

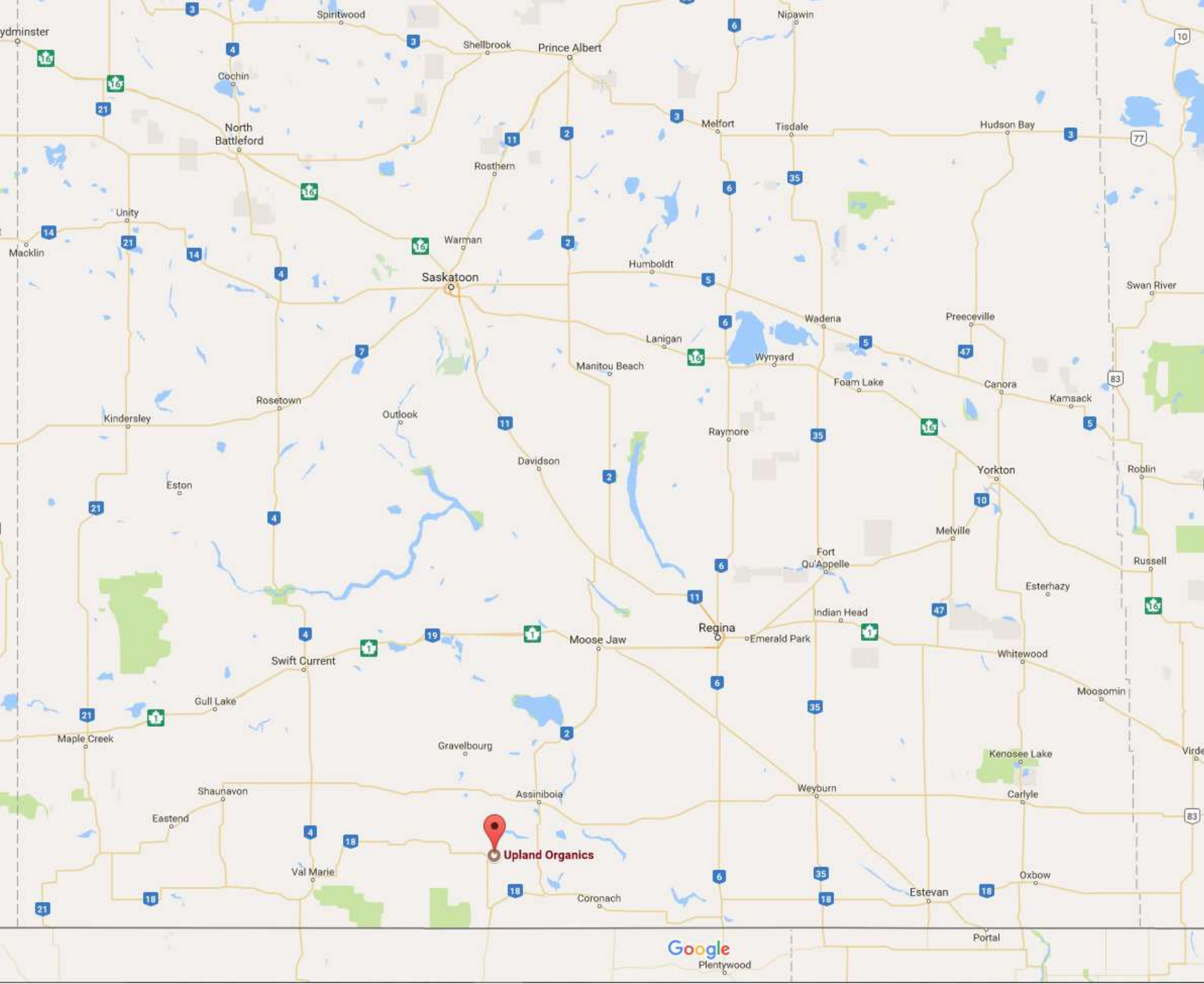


# WORKING TO IMPROVE SOIL HEALTH ON OUR FARM

SSCA CONFERENCE  
5 FEB 2019

CODY STRAZA & ALLISON SQUIRES  
UPLAND ORGANICS LTD





Location:  
Wood Mountain, SK

Soil Type:  
Loam/Sandy Loam

Average Yearly Rainfall:  
12-14 inches

# 5 PRINCIPLES OF SOIL HEALTH

1. MINIMIZE SOIL DISTURBANCE
