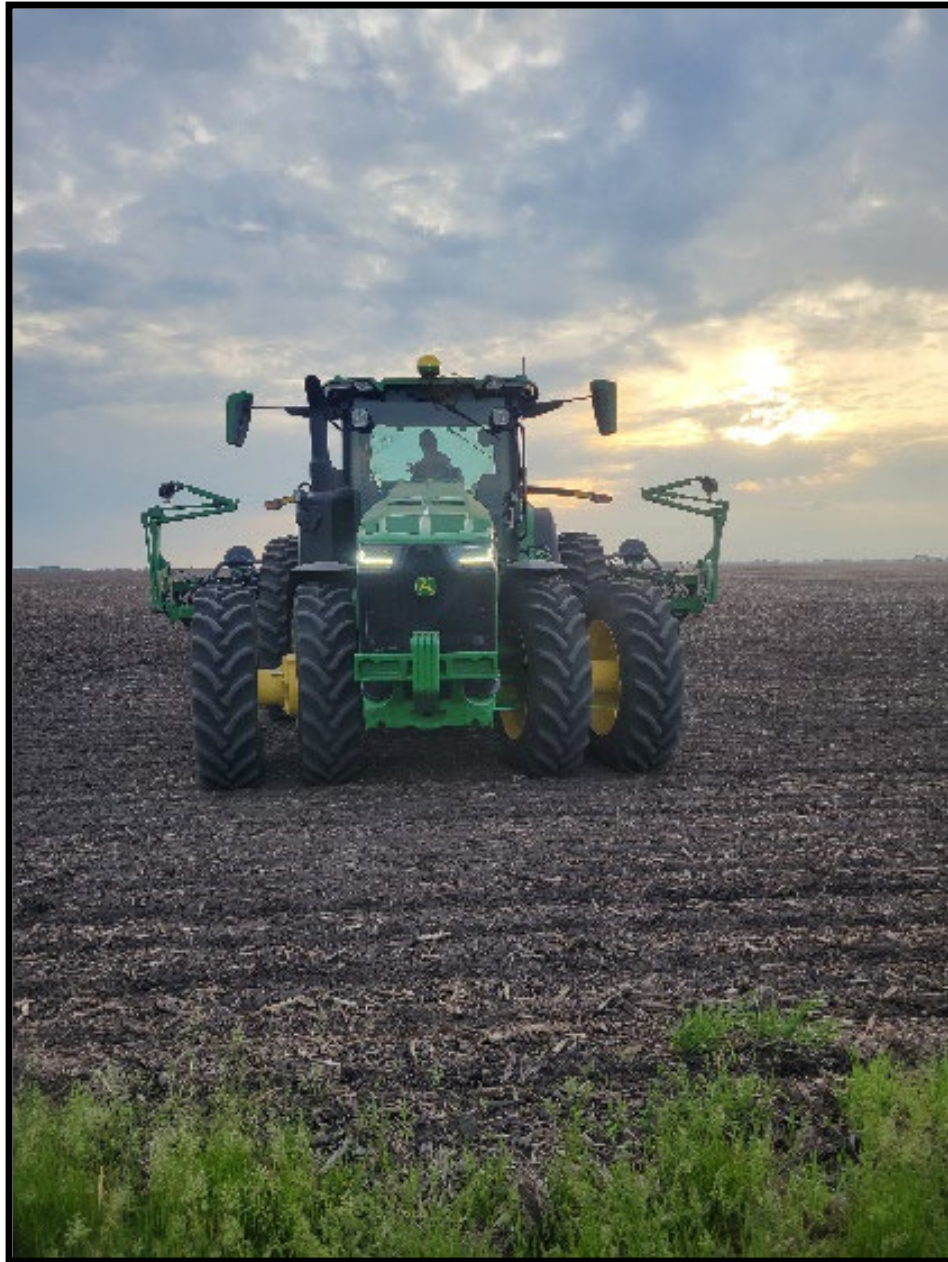
Dan Keitzer - Mediapolis, Iowa, US















## What We Raise...

- Corn: 1,300 acres = 526 hectares
- Soybeans: 1,300 acres = 526 hectares
- Seed Corn: 200 acres = 81 hectares
- Finish 3000 head of pigs per year
- Have a small sheep operation

