

“To most people, this is just dirt.  
To a farmer it’s potential.”



This is NOT a talk about Soil Health,  
this is a talk about  
making Soil Healthy

**Continuum Ag**

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# What we aren't going to talk about



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# Definition of Soil Health

- NRCS: the continued capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans.
- Continuum Ag: Balance





# Benefits of Soil Health

- Long term sustainability
- Biomimicry
- Reduce inputs
- Improve yield
- Per acre profitability
- Balance soils
- Improve water quality





# Tests for Soil Health

- Haney Soil Health Test
- Cornell Soil Health Assessment
- PLFA
- SLAN
- VAST
- Organic Carbon
- Lots of others - all are tools to help!





# Not a talk about soil health...so what are we going to talk about?

- What we aren't going to talk about
- What we've learned so far
- How we together can make soil healthy





# What we've learned so far



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# Study and Document improving Soil Health

- Simple trials evaluating practices and products
- Use testing to quantify progress
- Continuum Ag Haney testing:
  - 2016 = 200 Tests
  - 2017 = 1,000 Tests
  - 2018 = 7,000 Tests
- Document with videos and pictures





# Logistics of Soil Health

- What practices work for me?
  - Cover crop species
  - Cover crop rates
  - Termination timing
- What products can help?
- How is my soil health today?
- How can I monitor improvements?





