AgrAbility Farmers and Ranchers need to work smarter!

Let the microbes in your soil take the work out of growing anything!

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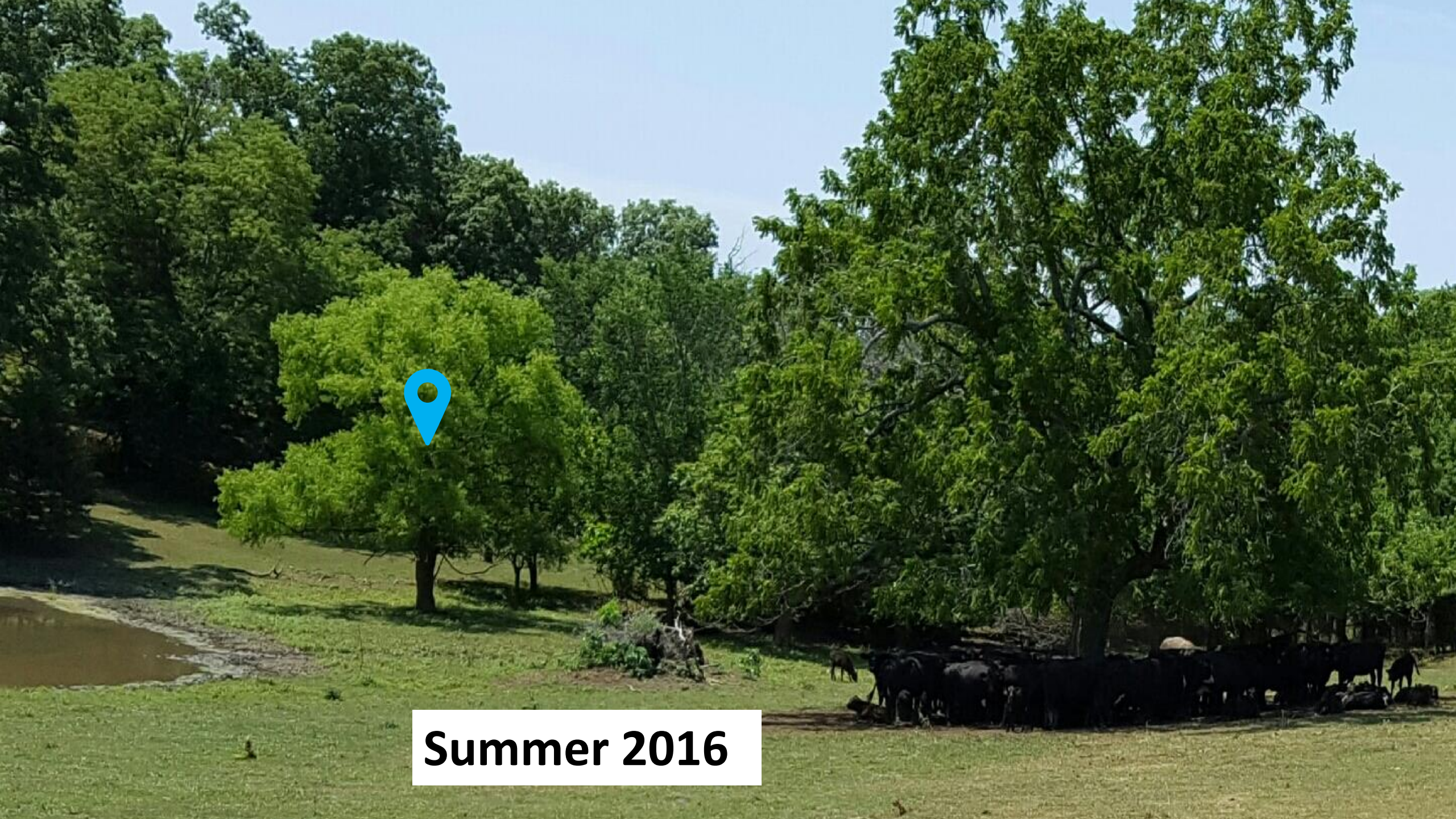

Summer 2016


Oct 2020


June 2021: 3-inch rain event


Sept 2022


Dec 2022

How do you know if your soil is biologically active?

DIG A HOLE-LOOK at your soil!!

Roots, Earthworms?

What do you see? **Chocolate cake texture!!**

Get a HANEY TEST

Active Carbon
Potentially Mineralizable Nitrogen
PLFA test
Total Nutrient Digestion Analysis TND

SOIL ENEMY

#1

Tillage is the number one enemy of soil!!

