

Advanced Soil Health Training



Wrap Up Session
August 26, 2020

We Made it!





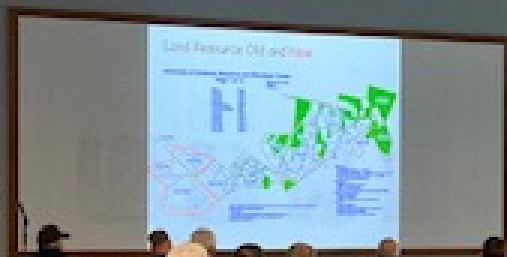
Why?

- Soil Quality
- Water Management
- Nutrient Cycling
- Root To

Belleville
Area
Rose
Society

EXIT

Kentucky Corn
Conference Room







Soil Health

- We have seen the examples on our journey, but what do others think of when they hear the term?



SOIL HEALTH

So What is Soil Health?

- Soil health describes the biological integrity of the **soil community**
- The **balance** among organisms within a soil and between soil organisms and their environment.



SOIL HEALTH

Why Soil Health?

- “Growing” attention of production aspects beyond seed genetics and purchased inputs
- Water Quality Issues
- Potential Regulation
- Maximizing returns from natural biologic processes in the soil



SOIL HEALTH

The Root of Modern Day Conservation Adoption Challenges?