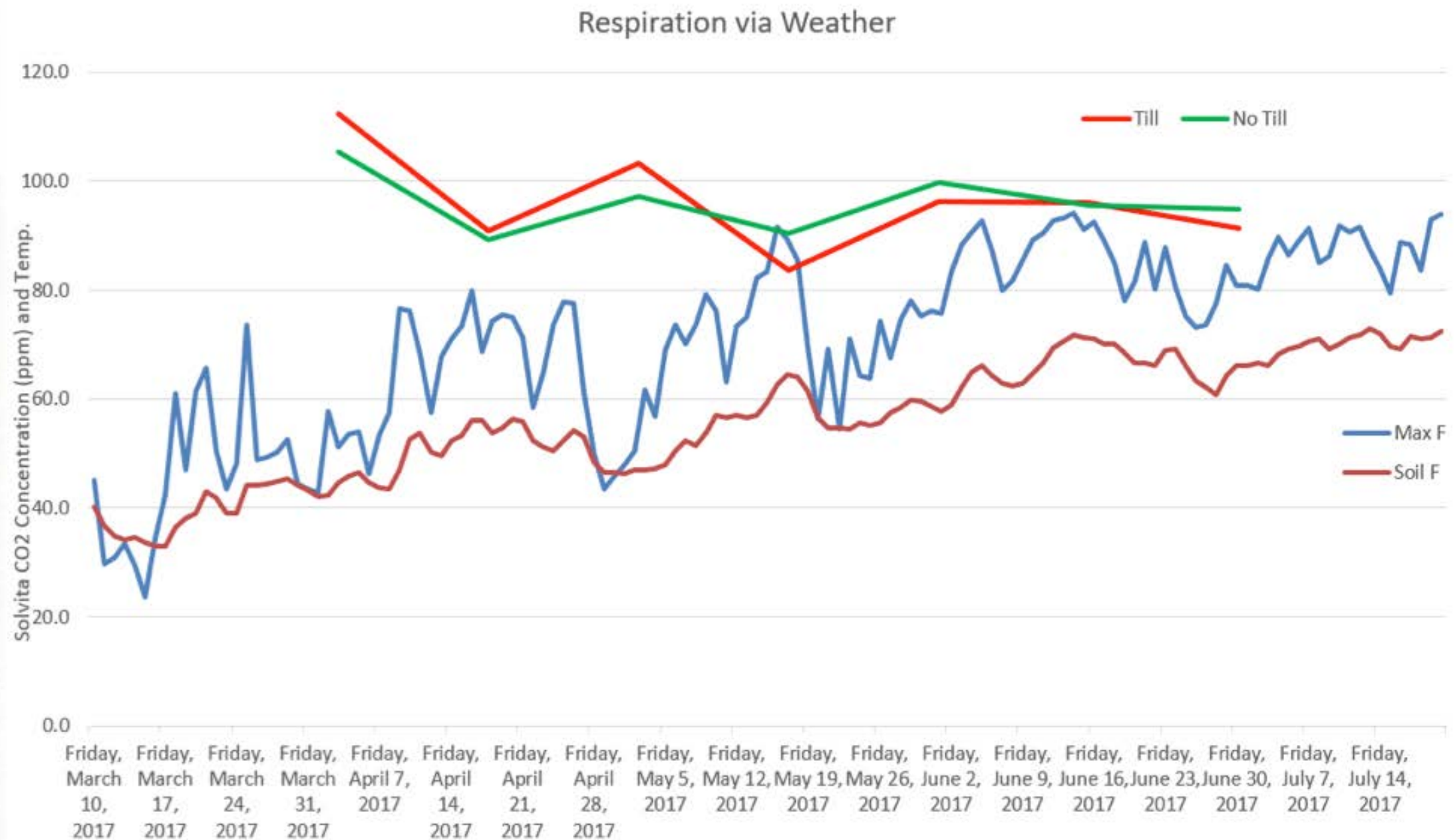
# Economics of Soil Health

- Reducing risks
- Improving yield while reducing inputs
- Lost 20bu/ac our first year with cover crops
- Farming based on profit not yield





# Tillage vs No-Till - Solvita Respiration





