

# Row Crop



**SHORT  
COURSE**

## Cover Crops and Soil Health

Bill Robertson



**Cooperative Extension Service**



Bill, is that you?





Pink Tie Guy

Breast Cancer Survivor

Raised Money

Donated Hair







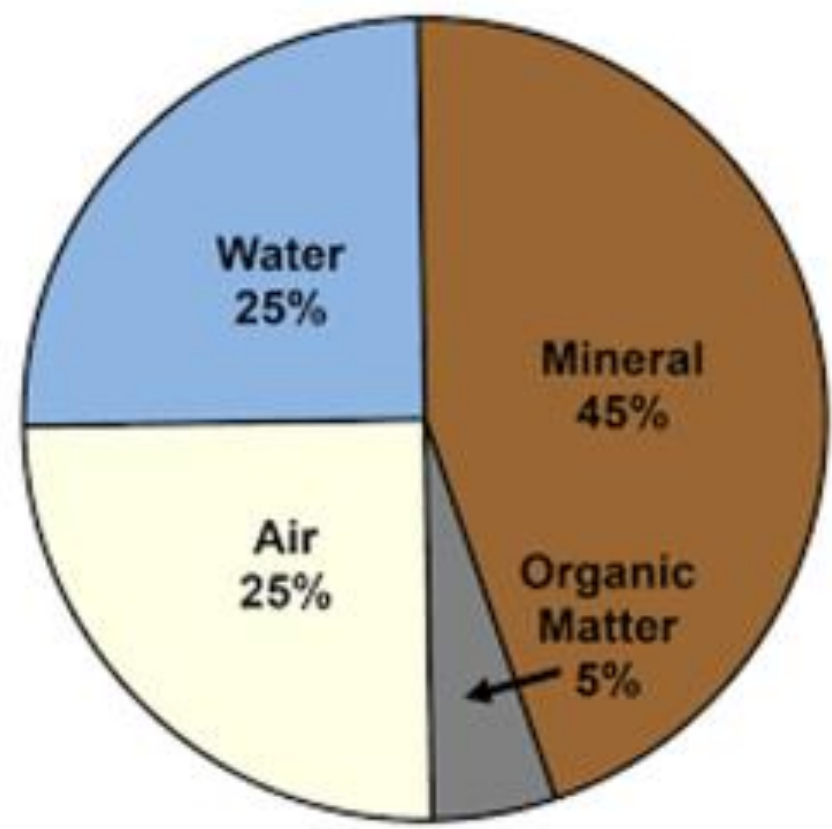
unlock the  
**SECRETS**  
IN THE **SOIL**