Cover Crops



Impacts of Cover Crops

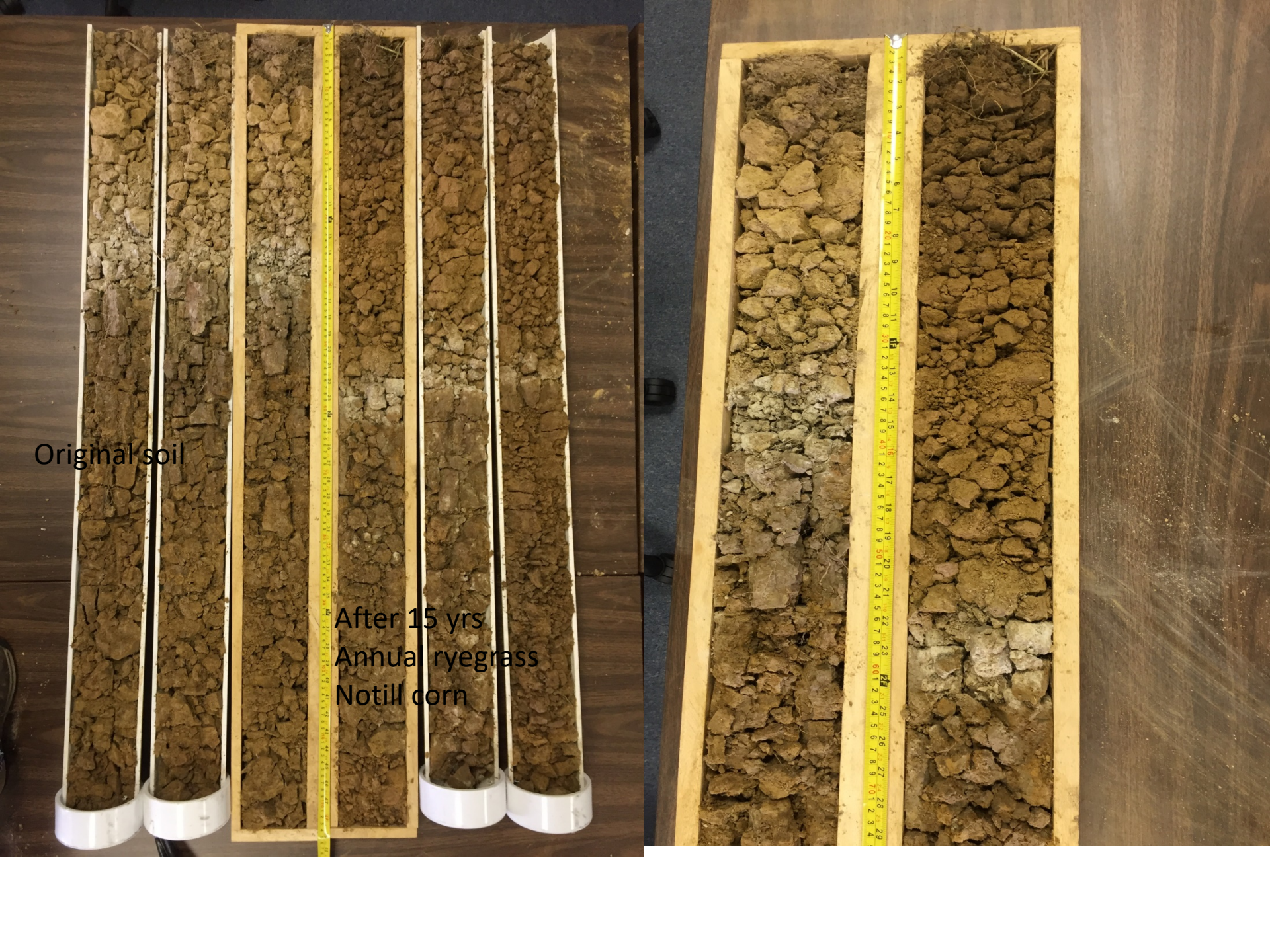


Improvements to Soil Health



Original soil

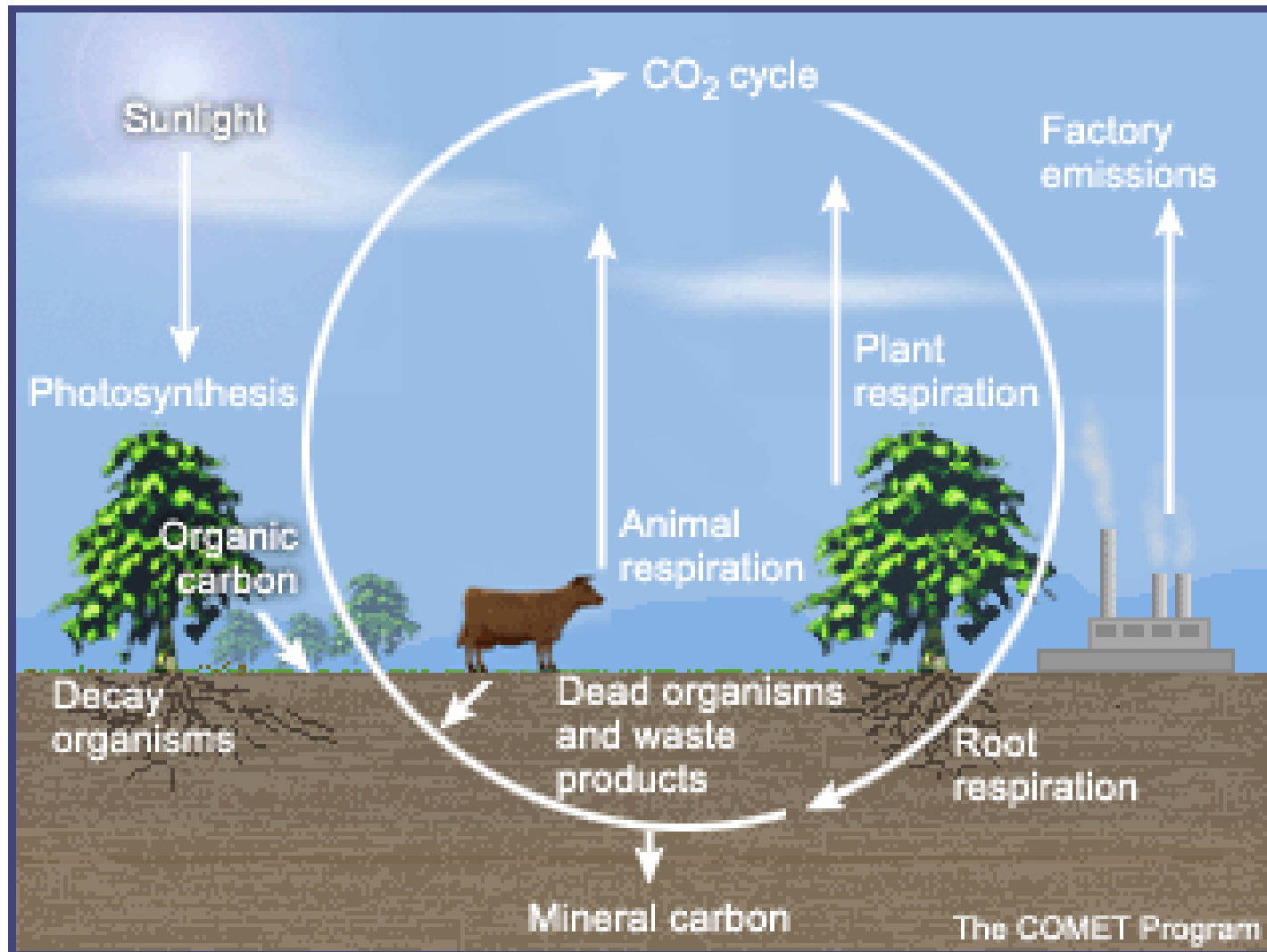
After 15 yrs
Annual ryegrass
No till corn