2. KEEP THE SOIL COVERED
3. BIODIVERSITY
4. CONTINUOUS LIVING ROOT
5. LIVESTOCK INTEGRATION

# MINIMIZE SOIL DISTURBANCE

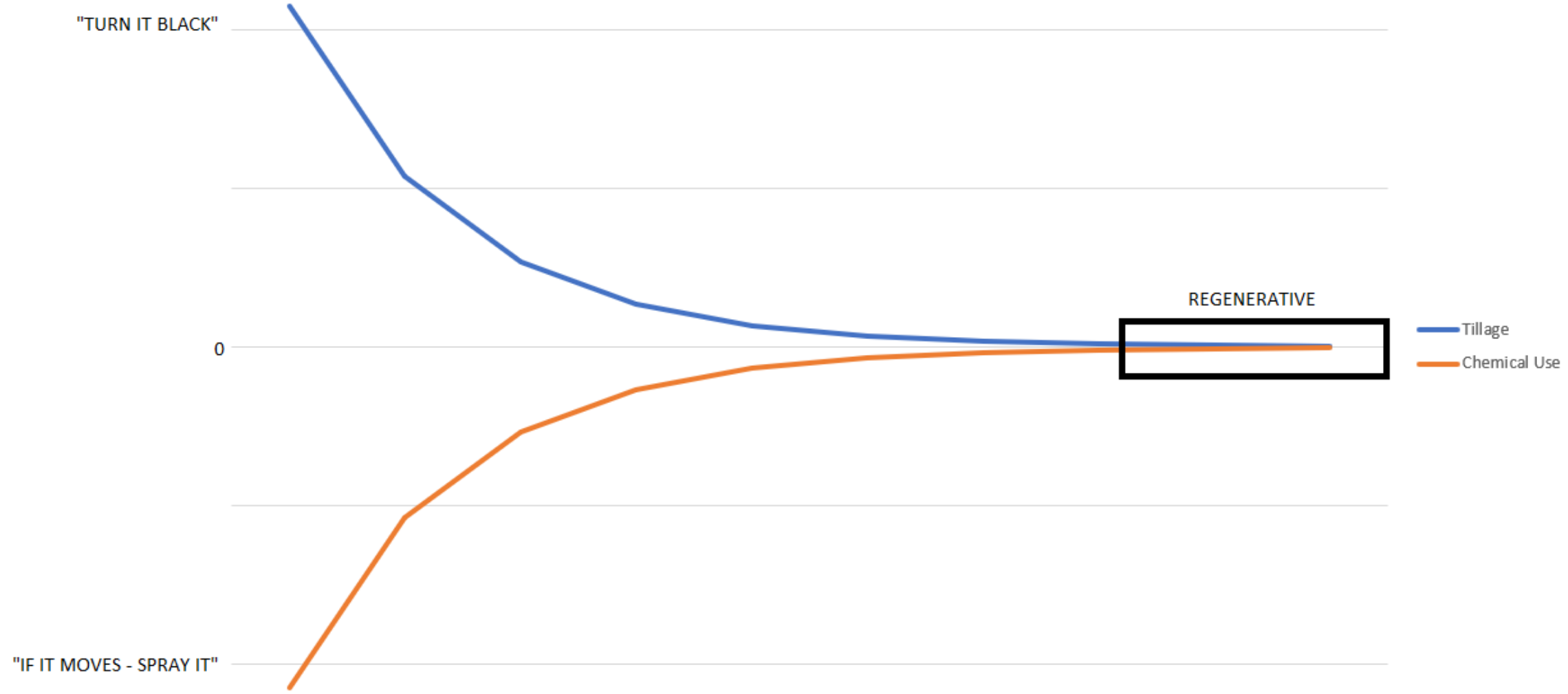
PHYSICAL

CHEMICAL

MINIMIZE SOIL DISTURBANCE

NOTILL

ORGANIC



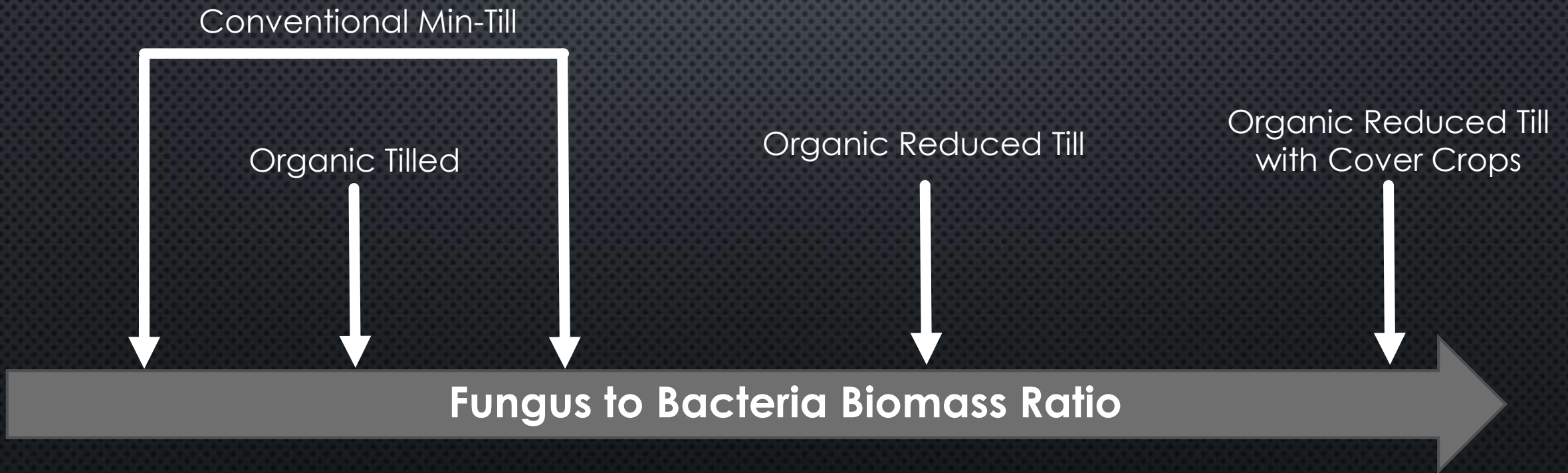
"TURN IT BLACK"

REGENERATIVE

0

Tillage  
Chemical Use

"IF IT MOVES - SPRAY IT"



