Dodge County Farmers and Farming Through Inclement Weather

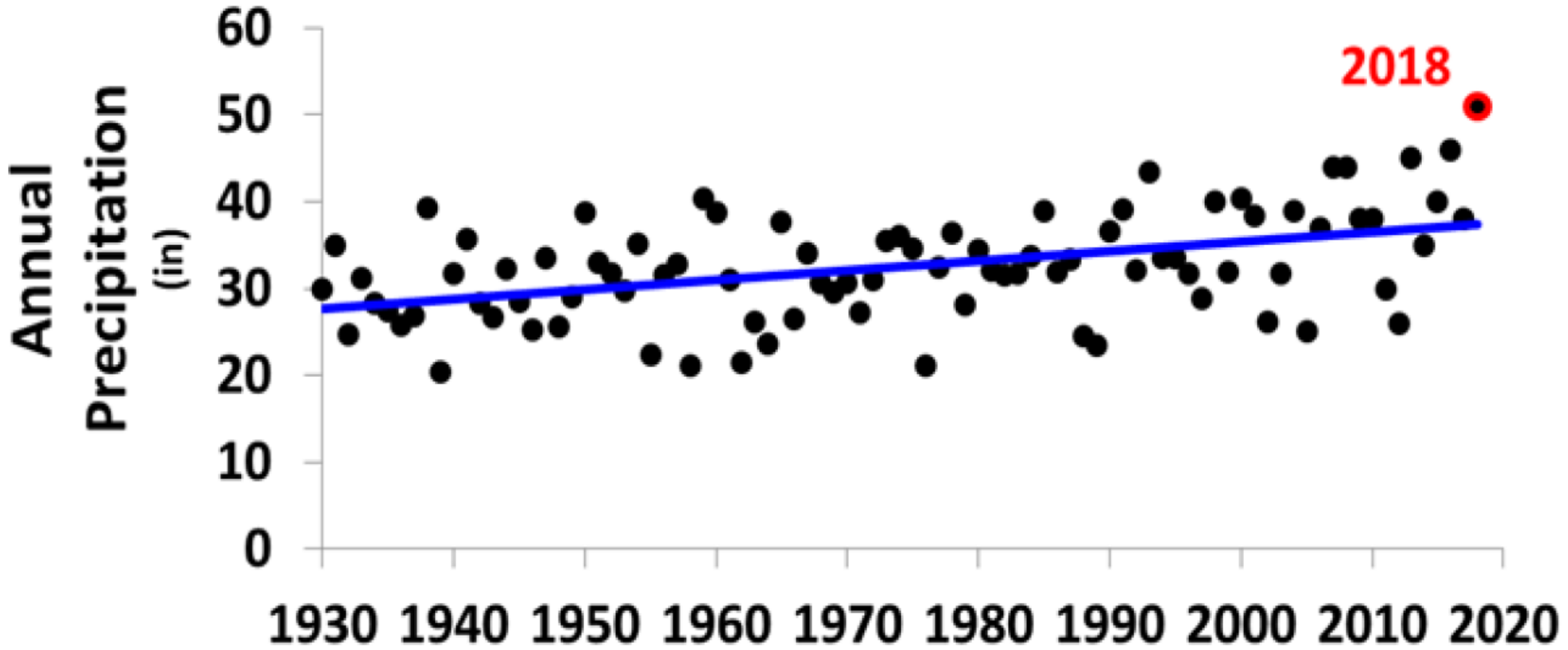
Tony Peirick – President

Dodge County Farmers for Healthy Soil – Healthy Water

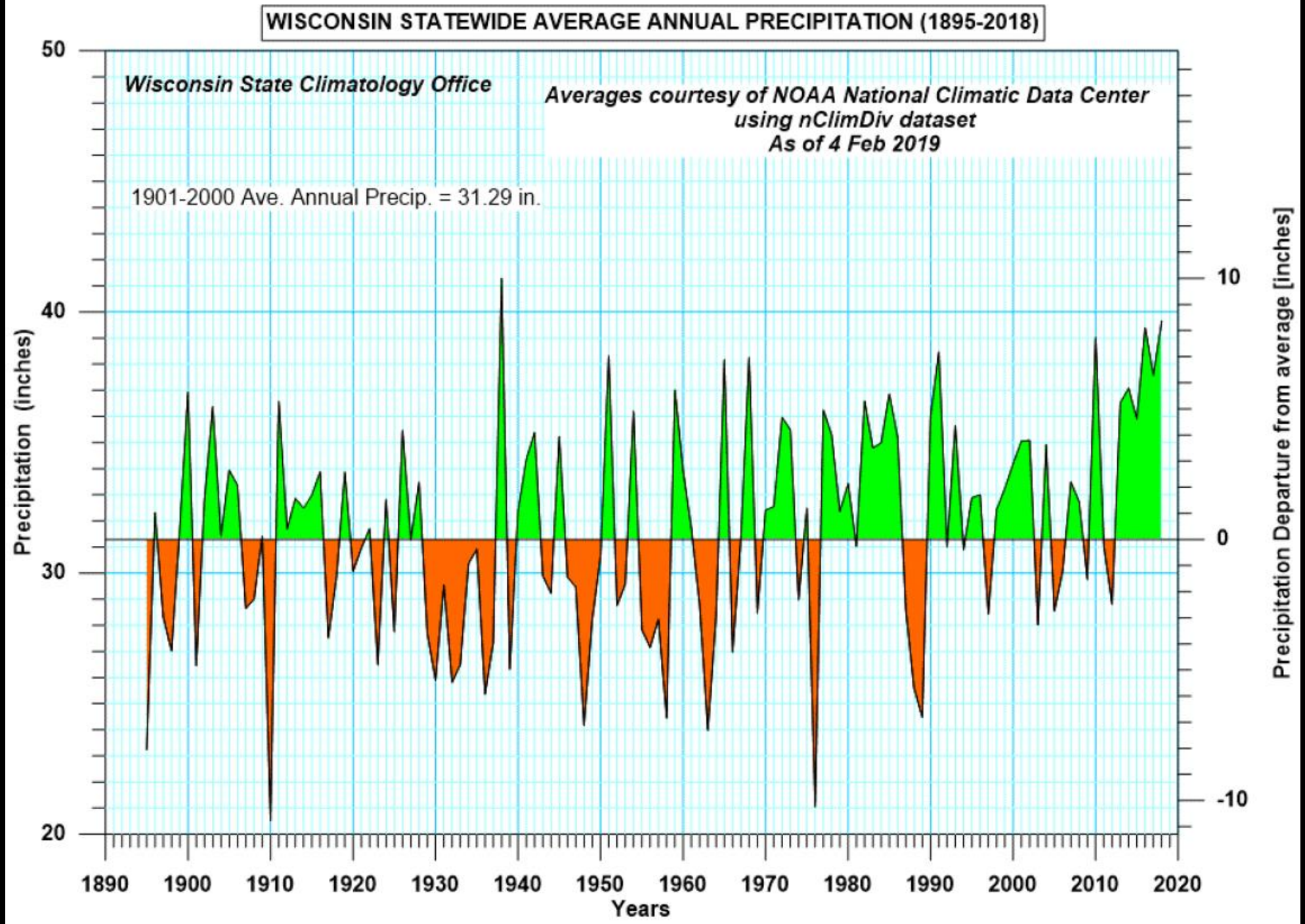
Recent Weather Trends

- Wet and rainy weather have proved to be troublesome for farms.
  - Worse off are the farmers who do not use soil health practices
  - Farmers who use soil health practices were able to plant their fields earlier, harvest earlier and rutted their fields less
    - Reduced compaction
    - Maintained good soil structure