Nutrient Management



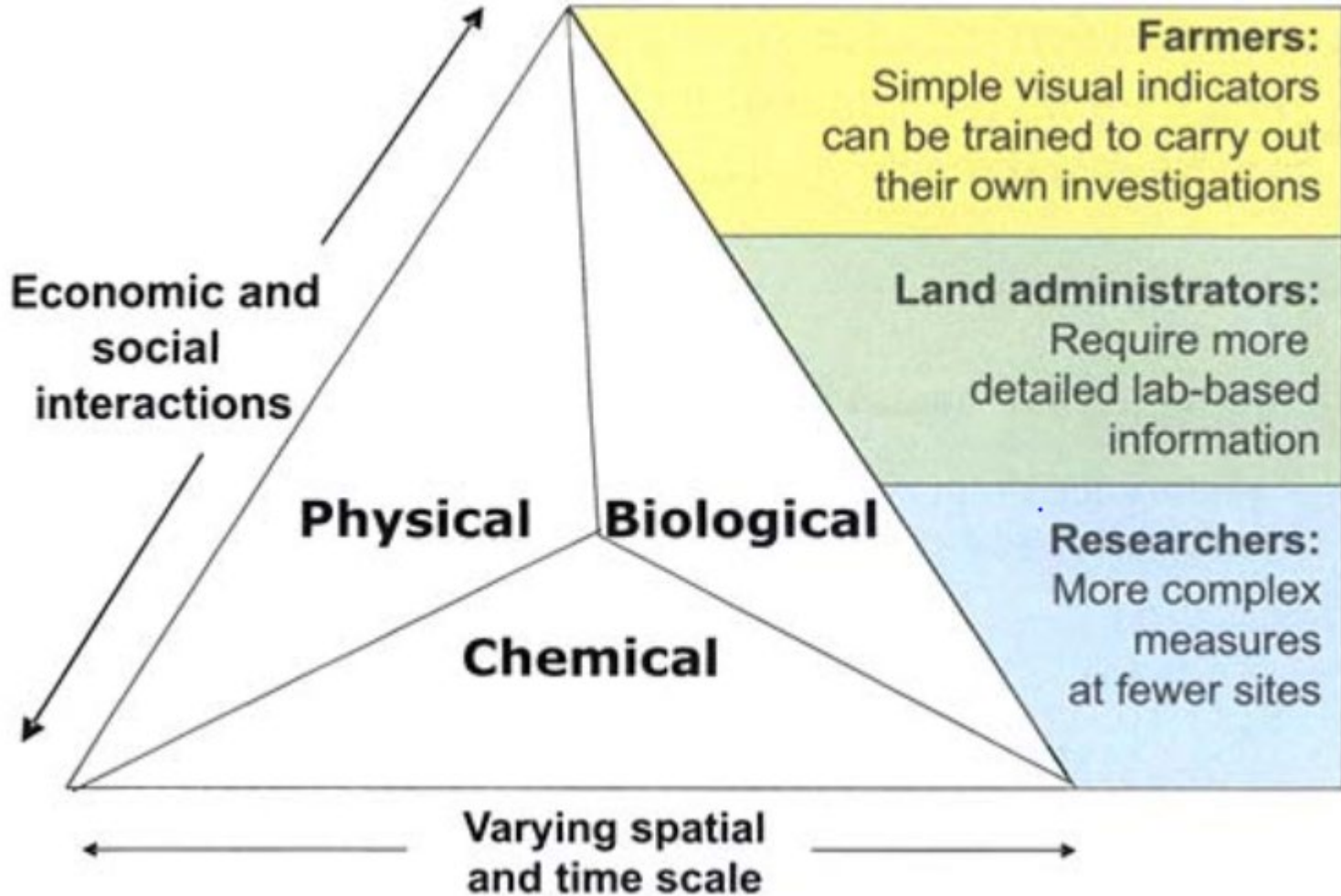
Carbon Cycle



Material	C:N Ratio
rye straw	82:1
wheat straw	80:1
oat straw	70:1
corn stover	57:1
rye cover crop (anthesis)	37:1
pea straw	29:1
rye cover crop (vegetative)	26:1
mature alfalfa hay	25:1
Ideal Microbial Diet	24:1
rotted barnyard manure	20:1
legume hay	17:1
beef manure	17:1
young alfalfa hay	13:1
hairy vetch cover crop	11:1
soil microbes (average)	8:1