# We can improve Soil Health

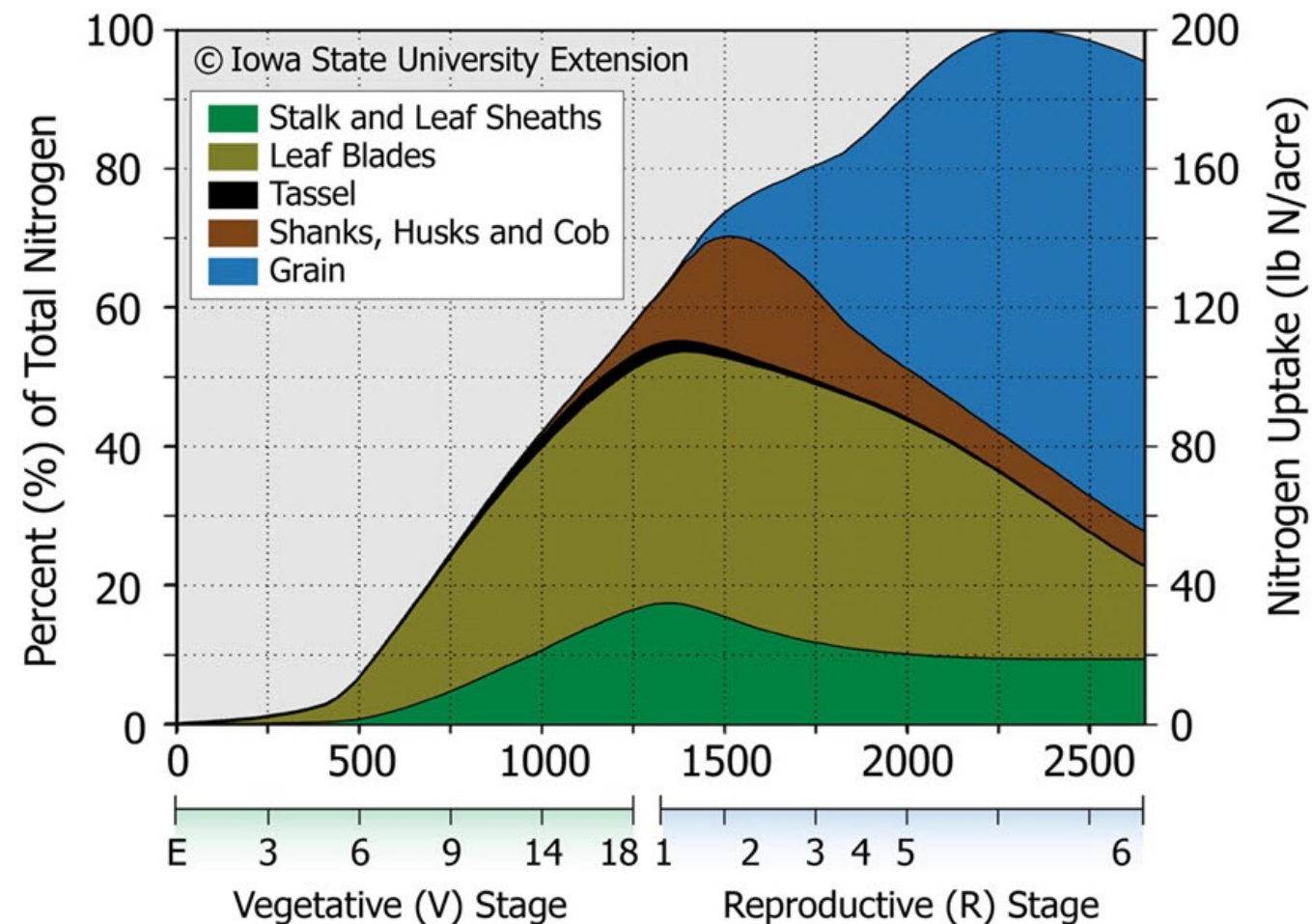
- Soil parameters fluctuate through out the year
  - Pulling samples twice/month
- During the 2017 season, respiration was increased by:
  - Manure up 11%
  - Cover crops up 5%