**SOIL HEALTH**

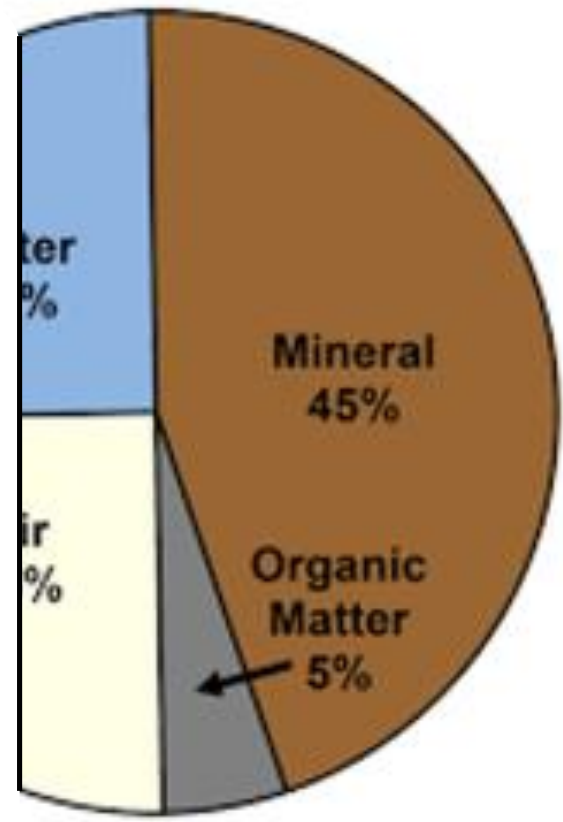
# Healthy Soil

## Soil Composition



# Healthy Soil

## Soil Composition







**SoilHealthInstitute**

@soil\_institute



One acre of healthy soil contains about 10,000 lbs of healthy biological material - from fungi to bacteria to earthworms and all else in between - about the same weight as two African elephants. - Dr. Jerry Hatfield  
[@USDA\\_ARS](#) [#EarthDay](#) [#SoilHealth](#)



9:36 AM · Apr 20, 2018 · Twitter Web Client



If you want your soil to be healthy, you shouldn't be able to see it very often

CoverCropInnovators.com

**COVER CROPS:  
DOING WHAT CAN'T BE DONE - AGAIN**  
A Sponsor-Free, Farmer-Led Workshop

Learn from top farmers and researchers who have been there, done that. Discover how to refine your management system to get the most financial and biological return from your investment - and build resiliency in your operation to withstand uncertain economic pressures and extreme weather events.



**About** [Suggest Edits](#)

[Send Message](#)

[Nonprofit Organization](#)

## Underground Innovations

An informal event to hear producers sharing the innovative practices working on their operations.  
**Dec. 12 & 13, 2018**  
**Bavarian Inn Lodge, Frankenmuth, MI**



Featuring information on cover crops, strip-till, no-till, relay cropping, intercropping, innerseeding and precision technology

### Speakers

- Loran Stienledge, West Union, IA
- Woody Van Arkle, Dresden, Ont.
- Dave Delhotal, West Brooklyn, IL
- Marc Hasenick, Springport, MI
- Joel Layman, Dowagiac, MI
- Justin Krick, Frankenmuth, MI
- Stephanie Smith, Waldron, MI
- Tom Van Wagner, Adrian, MI
- Tim Boring, Stockbridge, MI
- Jake Faist, Leslie, MI
- Jay Williams, Waldron, MI
- Rich D'Arcy, Kingston, MI



# Brand Engagement in Sustainability

- Walmart
  - Soil health
  - Water sensor
  - Traceability
  - Fieldprint Calculator use
- Wrangler
  - Soil health project in Texas
- Louisiana Fieldprint Calculator Project



# Hurdles to Adoption of Soil Health Practices

- Perception
- Peer Pressure
- Human Nature
- Don't seem to have time to learn new things
- More Research Needed