Soil Health Triangle



Soil Health - Soil Quality - Soil Fertility

- **Soil quality** is a term that we use when we talk about the physical attributes of soil.
- **Soil Fertility** is a measurement of available nutrients.
- **Soil Health** refers to the **functionality** of the whole soil ecosystem



Integrated Livestock Management
Can add a 5th and Key Component

Cover Crops



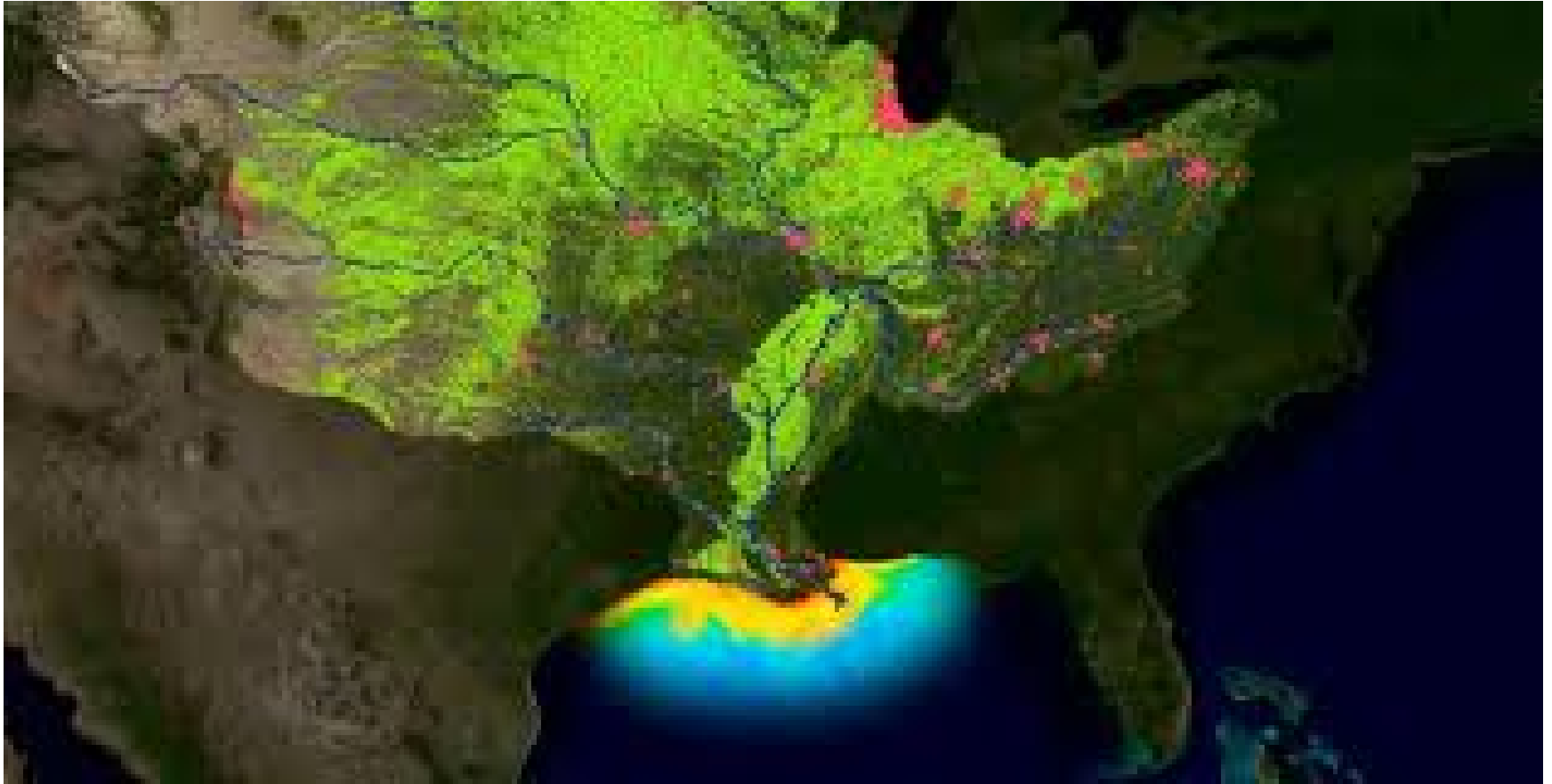
Cover Crops

- Manage the SYSTEM not the input
- Timing
 - Seeding, Termination
- Herbicide Selection
- Corn/Bean maturity strategies
- Equipment setup
- Nutrient Management (N)
- Manage the SYSTEM not the input

Improvements to Water Quality



Water Quality Impacts Beyond the Field



It's all about the Management (of the system, not just the inputs)





For the Privilege of Your Participation
in this training program!