INCREASED PRECIPITATION TRENDS



Courtesy of:
Rob Davis – DNR Water Management Engineer
April 15, 2019



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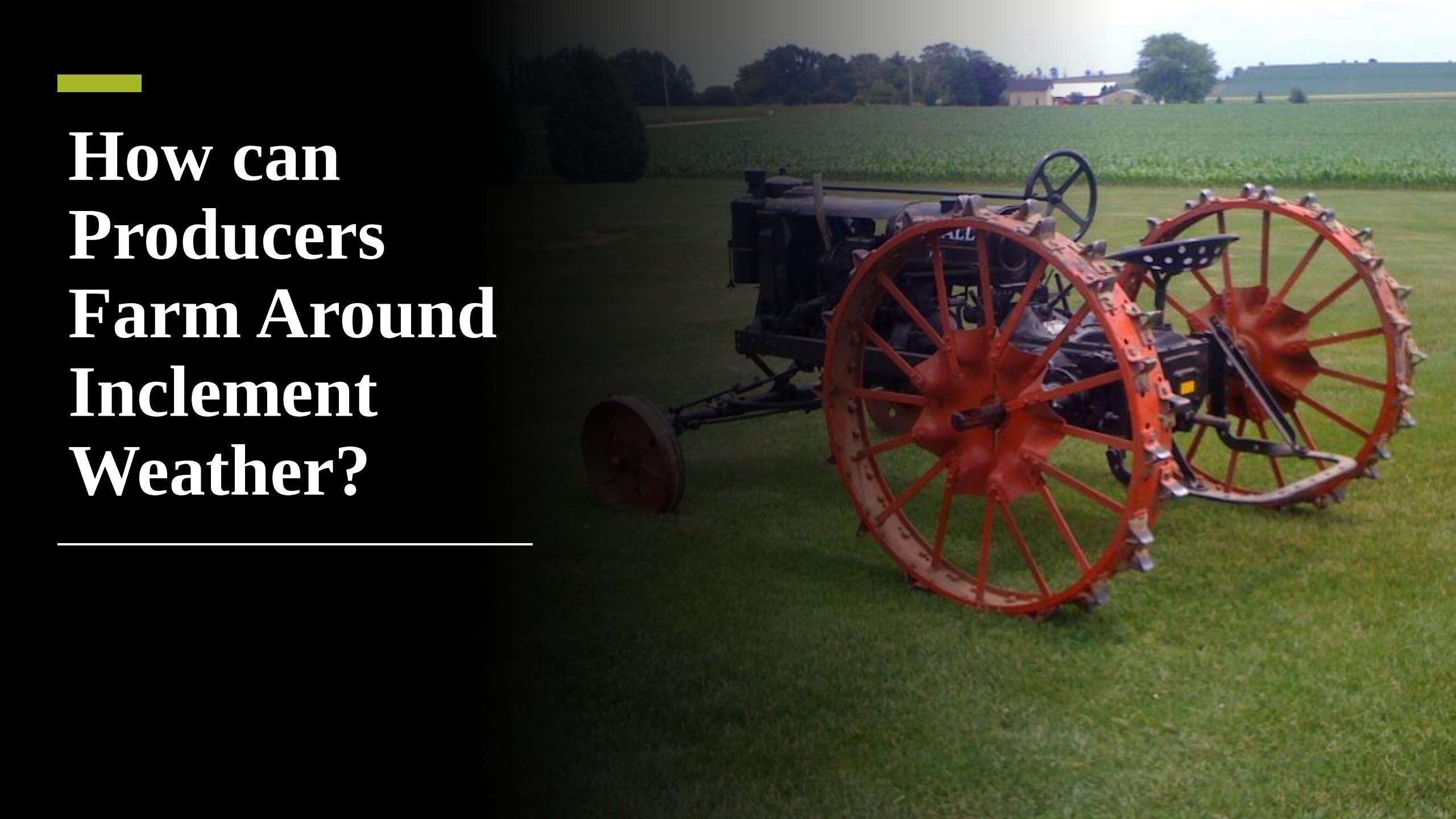
How can Producers Farm Around Inclement Weather?