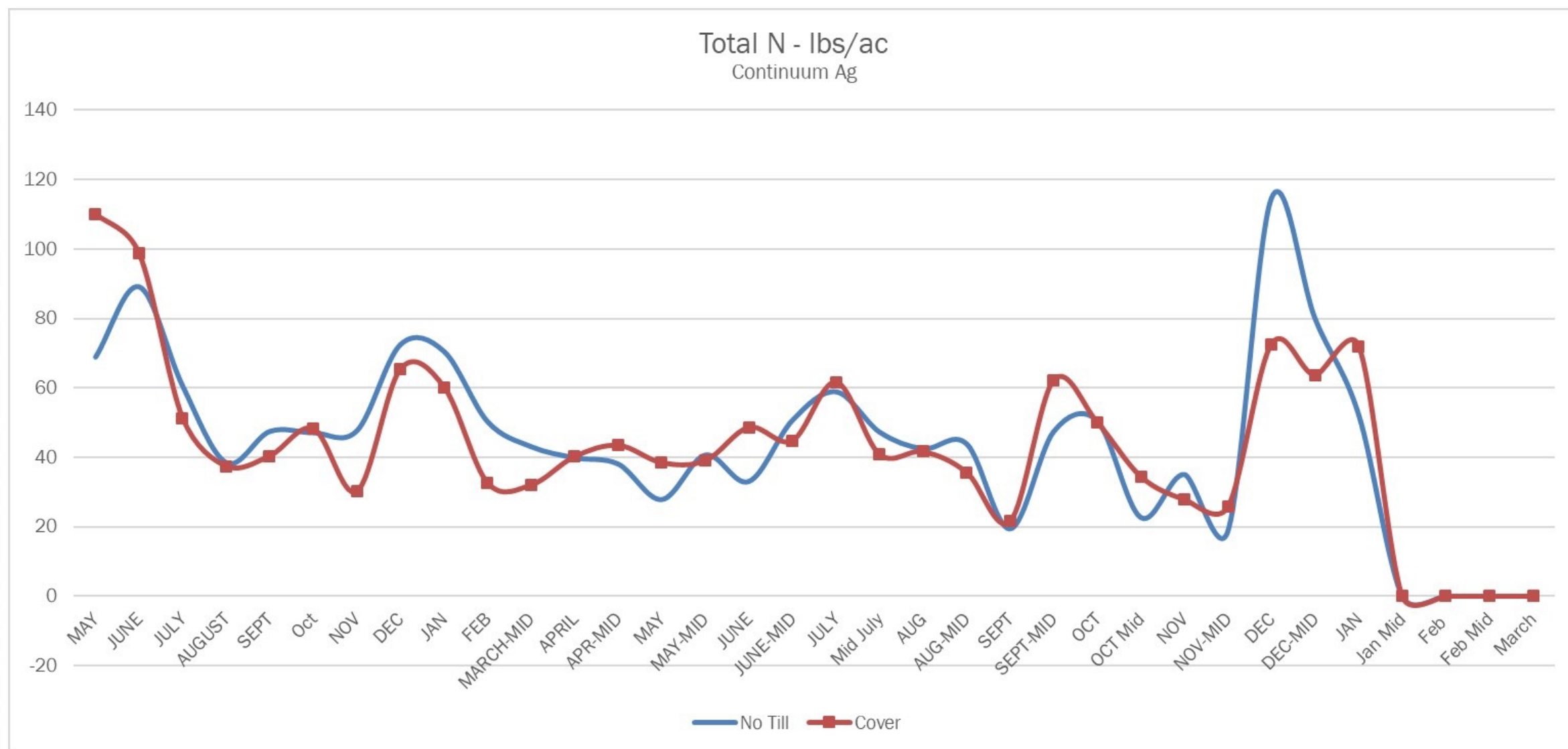
# Optimizing Nutrients

- Evaluate nutrient availability as driven by:
  - Management
  - Products
  - Weather
  - Soil Biology
- Improved soil health can help improve nutrient use. Improved nutrient use pays for improving soil health.