# Current Corn Crop Condition and Progress

## USDA Crop Progress Report for Week Ending June 2nd

	June 10th	2019-2023 Average				
<b>Corn Planted</b>	98%	95%				
<b>Corn Emerged</b>	91%	84%				
<b>Corn Condition</b>	<b>Excellent</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>	<b>Very Poor</b>	
June 10 <sup>th</sup>	16	58	21	4	1	
Last Year	10	51	31	6	2	

# Corn: More Sustainably

Since 1980



IRRIGATION WATER USE PER BUSHEL DECREASED BY

56%



ENERGY USE DECREASED BY

54%



GREENHOUSE GAS EMISSIONS DECREASED BY

48%



PER BUSHEL LAND USE DECREASED BY

44%



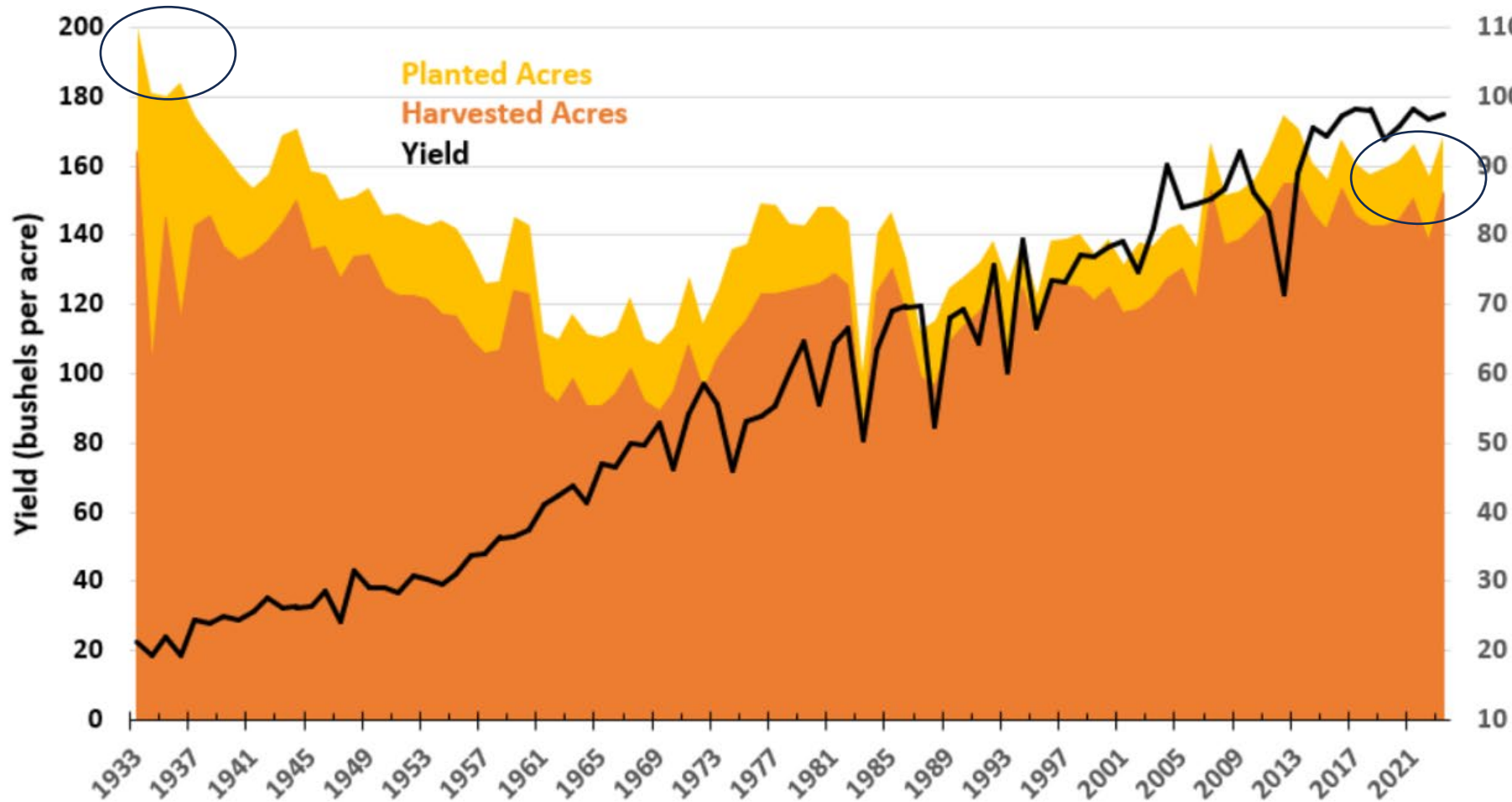
SOIL LOSS PER ACRE DECREASED

40%



# Historical Corn Look

Corn yields increased 1.8 bushels per acre per year on average driving a 600%+ increase in production on fewer planted acres



**+1.8 Bu/Acre**  
Average annual  
increase in corn yield  
over the past century

### 1930s Average

**24.2 Yield**  
**102.2M Acres Planted**  
**82.0M Acres Harvested**  
**2.0B Bu Produced**

### 2010-22 Average

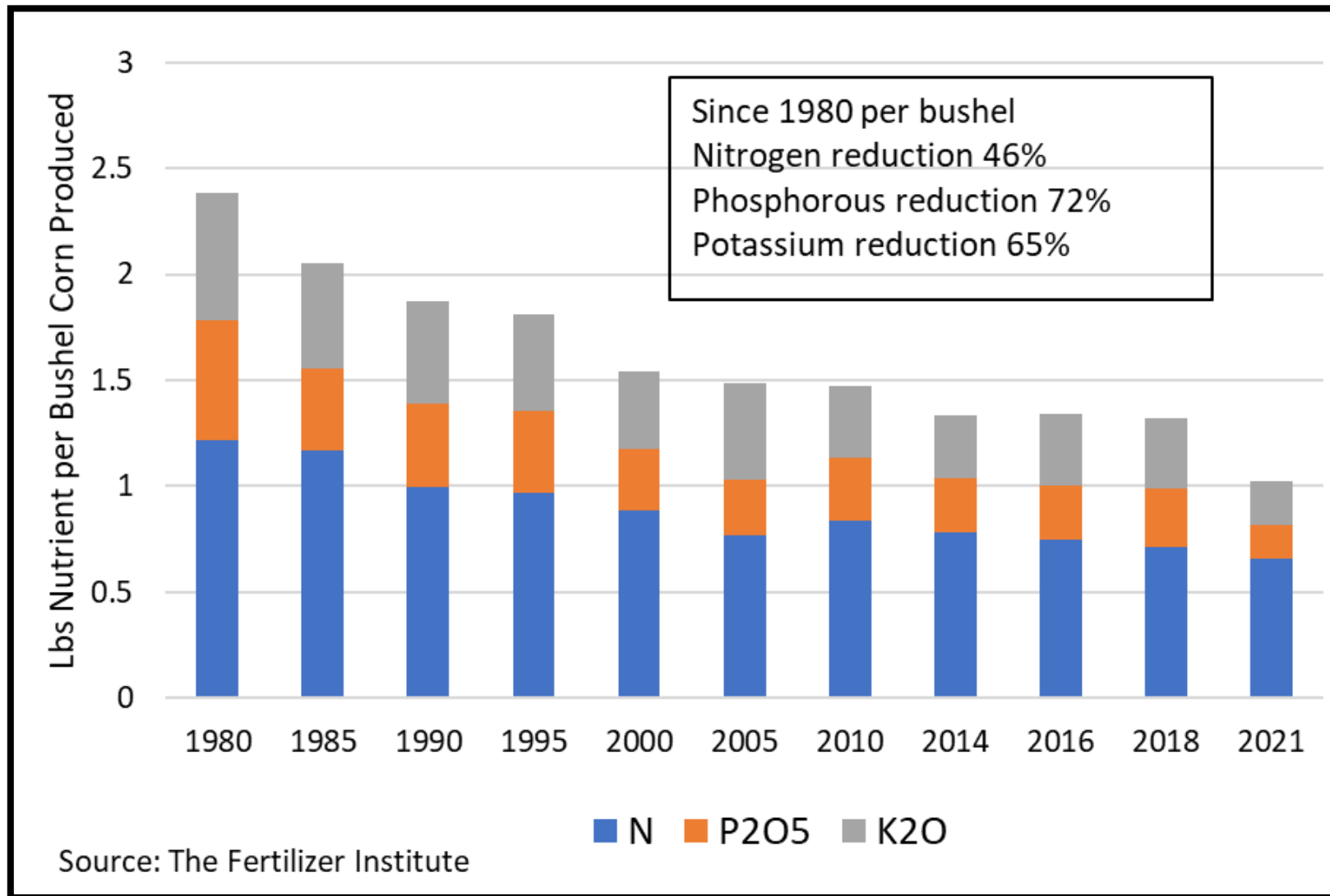
**164.3 Yield**  
**91.3M Acres Planted**  
**83.3M Acres Harvested**  
**13.7B Bu Produced**