# Cereal Rye Termination Study

- Early-Boot
- Mid-Boot
- Late-Boot
- Full Panicle Exertion
- Anthesis

# Early-Boot Termination





# Mid-Boot Termination



# Late-Boot Termination

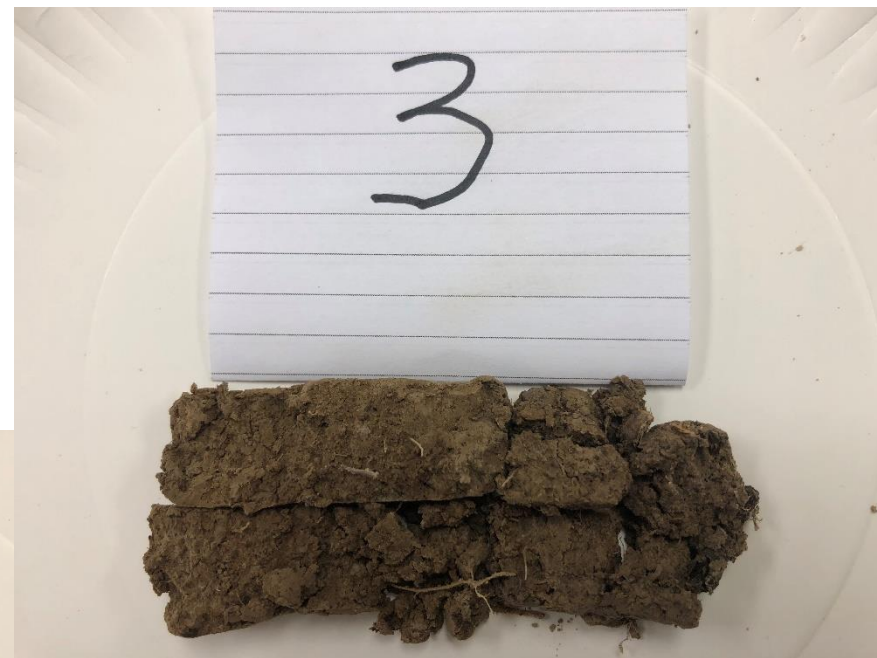
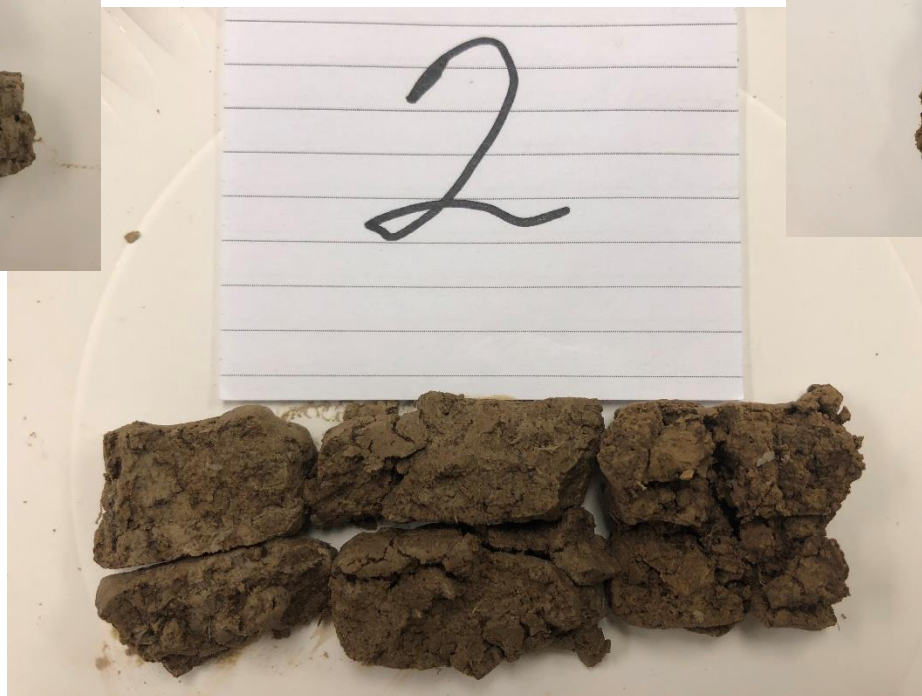