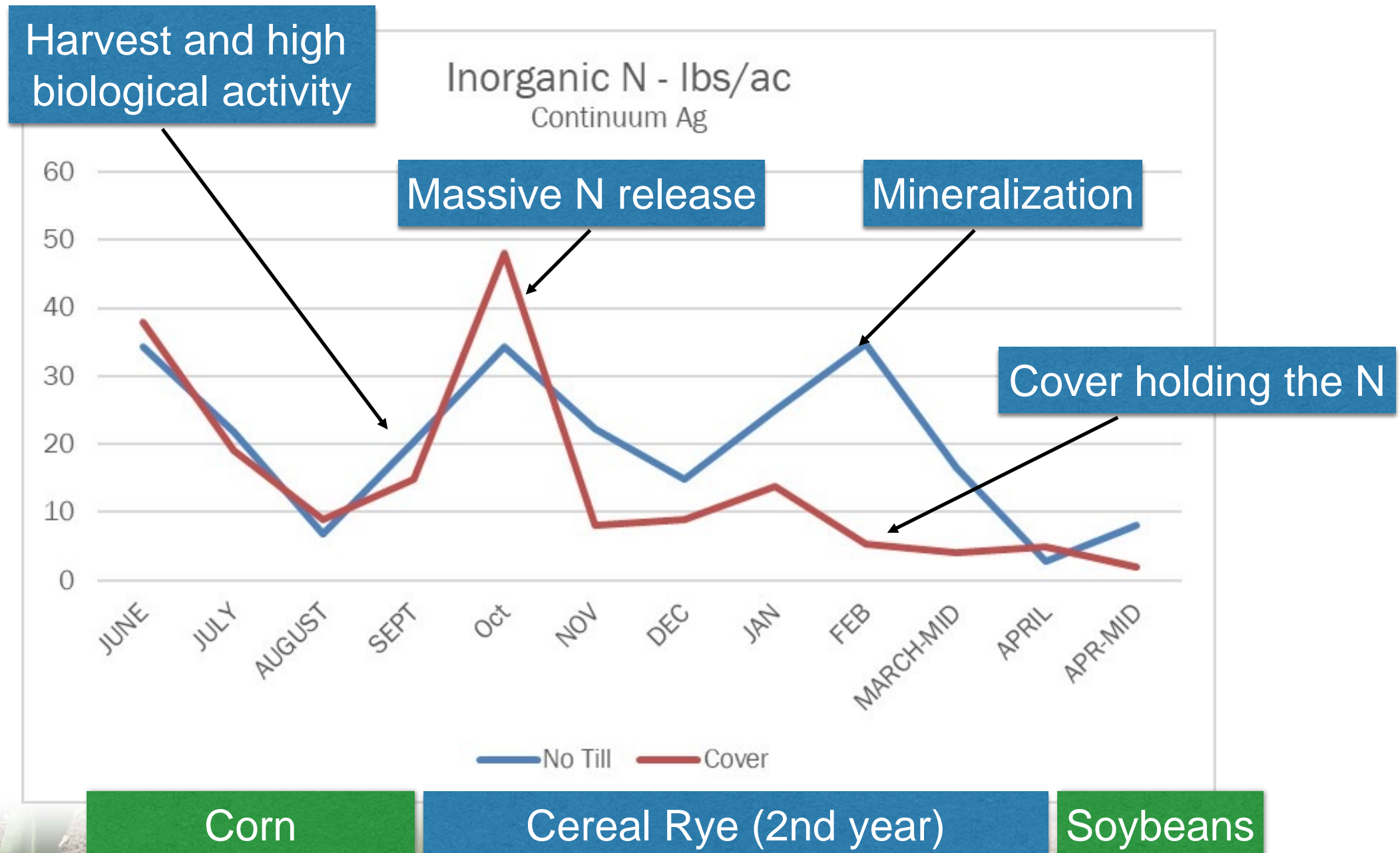
# Nitrogen: Cover vs No Cover



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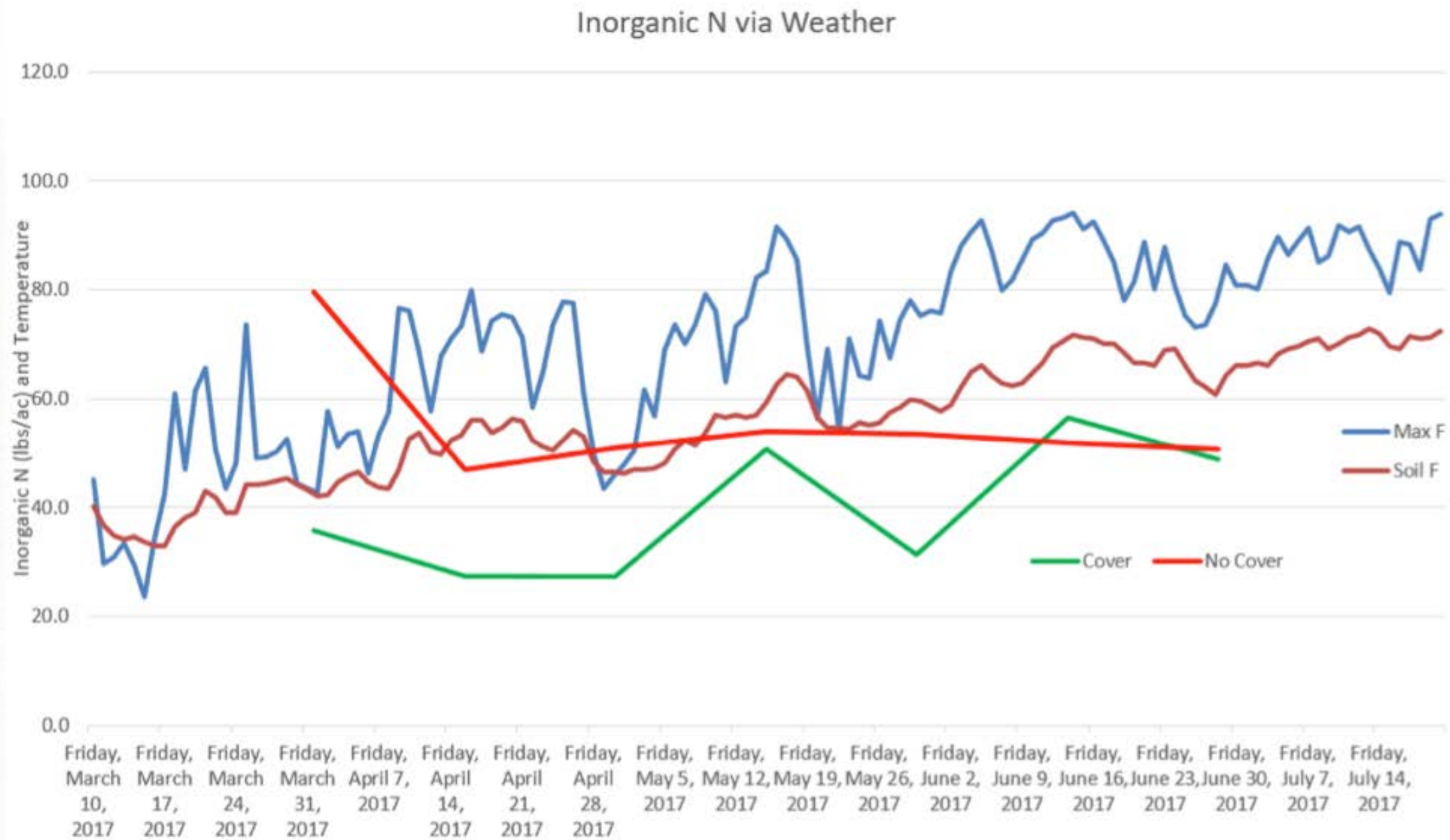