This lets ALL of the carbon out!

Churns up the mycorrhizal community-takes 6 weeks to recolonize

REMOVES OXYGEN

SMALLER PARTICLE SIZE-BAD

Glomalin- life span of 27 days

UnderstandingAg .com Regenerative practices 6-3-4 method

Context

Do not Disturb

Keep soil covered

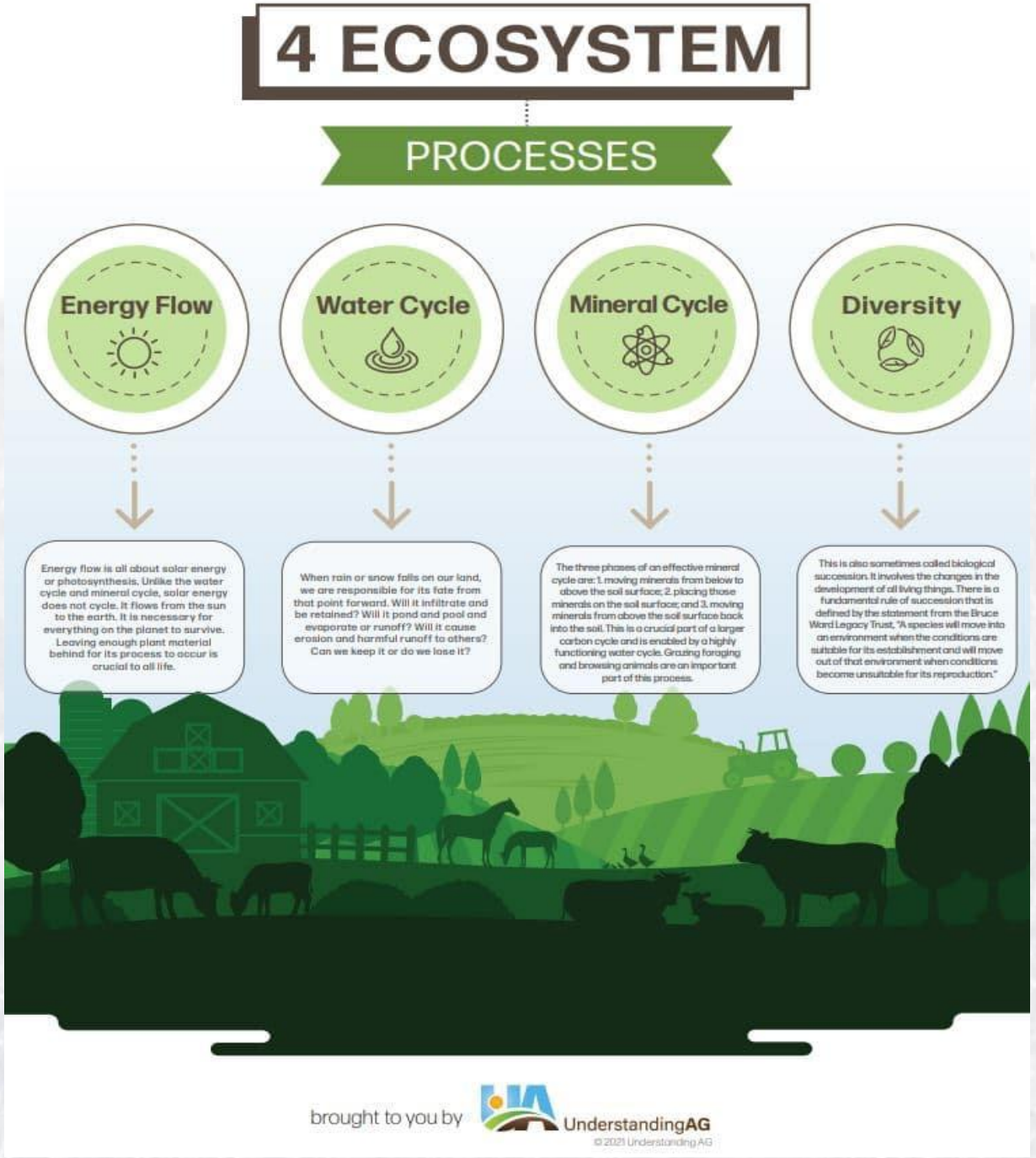
Diversity-plants, animals, microbes, insects

Living roots-all the time

Growing Health-soil, animals, people

- Compounding
- Disruption
- Diversity

- Energy Flow
- Water Cycle
- Mineral Cycle
- Diversity




SEQUESTOR CARBON
Grow Cover Crops

What can cover crops do?