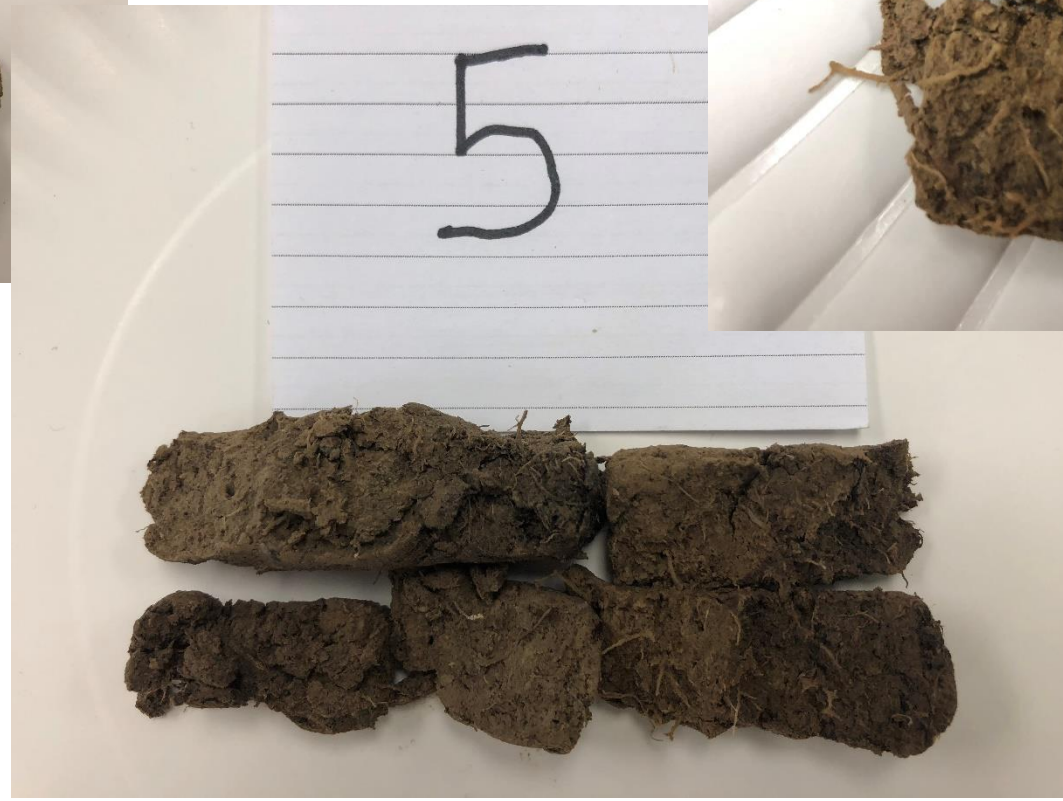
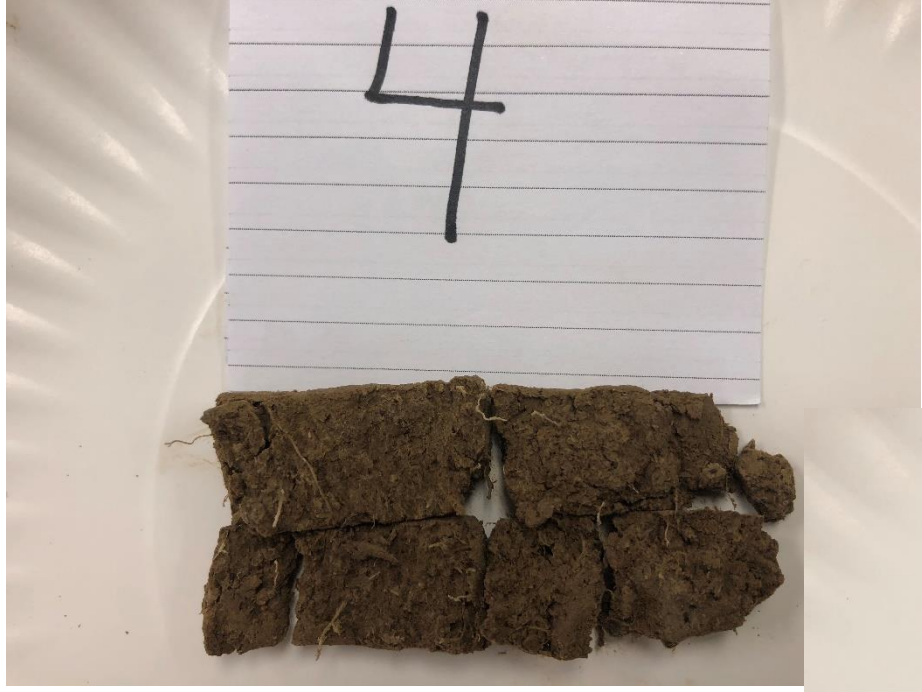
# Heading Termination