# Nitrate: Winter of '16-'17





# How Much is Tied Up?





# The “Carbon Penalty”

- “Carbon Penalty” from cover crops caused an average C:N of 70:1
- Desired =  $>20:1$
- Successful cover crop use averaged 12:1





# How can we all make Soil Healthy?



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# Collaborate Together

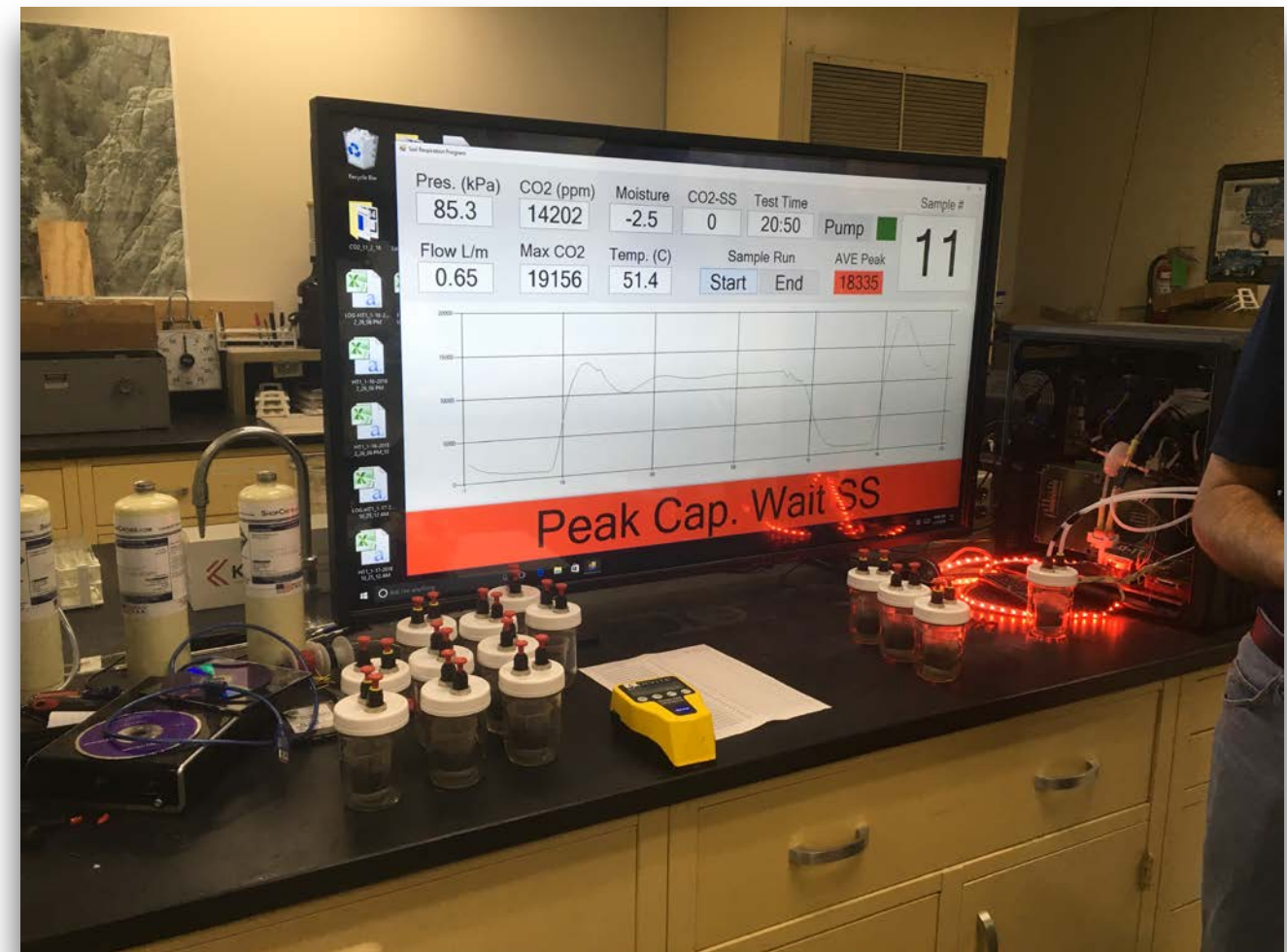
- Learning synergies
- Network
- Share on social media
- Side-by-side trials
- Repetitive testing