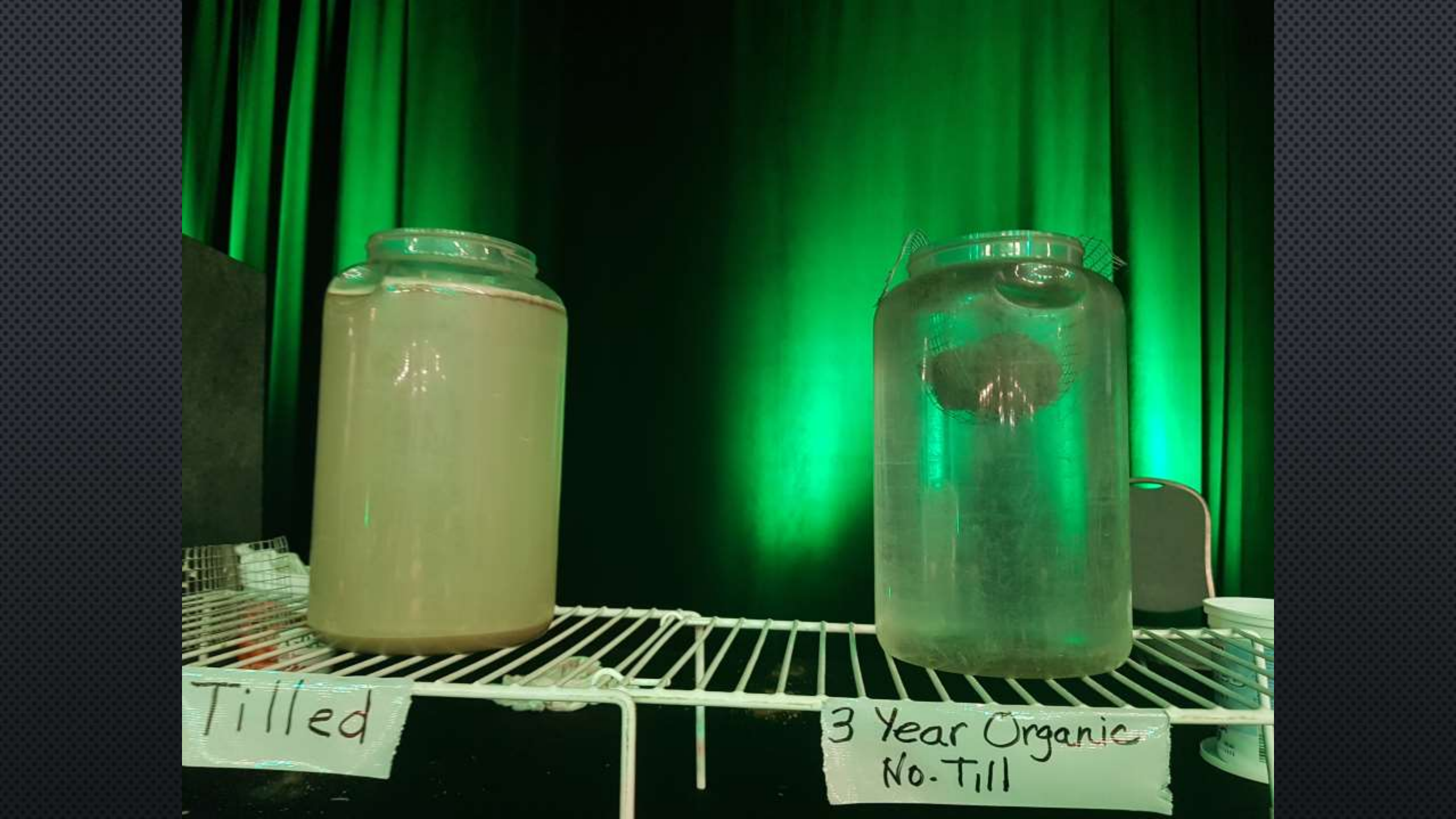


# BEFORE AND AFTER TILLAGE

Crop: Buckwheat

- Field was grazed and then tilled
- After Tillage
  - Beneficial fungi **decreased by 41%**
  - Bad fungi **increased by 94%**