# Yield History

<u>Year Increase</u>	<b>USDA Corn Yield</b>			<b>My Corn Yields</b>		
	<u>Bu./Acre</u>	<u>MT/Hectare</u>	<u>% Increase</u>	<u>Bu./Acre</u>	<u>MT/Hectare</u>	<u>%</u>
2000	137	9.2				
2005	148	10.0	8.0%			
2010	153	10.3	3.4%	142	9.5	
2015	168	11.3	9.8%	200	13.5	40.8%
2020	171	11.5	1.8%	201	13.5	0.0%
2021	177	11.9	3.5%	172	11.6	-14.4%
2022	173	11.6	-2.3%	241	16.2	40.1%
2023	177	11.9	2.3%	243	16.3	0.1%
<b>Total Increase</b>	<b>40</b>	<b>2.7</b>	<b>29.2%</b>	<b>101</b>	<b>6.8</b>	<b>71.1%</b>



# Nutrient Efficiency in Iowa Corn Production



## Sustainable and soil conserving farming practices we practice in our operation:

- Stabilized nitrogen application
- Grid sampling and prescription fertilizer applications
- No-till planting
- Cover crops
- Terracing for erosion control
- Grass waterways
- Manure applications
- Ponds

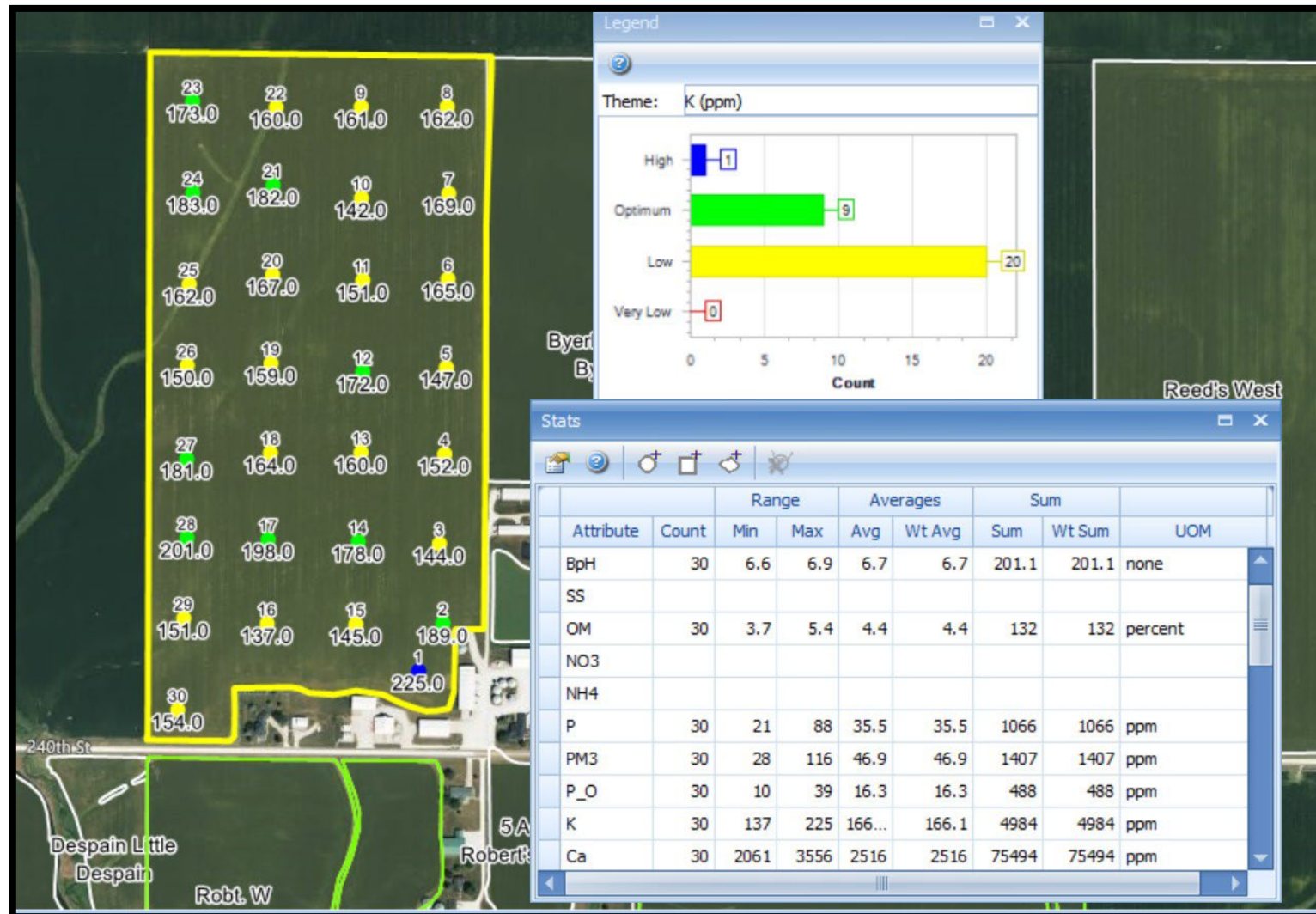


## Grid sampling on 1 hectare grids via GPS



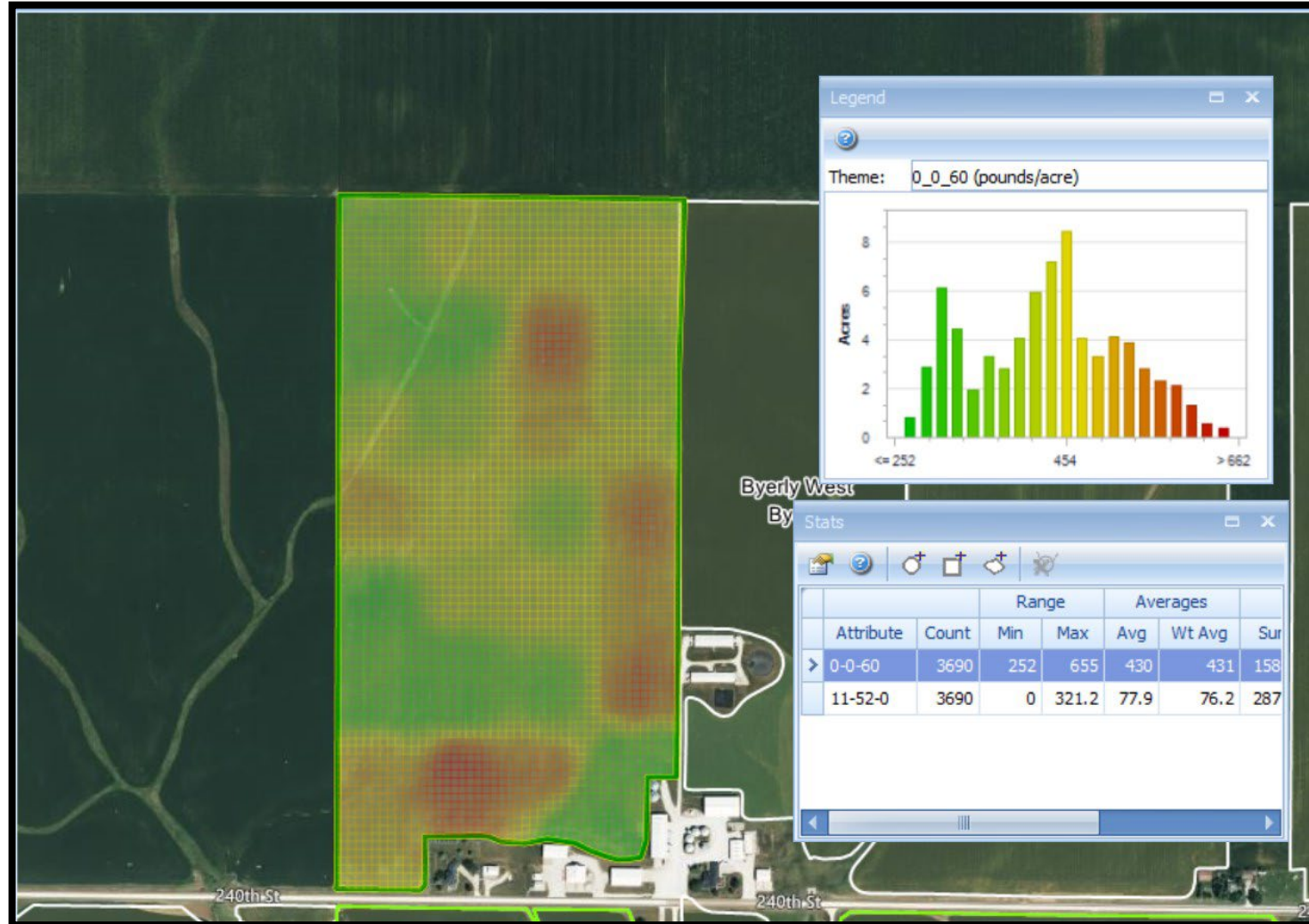


# Sampling points with potassium levels (K)





# Prescription for Fertilizer Application (Via GPS) Generated from Grid Sampling



## The view outside of my tractor as I plant no-till corn





## View of the inside of my planting tractor



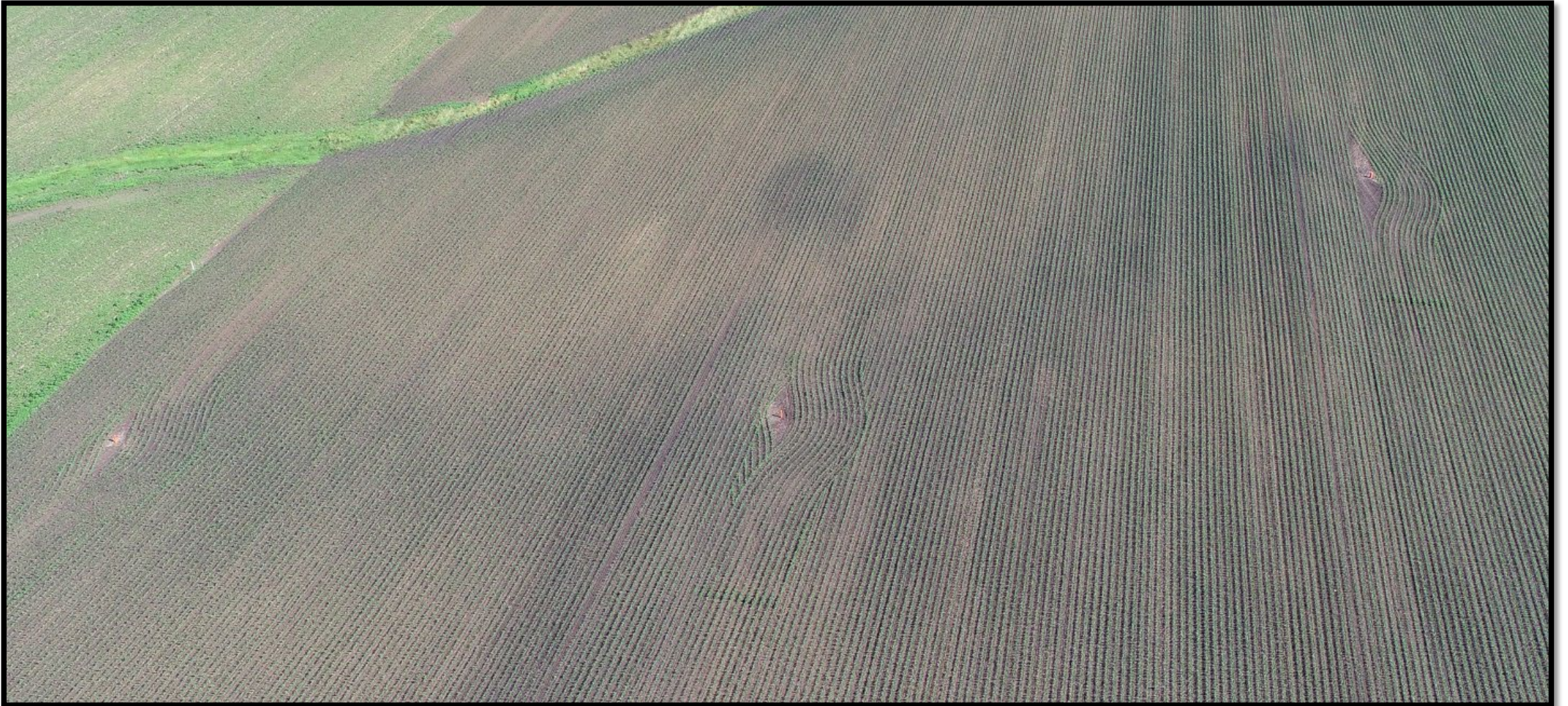