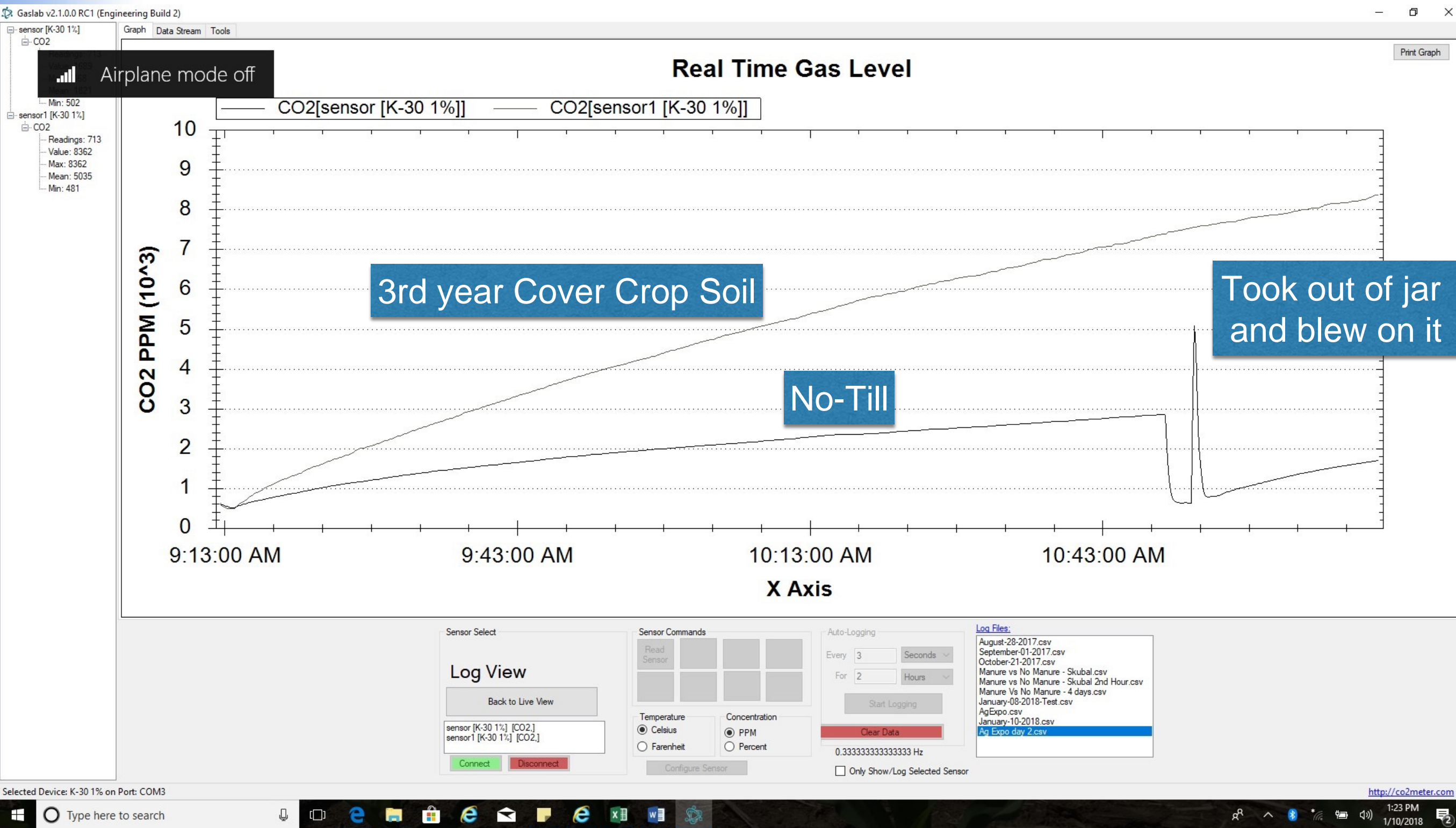
# Applications Today

- Evaluate your current soil health
- Spring test
- Sample before application then split your treatment
- Soon - Use sensors and adjust rates/timing based on real time data





# CO2 Sensors



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# Continuum Ag is the Catalyst

- Together we can build attention and learn
- Try new things and document the pros and cons
- Document each baby step
- Use data to monitor and accelerate progress



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