Tilled

3 Year Organic  
No-Till

MINIMIZE SOIL DISTURBANCE

REDUCE THE INTENSITY  
AND FREQUENCY

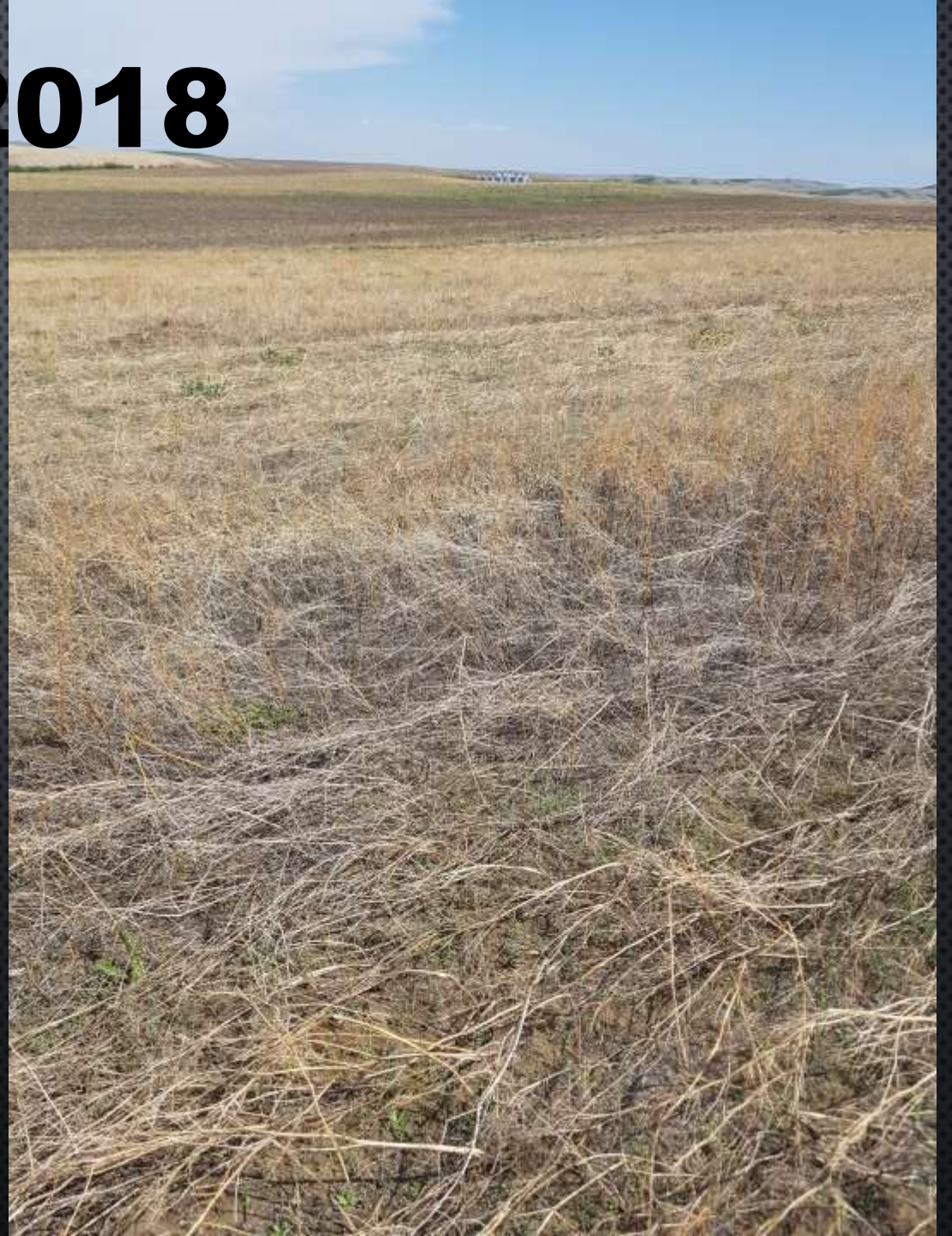
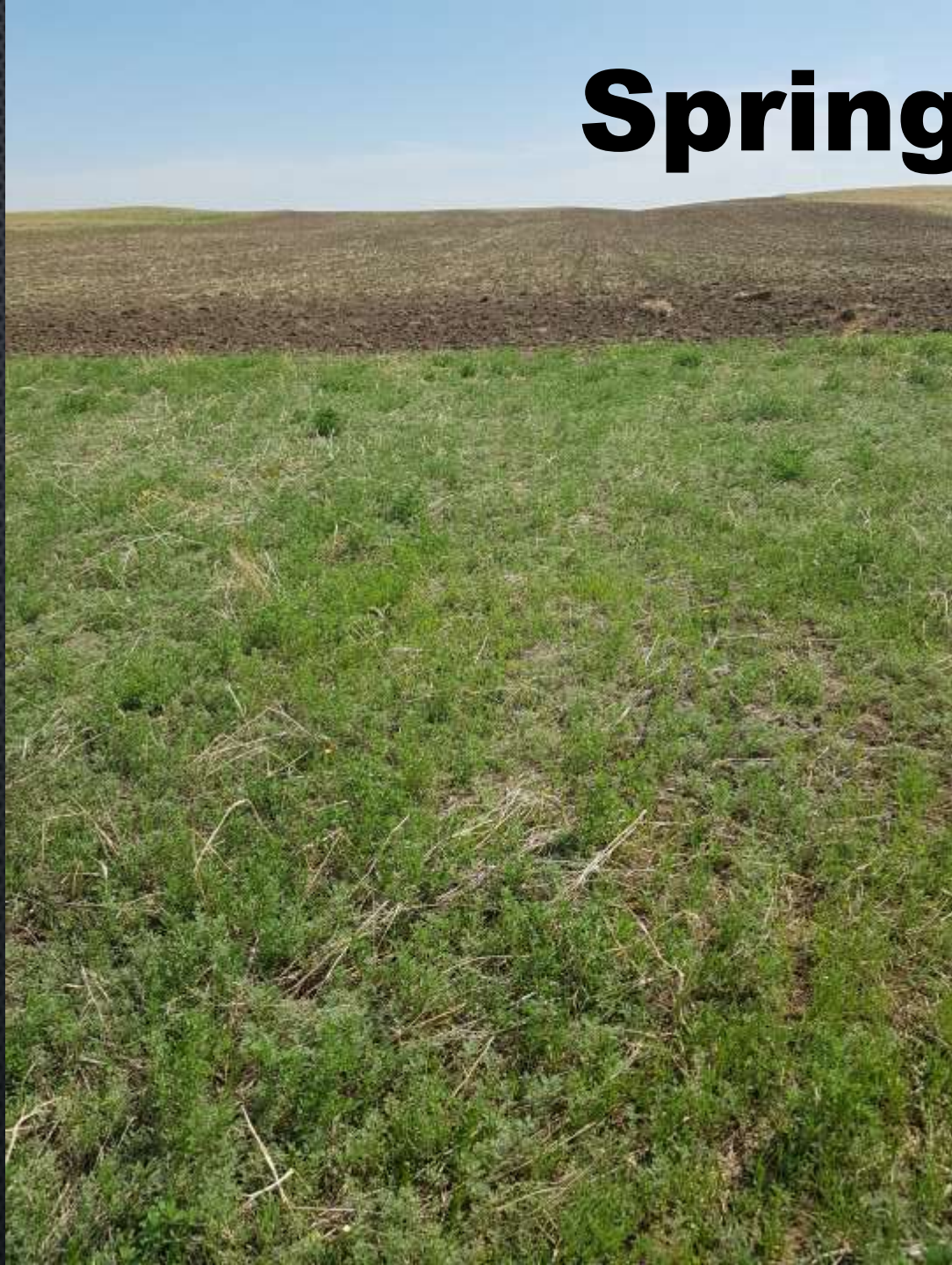