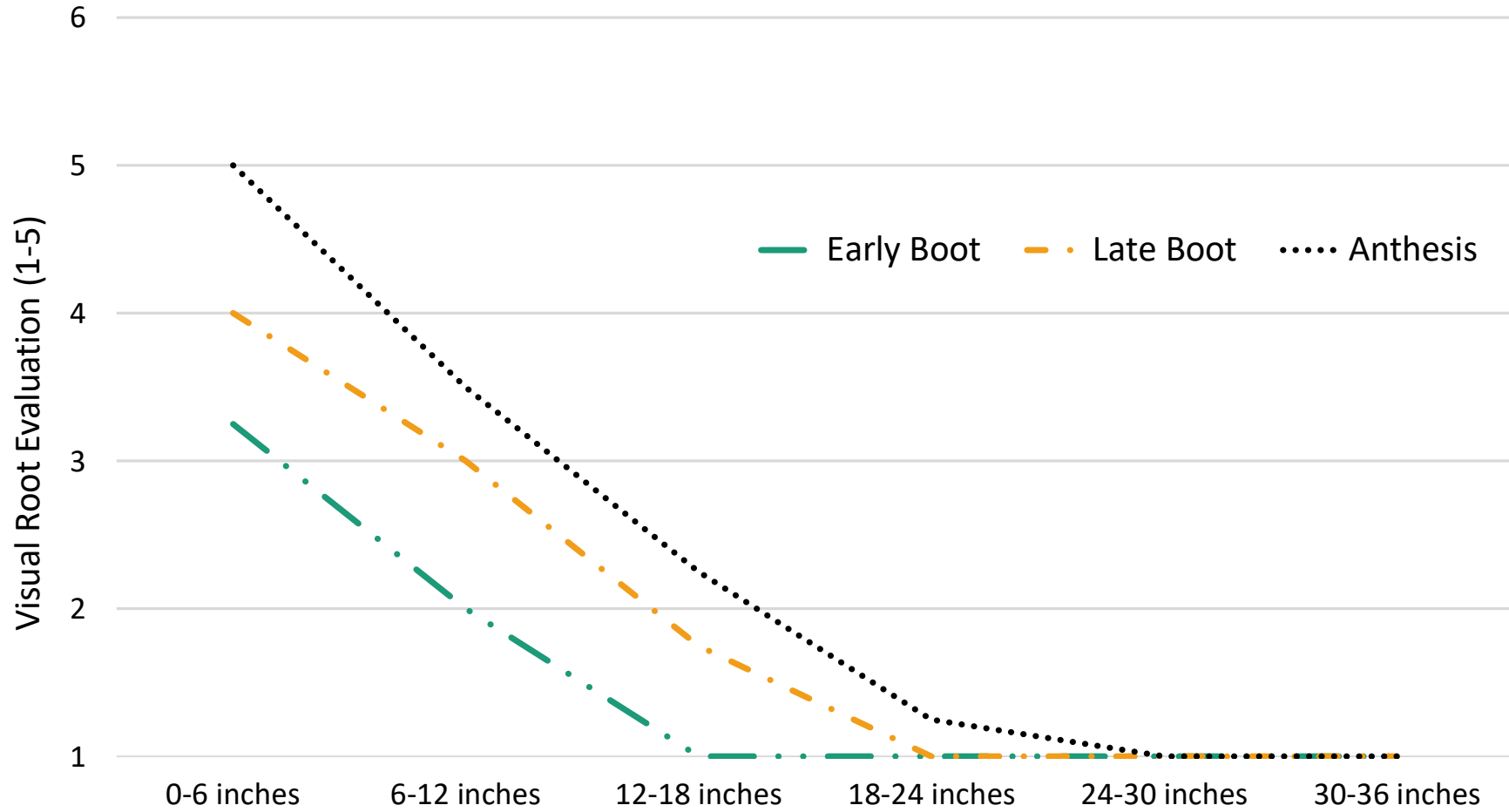
# Anthesis Termination



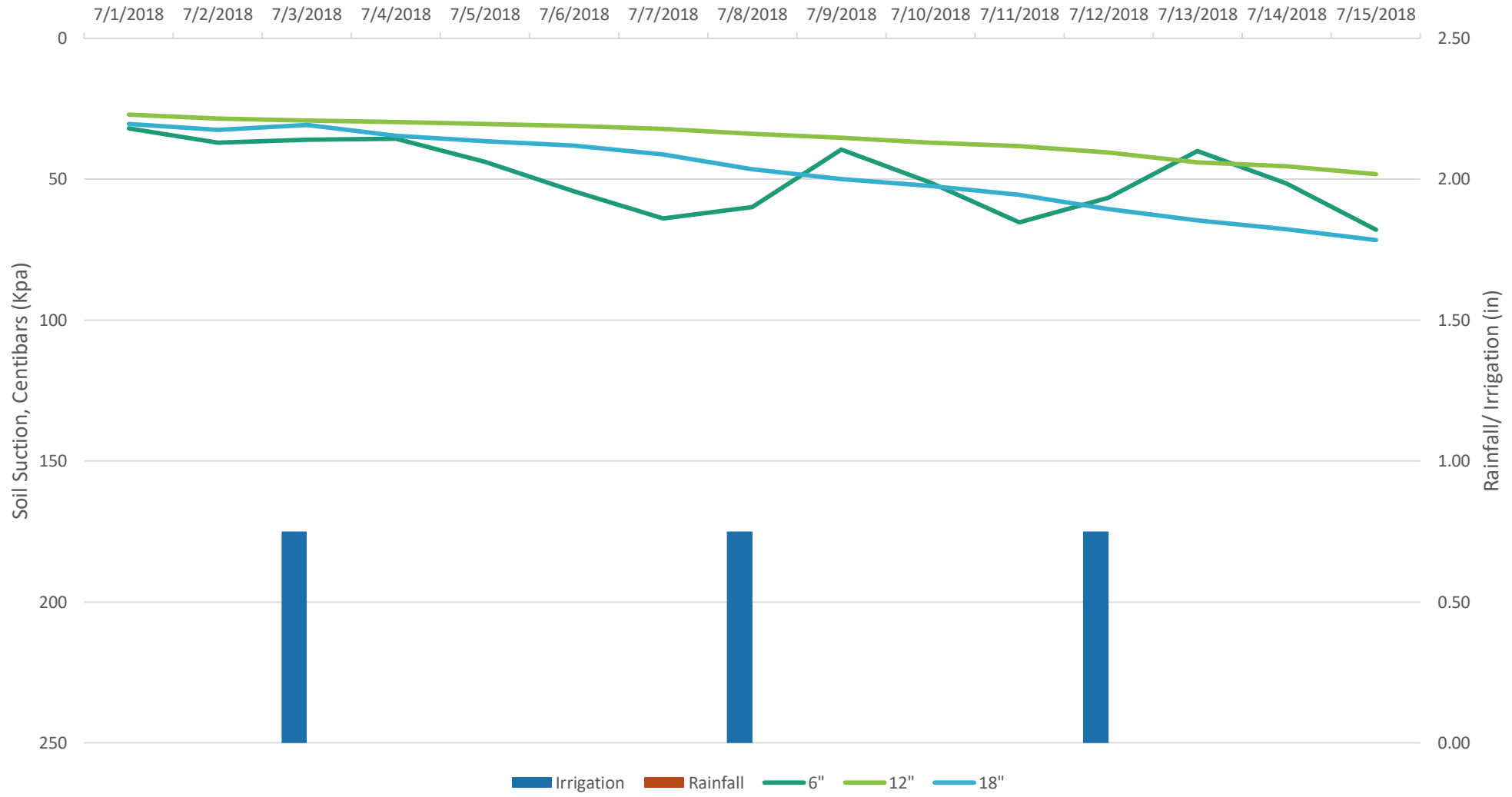




# Root Mass Evaluations – St. Francis Termination Study

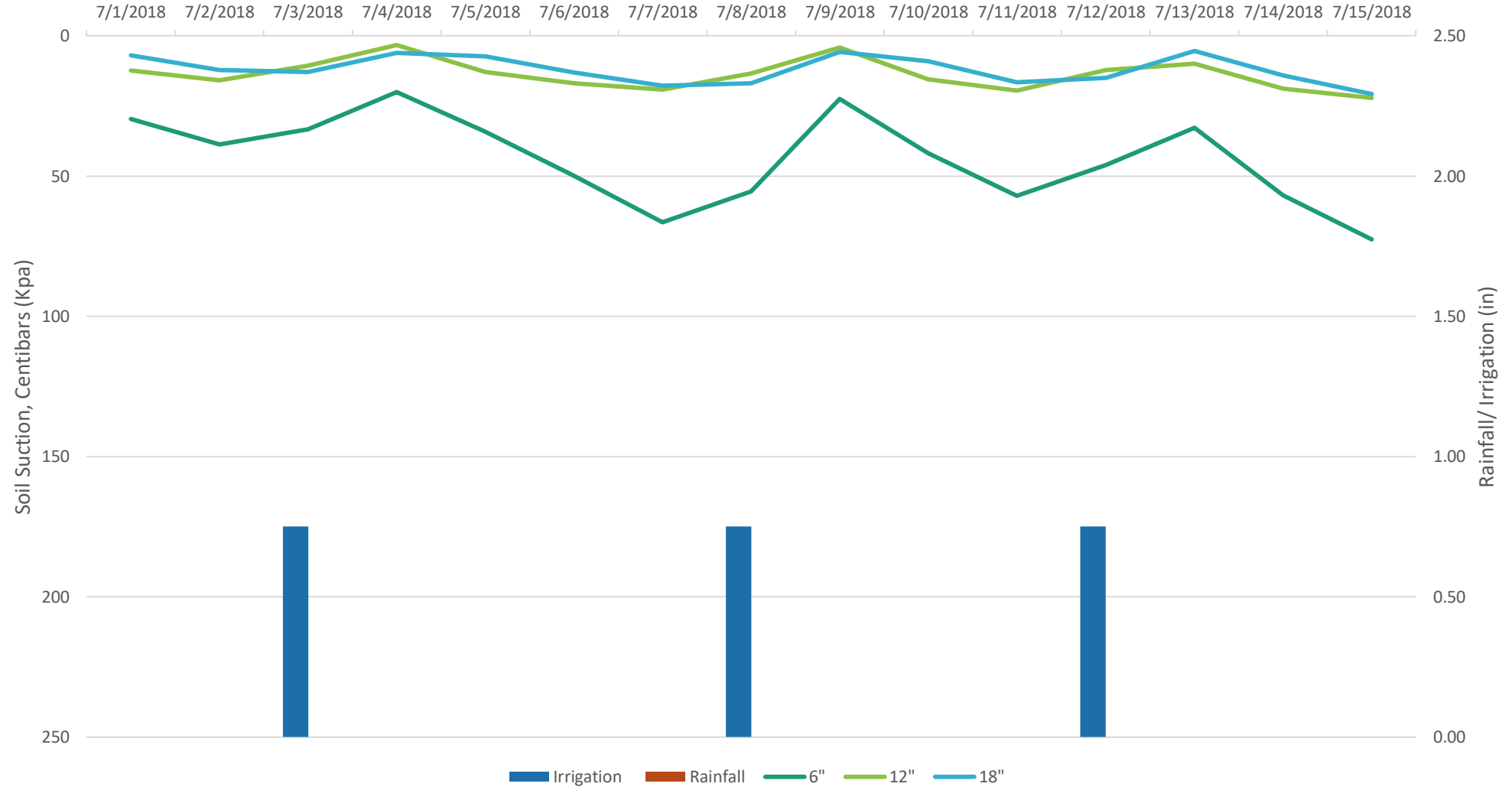