## Corn planted into no-till with a cover crop starting to emerge





## Three terraces for water control





## Statistics for Big River Resources 1<sup>st</sup> Quarter of 2024

- Ethanol Yield 2.91 gal/bu. (**11.02 l/bu.**)  
My Farm 707.0 gal/ac. (**1080 L/Ha.**)
- DDGS Yield 14.08 lbs/bu. (**6.39 kg/bu.**)  
My Farm 3421.0 lbs/ac. (**628.4 kg/Ha.**)
- Corn Oil Yield .82 lbs/bu. (**0.37 kg/bu.**)  
My Farm 200.0 lbs/bu. (**36.4 kg/Ha.**)





## Examples of conservation practices in use





## Typical Solar Farm – Attributes:

- Takes solar energy and converts it to electricity.
- Works great when the sun shines but no storage or production when it is dark.
- Transportable power via power lines
- Clean sustainable energy









# My Solar Farm

- Attributes:
  - Takes solar energy and converts it to carbohydrates which ferments into ethanol liquid fuel.
  - Produces energy when the sun shines but can store that energy when the sun does not shine.
  - Transportable power, the same as liquid fuels are transportable today.
  - Produces clean burning renewable power that can be utilized in most internal combustion engines both gasoline and diesel.
  - Clean sustainable power.



**Thank you!**