# Summer 2017



# Spring 2018



# Spring 2018





# REDUCED TILLAGE



Average length of fungal strands

No-Till Fields  
(roller crimped)

Reduced Till Fields  
(once)

Tilled Fields  
(2+ times)

**Summer 2018**

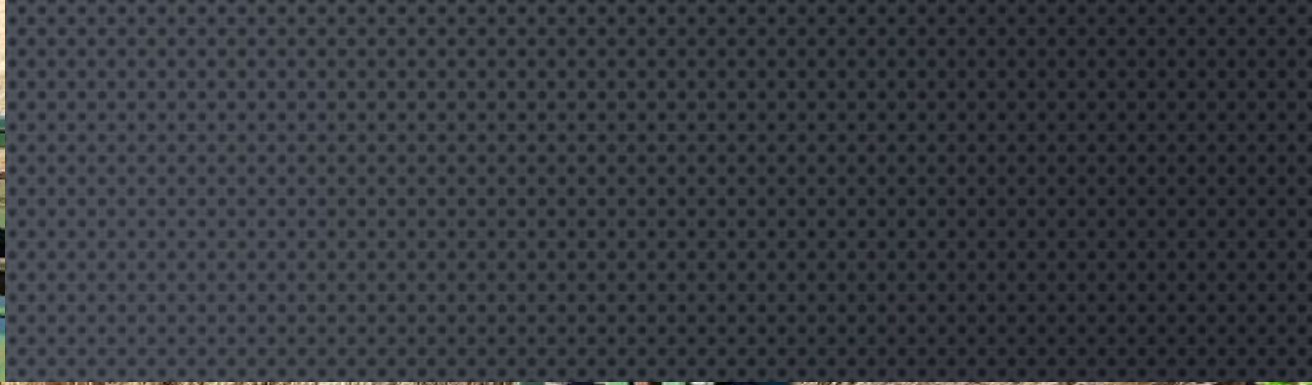


**Fall 2018**



# Fall 2018















KEEP THE SOIL COVERED







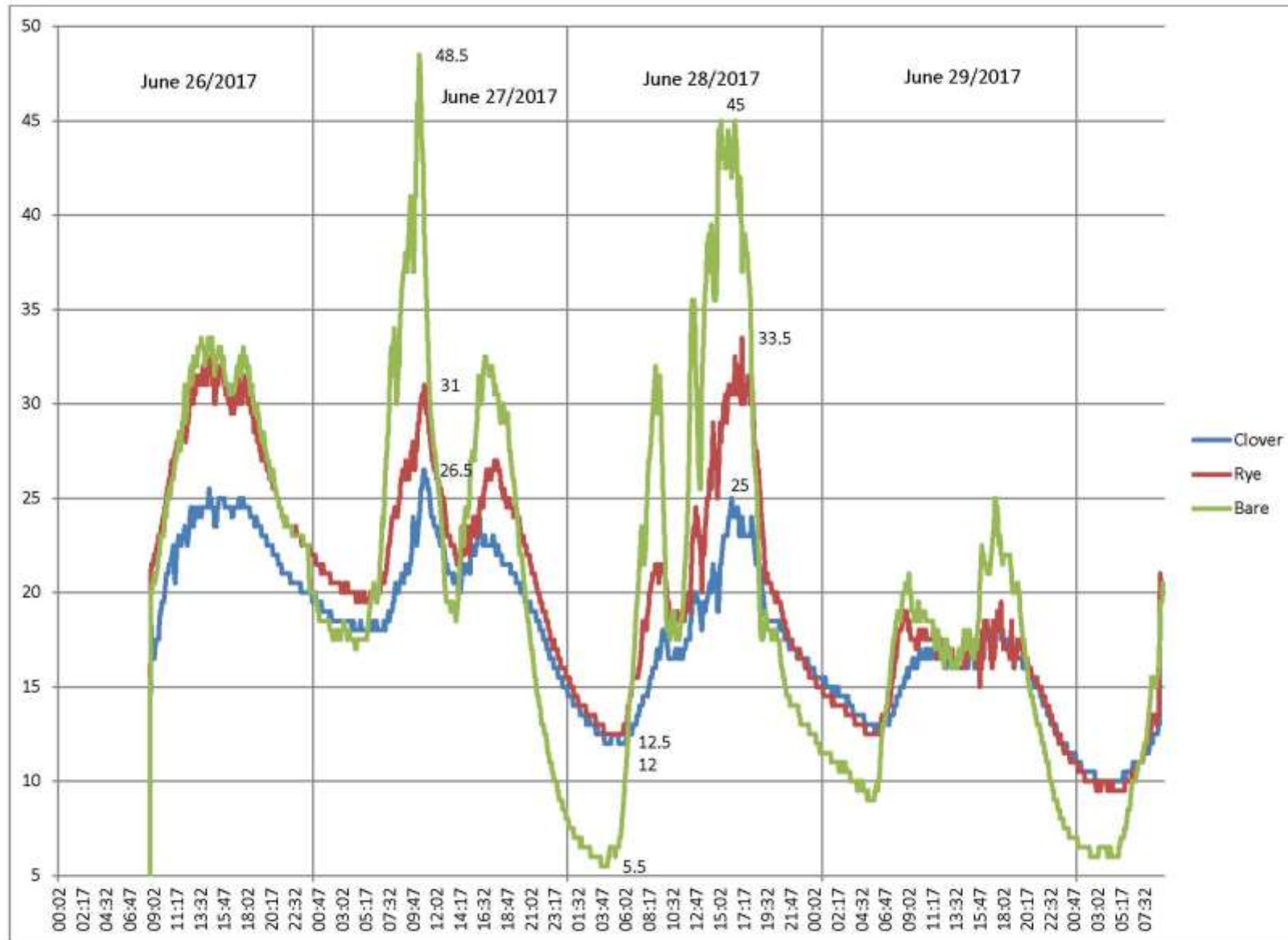
**Black is Bad**



**Brown is  
Better**



**Green is  
Great**



# BIODIVERSITY

SOME IS BETTER THAN NONE,  
MORE IS BETTER THAN LESS.



















40%

71% of Mono



12%



31%

Bonus



17%

30% of Mono

# CANADA THISTLE

Crop: Lentils/Mustard/Oats

- Sampled the field and then sampled the thistle patches within the field
- Field had **42 times more beneficial fungi** than the weed patches
- Weed patches had **600 times more bad fungi** than the field





**Operation**



**Pollinator**

Multifunctional Landscapes

Operation Pollinator is advancing sustainable agriculture while enhancing the natural habitat for pollinators and other wildlife.

Supported by





In partnership with



**SSCA**

Saskatchewan  
Soil Conservation  
Association



**Operation Pollinator**

Multifunctional Landscapes

Common No. 1 Forage Mix  
Lot SC800

- 10% Timothy
- 10% Coated Alsike Clover
- 20% Coated Wildcat Double Cut
- 20% Yellow Blossom Sweet Clover
- 20% Coated Bruce Birdsfoot Trefoil
- 20% Phacelia



CONTINUOUS LIVING ROOT







# LIVESTOCK INTEGRATION



## UPLAND ORGANICS

- COVER CROPS
  - SEED
  - SEEDING

## HEARTLAND RANCH

- PROVIDE CATTLE
- MANAGES MOVES
- FENCING
- WATER
- HERD HEALTH (AND LOSS)