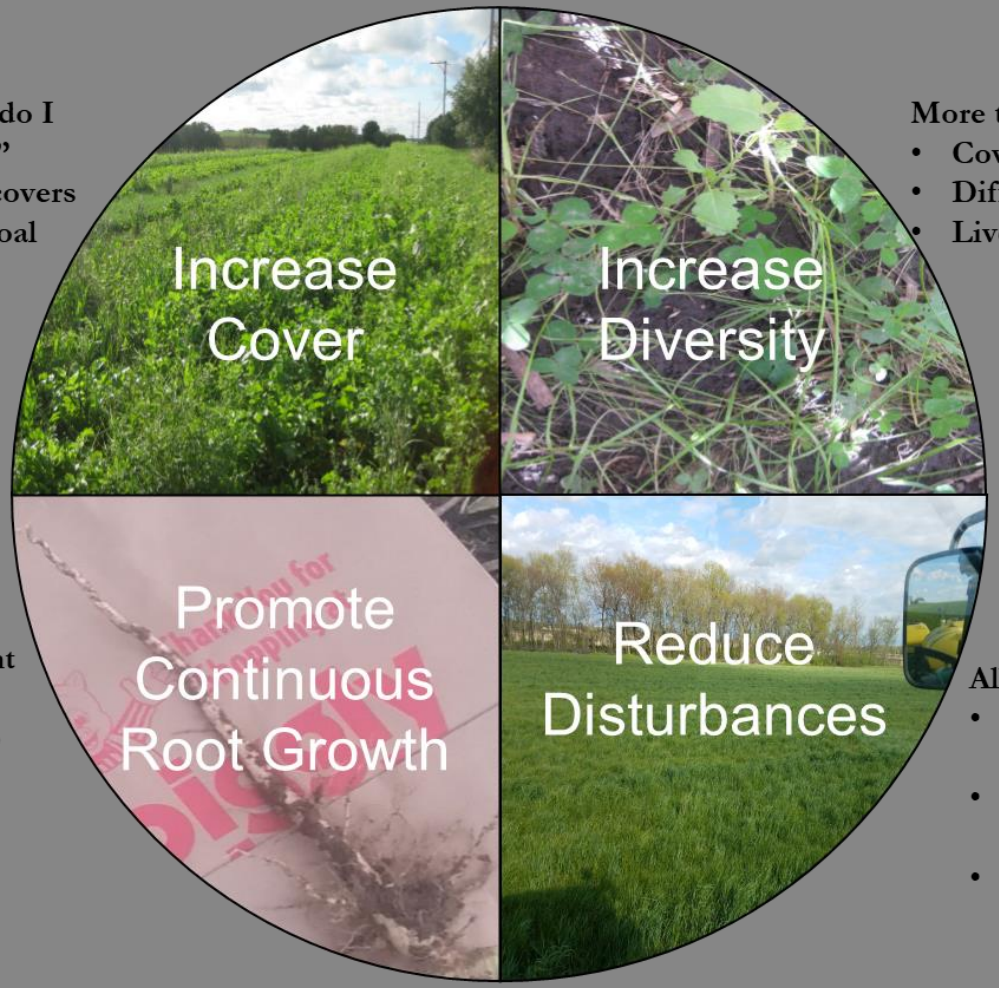


Soil Health

- “The continued capacity of a soil to function as a vital, living ecosystem that sustains plants, animals, and humans.”

4 Soil Health Principles

- Ask yourself, "What do I want to accomplish?"
- Pick cover or mix of covers that will satisfy that goal



More than just corn and beans

- Cover crop mixes
- Different rotational crops
- Livestock compound benefits

- Give soil more nutrient cycling power
- Allow air and water to move throughout soil more freely
- Increase microbial activity

All disturbances

- Reduce physical disturbances
- Reduce dependence on fertilizer/pesticides
- Responsibly manage pest/disease problems

No-Till

- Reduced/No-Till systems keep that carbon in the soil
  - Tillage can release carbon into the atmosphere where no-till sinks it.
  - Soil is one of the greatest carbon sinks available to us.
- Forms of Minimum Tillage
  - Strip-Till
  - Ridge-Till
  - Zone-Till

Cover Crops

- Legume cover crops can sequester carbon from the atmosphere
    - Other cover crops provide other benefits such as:
        - Reduced runoff
        - Reduced erosion
        - Weed Suppression
        - Improved soil structure
        - Increased Nitrogen Fixing
        - Building of Organic Matter
        - Improved microbial activity
        - Increased porosity/infiltration

Cover Cropping

Fall Seeding Cereal Rye

Planting Multi-Species Cover Crops after wheat or silage

Frost Seeding

Interseeding

Interseeding 60” rows

Planting Green

Grazing

Nutrient Sequestration Cereal Rye

Rye Height	N	P2O5	0-46-0	K20	0-0-60	Sulfur	Mg	Ca	Biomass
12” Rye	82	15	32	76	133	5	4	11	2000
18” Rye	120	20	44	128	213	6	6	18	4000
28” Rye	134	30	64	169	281	10	12	31	6000
Dead Rye	84	29	64	39	65	3	11	29	3500

