

Crop-Tech Consulting Inc.

2024 Beyond the Basics

5-part series on the 4R systems approach to soil tests, fertility, and nutrient management.

11 CEUs

Session 1
12/3

The Foundation of a Good Soil Test

Session 2
12/5

- Reading Between the Lines on Your Soil Test
- A Deep Dive into Phosphorus

Session 3
12/10

- Drilling Down on Calcium and pH
- Sifting out Lime Surprises

Videos are released
on Tuesdays and
Thursdays

Session 4
12/12

- The ABCs of Potassium
- All Things Nitrogen

Session 5
12/17

- Understanding the Soil Ecosystem

To Register :

- ⇒ Register at: <https://www.croptechinc.com/BeyondTheBasics>
- ⇒ You will receive an email with a username and password to log into the viewing site
- ⇒ Videos will be on a metered release at 12:01 AM on 12/3, 12/5, 12/10, 12/12, 12/17
- ⇒ You can submit questions on the viewing site and a Q & A video will be posted after 12/17 answering questions that were sent in that didn't already get answered.
- ⇒ Your log in and password will get you access to the material through January 15th, 2025.



Beyond the Basics



Session 1 – Released: Tuesday, December 3, 2024



The Foundation of a Good Soil Test

- ⇒ Major schools of thought for how to pull samples and write recommendations
- ⇒ What method Crop-Tech uses and why
- ⇒ What the soil test can tell you
- ⇒ Why we build zones in a field, and how that plays into a systems approach
- ⇒ Using layers of data to build your zones (aerial, LiDAR, yield maps, soil lines)
- ⇒ The importance of knowing before making a recommendation:
 - * How the sample was pulled
 - * When the sample was pulled
 - * What lab ran the test, and what extraction method was used
 - * What units are the results reported in



Session 2 – Released: Thursday, December 5, 2024



Reading Between the Lines on Your Soil Test

- ⇒ How to read the values reported and how to interpret them to make the best management decisions regarding:
 - * Organic Matter
 - * Cation Exchange Capacity
 - * P1 and P2
 - * Base Saturation
 - * pH

A Deep Dive into Phosphorus

- ⇒ Availability in the soil, and the plant uptake process
- ⇒ What role it plays in the plant
- ⇒ Phosphorous tie-up and what that changes in terms of management
- ⇒ All things starter fertilizer



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Session 3 – Released: Tuesday, December 10, 2024



Drilling Down on Calcium and pH

- ⇒ Availability in the soil, and the plant uptake process
- ⇒ What role it plays in the plant
- ⇒ How to use the pH values on a soil test to decide when, how much, and what type of lime to apply
- ⇒ What can cause false or varying pH results

Sifting out Lime Surprises

- ⇒ How to evaluate a lime source
- ⇒ Vocabulary for understanding acronyms on a lime sample
- ⇒ How lime quality standards differ between states.
- ⇒ Why a good spread pattern matters and overcoming obstacles to achieve it.



Session 4 – Released: Thursday, December 12, 2024



The ABCs of Potassium

- ⇒ Availability in the soil and what affects it
- ⇒ Plant uptake process and what impedes it
- ⇒ What role it plays in the plant
- ⇒ What causes a K^+ deficiency, how to identify it, and what it does to the plant
- ⇒ Effects of an abundance of K^+ creating imbalances in the soil

All Things Nitrogen

- ⇒ Different sources: Ammonium Nitrogen (NH_4^+), Nitrite (NO_2^-), Nitrate (NO_3^-)
- ⇒ The conversion process between the different forms, and factors that influence it
- ⇒ What source the soil microbes like best, and what the plants use most efficiently
- ⇒ How and when to protect against volatilization and leaching
- ⇒ Nitrogen Extenders
- ⇒ Illinois Soil Nitrogen Test (ISNT) and how we use it to variable rate Nitrogen
- ⇒ VRT Nitrogen and it's affect on soil health and organic matter



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Session 5 –Released: Tuesday, December 17, 2024

Understanding the Soil Ecosystem

- ⇒ Examining soil microbes' role in growing a crop
 - * Heterotrophs vs autotrophs
 - * Bacteria and fungi, small particles with big roles
 - * Stages of organic matter
 - * The carbon cycle and the importance of the carbon to nitrogen ratio
 - * Nutrient cycling-what is involved and when do you see returns

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