## COOL SEASON

- GRASS
  - ANNUAL RYE
  - OATS
- BROAD LEAF
  - 40-10 FORAGE PEAS
  - RADISH
  - TURNIP
  - COMMON VETCH
  - SUBTERRANEAN CLOVER
  - BERSEEM CLOVER

## WARM SEASON

- GRASS
  - BMR CORN
  - JAPANESE MILLET
  - PEARL MILLET
- BROAD LEAF
  - PHACILIA
  - SUNFLOWER
  - COLLARDS



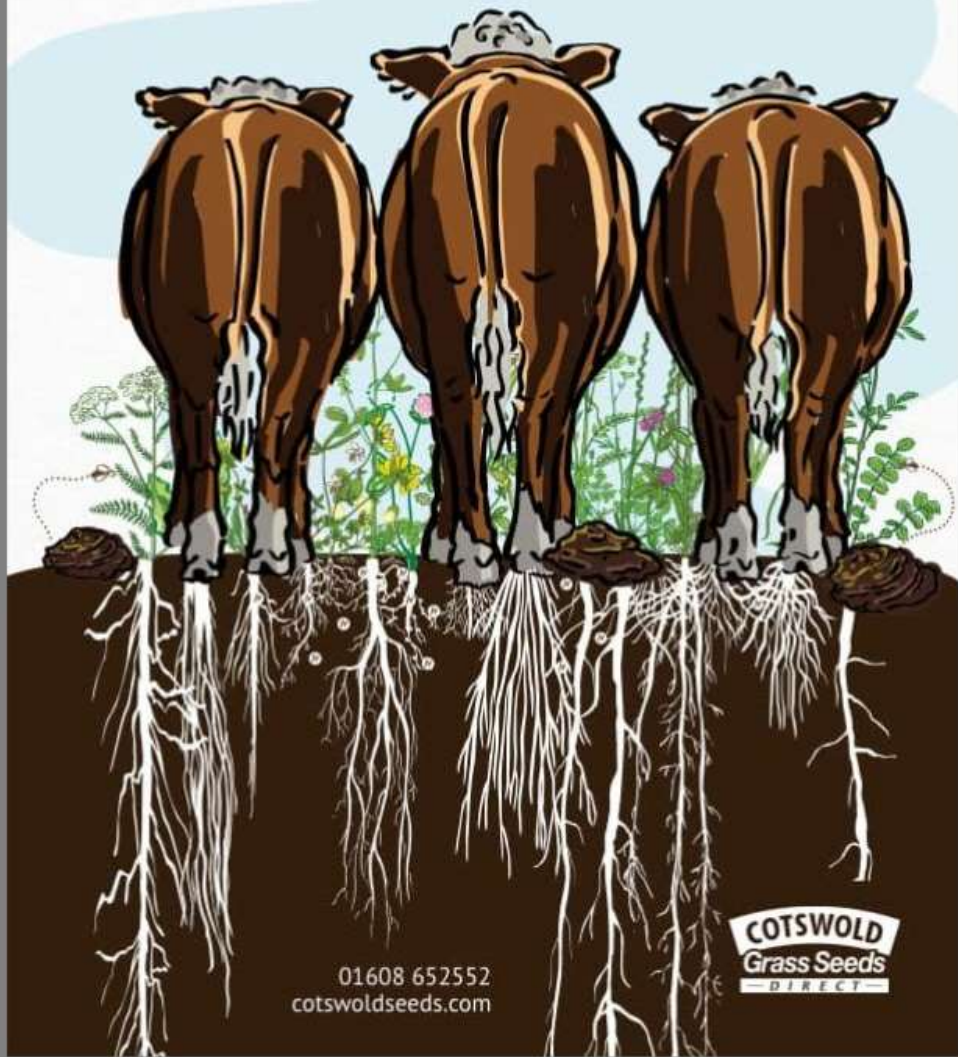






# LESSONS LEARNED

1. GREAT SOURCE OF GRAZING
2. STAGGER CROP MATURITY
3. NEED GREAT PARTNERS
4. HAVE TO BE ADAPATABLE!



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EST. 1987

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# THANK YOU!

WE LOVE TO HEAR FROM OTHER PRODUCERS!

IF YOU'D LIKE TO REACH US OR VISIT OUR FARM PLEASE CONTACT US



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Continuous Improvement is Better than  
Delayed Perfection.

-Mark Twain

