Showcasing Cover Crops

September 7, 2017

Clear Meadow Farm ● 3116 Troyer Road, White Hall, MD 21161

AGENDA

- 8:00 - 11:00 - Wagon Tours (30 min./stop, Each wagon will leave the shop area when full)
    - Soybean Fertility Trials; comparing high yield programs
        - AgroLiquid - Monty's - Verdesian - Mill Mix Plots
            - The three companies listed above will display their best options for growing soybeans. This is a chance for attendees to view a variety of products The Mill can custom mix to fit the fertility needs on a field by field basis. The companies have been asked to shoot for the sky and intensively manage.
            - Grower and guest speaker, Ed Stanfield will share how he is making 100 bushel soybeans from his average beans.
        - Verdesian Acre
            - All Phosphorus treated with Avail. All Nitrogen treated with Nutrisphere. Take Off Phite M-Z added in-furrow. Take Off Phite M-Z applied with Post Herbicide and again at Fungicide timing.
    - Corn Starters; comparing in-furrow fertility vs pop-ups
        - In-Furrow Fertility Trial
            - There will be no hiding with this plot. We placed Agro Liquid and two local competitors side by side for all to see, so attendees can make their own opinion as to which one looks best before harvest.
        - Verdesian Take Off Phite M-Z Trial
            - SRN applied to whole field at Post Herbicide time, and Take Off added to half the field.
    - Split Nitrogen (taking it to the next level with SUSTAIN and Adapt-N)
        - As we continue to use SUSTAIN as the foundation for our nutrient decision, we will dive deeper on why to split apply nitrogen and, maybe more importantly, how to decide how much. The station will compare a split application of N with a John Deere dry spreader (Urea + AMS) vs a John Deere Liquid Sprayer (SRN Foliar) vs a Hagie Yield 360 Y-Drop. If you are a previous crop showcase attendee, you may link last year's success (reducing total units of Nitrogen needed when a grower split applies) with this trial. Penn State's Dr. Greg Roth and a guest (to be announced in early September) will be sharing their experiences and research.
    - Preview of afternoon cover crop session while driving by the site
- 11:15-11:50 - Grain bin safety presentation inside shop; Ben King, Nationwide Insurance
- 12:00 - Lunch begins
- 12:45 - Announce wagon loading for Cover Crop session
- 1:00 - Wagons leave

- 1:15 - Session 1 begins (CIG/ARS project)
    - Steven Mirsky, USDA Agricultural Research Service, Research Ecologist
  - Intro to soil health (10 minute review of basic principles and practices below, incl. nutrient cycling and pesticide reduction benefits; mention soil health card simple field evaluation)
  - Cover crop/no cover crop study
    - Short-term benefits of cover crops with a focus on nitrogen and water availability
    - Residue composition and decay rates; effects on nutrient availability and nutrient management plan
    - Initial results: cover crops make water more available to cash crops
- 2:00 - Questions, field walk, and transition to Session 2
- 2:15 - Session 2 begins (SARE project)
    - Nevin Dawson, University of Maryland Extension, Sustainable Agriculture Coordinator
  - Project background and relationship to CIG
  - Possible benefits of late cover crop termination, including nutrient and weed control
  - Drawbacks of late cover crop termination: perceived v. actual
  - Andy Grove (planter operator): planting green
  - Soil health management self-evaluation tool preview (demonstrate on tablets if possible)
  - Preview of new SARE Soil Health outreach plan
    - Correlation between soil organic matter and soil health lab test scores
    - Crowd sourced soil organic matter mapping and tracking
- 3:00 - Field walk and questions
- 3:15 - Load wagons
- 3:30 - Arrive at shop

Soil Health Overview

What is Soil Health?

Soil Health is the continued capacity of a soil to function. Healthy soils support plants, animals, and humans by:

- Cycling nutrients and increasing their availability, leading to decreased nutrient inputs;
- Increasing water infiltration and availability;
- Maintaining a stable porous structure that withstands natural forces (e.g., water, wind).

Healthy, fully functioning soil creates a habitat that sustains diverse soil micro- and macro-organisms.

Why is Soil Health Important?

Soils that lack organic matter, structure, and microorganisms are susceptible to erosion, hold less water, and need more chemical inputs to rebalance their productivity. Improving soil health increases soil aggregates and improves soil structure, resulting in greater water infiltration, decreased erosion, reduced runoff and sedimentation, and decreased chemical inputs like fertilizers and pesticides.

Follow these 4 Key Principles to Improve Soil Health:

1. Minimize soil disturbance;
2. Maximize the diversity of plants in the rotation;
3. Keep living roots in the soil as much as possible;
4. Keep the soil covered with plants and plant residues at all times.