# 2018 St. Francis Termination - Early Boot

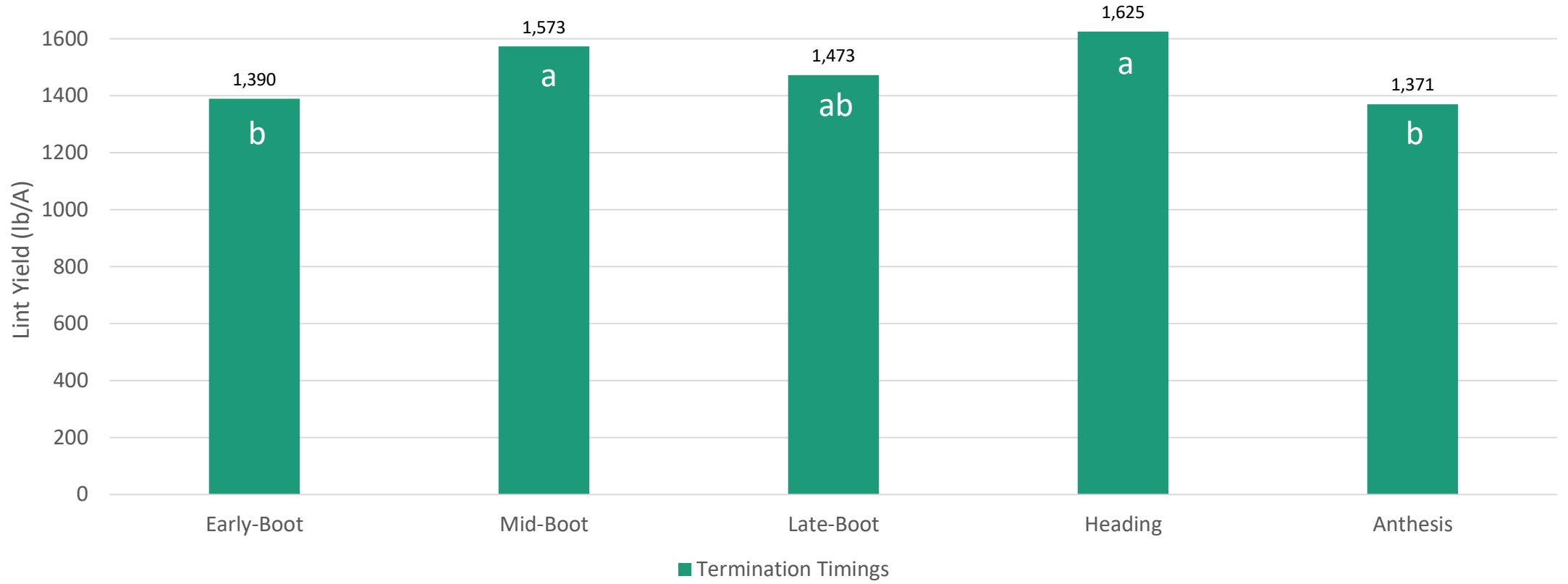




### 2018 St. Francis Termination - Anthesis



### Termination Timing Lint Yield



# A Healthy Soil

- Has increased internal drainage due to improved soil structure and biological activity
- Requires less emphasis on external drainage for crop health as internal drainage improves
- Reducing tillage and employing the use of cover crops greatly enhances health of the soil
- Assess soil health: biological, chemical, and physical analysis

"IT IS NOT THE  
STRONGEST OF THE  
SPECIES THAT SURVIVES,  
NOR THE MOST  
INTELLIGENT THAT  
SURVIVES. IT IS THE  
ONE THAT IS THE  
MOST ADAPTABLE  
TO CHANGE."

CHARLES DARWIN  
- [WEALTHYGORILLA.COM](http://WEALTHYGORILLA.COM)