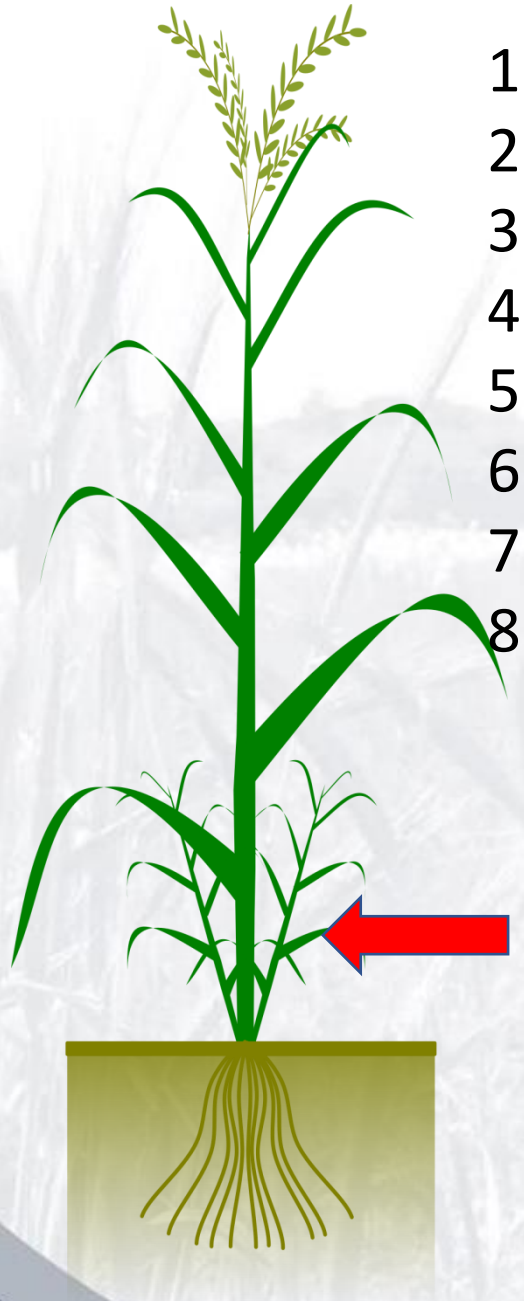
- Change patterns of growth=disruption not disturbance
- Brighten communication between plants
- Different leaf shapes collect more solar energy
- Encourage nutrient uptake
- Different size/height plants=different length roots
- Mining of different nutrients from different depths
- Improve diversity of predator insects and birds
- Bolster winter stockpile

Plant a Ratio 1:1:1 grass: forbs: legumes

Context: Purpose of CC, Goals, Season

- Maturing plants have more nutrients
- Animals eat the tender new growth
- Cows eat top one third of plant and move again


Learn to Identify Wild Forbs
Free nutrients, high protein!



1. Plant stops producing Glomalin
2. Roots Slough off- no photosynthesis
3. Parasites-sitting on stem waiting to be eaten
4. Mycorrhizae have no place to live
5. No shade canopy-high soil temp
6. Earthworms/soil microbiome need 55-65degrees
7. All plant communications cease
8. Reproduction/seed production is lower

Grazed/hay HERE!!YIKES!

Nature cannot DEFEND you when you have **no active biology**

FREE ECO-SERVICES

Plants will remain in vegetative growth

<<<<Grazed here

the plant may only slough off a few inches of root or root hairs

THANKS FOR FEEDING the roots and the biology in the soil

…thanks for the shade too

While you wait for soils to become biologically active (18 to 24 months)

use higher quality minerals for your livestock

such as Jerry Brunetti formulations

Planting Vegetables:

Raised Beds create no disturbance of soil

Grass is cover-crop outside the bed

- No weeds
- Tight Spacing,
- Use varieties that tolerate heat!

Use teff grass
in between rows
Or
Winter wheat in
springtime
-no heading
BUT
Triple rates!

Planting Row Crops:

Roll down cereal and plant into it- one pass

Strip planting will feed main crop or protect from wind

What can Regenerative Agricultural Practices do for us?

Create a better future for farms and ranches

Resilience is risk management for climate change

Lower the need for buy & apply products, cut costs of inputs

Fewer inputs require less physical labor

Less labor equals <u>less fatigue and stress</u>

RESILIENCE creates ABUNDANCE

Promoting the natural ways of nature encourages biological growth at all levels of life which in turn builds a balance in predator and prey ratios.

Nature was meant to care for herself;

From the subterranean creatures and microbes in the soil to the terrestrials that live above the soil universe!