Note: Dead rye sample was taken 2 months after termination

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In-Field Determination of Soil Health

Soil Structure

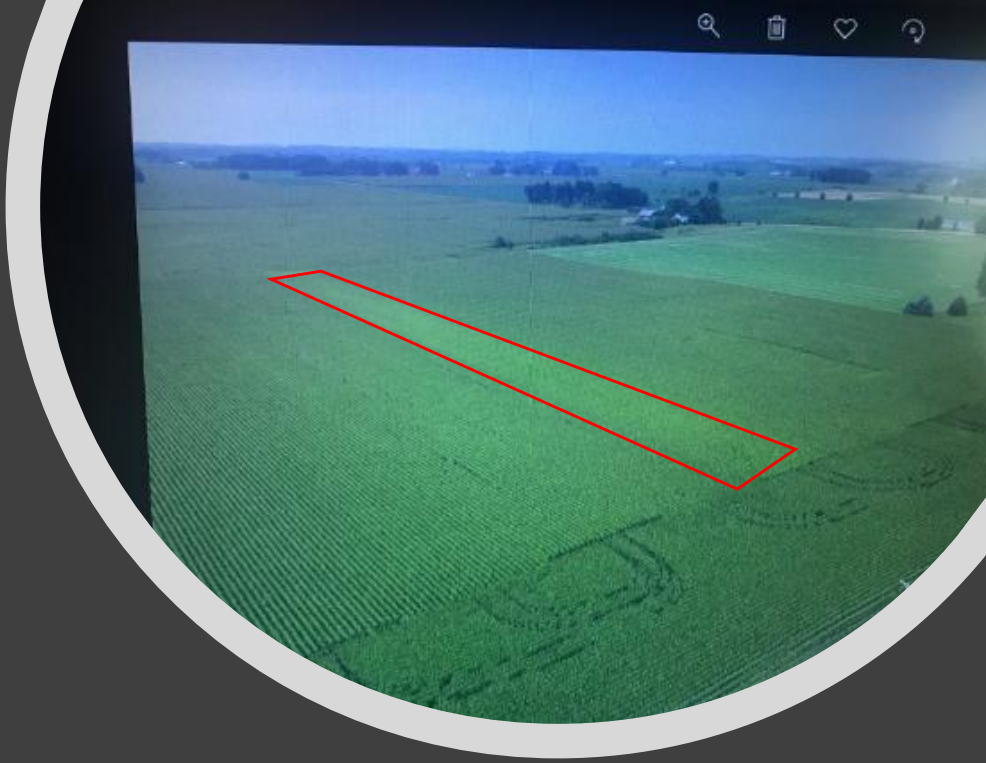
- Friable
- Aggregates present
  - Cottage cheese/chocolate cake look
- Porous
  - Microbial activity
  - Undisturbed root systems
  - Gas exchange
  - Water movement

Soil Biology

- Worms and other life are present
- Presence of life
  - Castings
  - Worm channels
  - Movement of residue under soil surface

Nutrient Efficiency

- In-Field Nitrogen Use Efficiency
- Strips in field with only starter applied
- UW-Discovery Farms program can help put numbers to the analysis
- Basic field calculations



Water Infiltration

- Mimicking a rainfall event
  - Determines how fast a soil can take in water
  - Soil type and tillage are factors to determine this
  - Simple in-field experiment

Takeaways

- Implementation of soil health practices can help to reduce runoff and erosion numbers as well as create a more efficient carbon sink all while making agriculture more sustainable.
- The best way to get farmers to implement these practices is by education
  - Breakdown the excuses as to why no-till and cover crops won’t work for farmers.
    - Showcase examples of practices working in their areas
    - Show what benefits a farmer can gain from using these practices
    - Provide incentives for farmers using conservation/soil health practices

Thank you from the Dodge County Farmers for Healthy Soil –Healthy Water

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Mission:
"Improving our community's soil & water through conservation practices & education"