We should stop messing it up!

Resources

- https://extension.usu.edu/behave/htm/learning-tools
- Train Livestock to Eat Weeds- http://www.livestockforlandscapes.com/cowmanagers.htm
- Grass Productivity, Andre Voisin, 1957 (Untoward Acceleration)
- Resilient Agriculture: Cultivating Food Systems for a Changing Climate by Laura Lengnick http://cultivatingresilience.com/
- The Living Soil Handbook by Jesse Frost
- https://extension.usu.edu/behave/htm/principles
- www.Understandingag.com 6-3-4 principles Ray Archuleta youtube videos, Gabe Brown & Shane New
- Managing Cover Crops Profitably- SARE handbook #9 (pages 62-72) Free Download
- Building Soils for Better Crops-SARE handbook #10, free download

Missouri AgrAbility

Special Thanks to the USDA NIFA: AgrAbility Grant #2018-41590-22323 & #2022-41590-38128

USDA NIFA

United States Department of Agriculture
National Institute of Food and Agriculture

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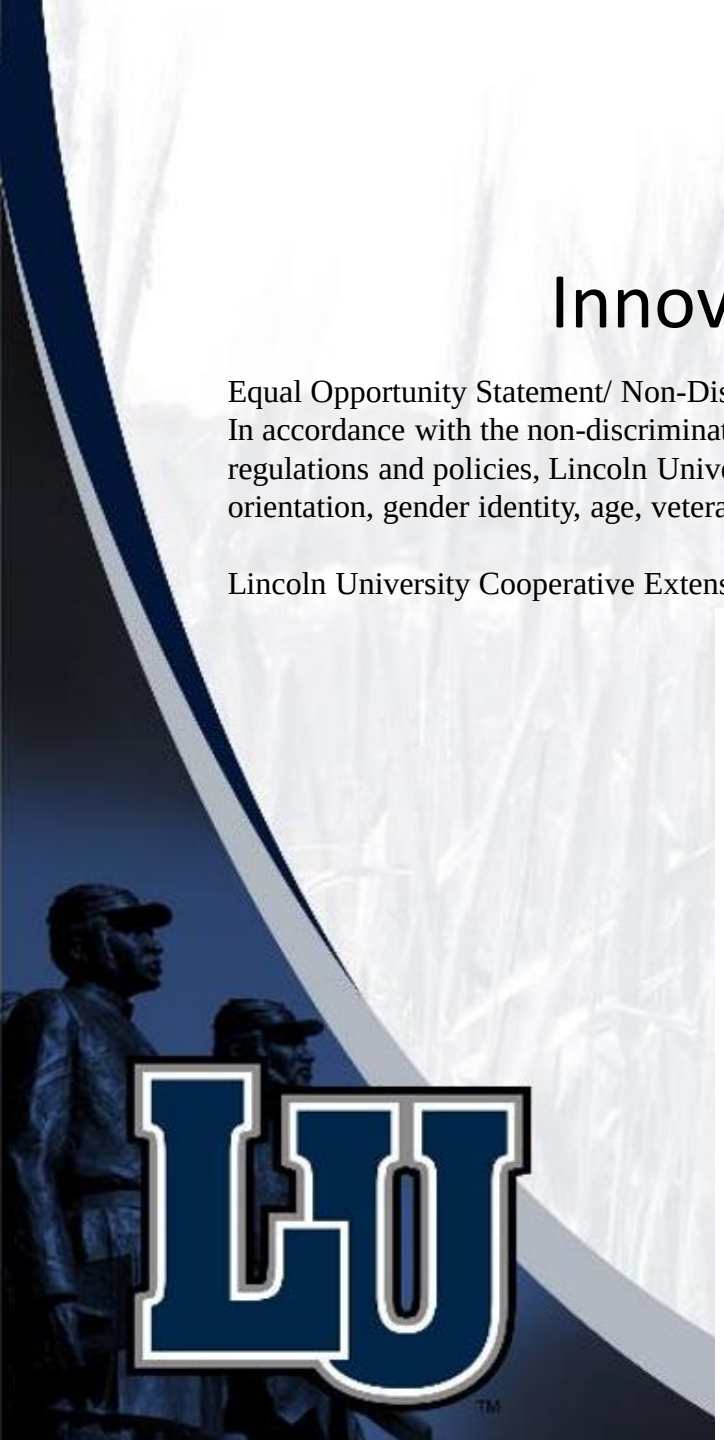

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We exist on earth at the amusement of microbes!

Please FEED THEM!

QUESTIONS??

Thanks for Listening!

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