



**The Virginia Soil Health Coalition
Quarterly Meeting
June 16th, 2022, 10:00 AM - 12:00 PM
MEETING MINUTES**

- I. **Welcome**
- II. Can we cut nitrogen fertilizer inputs with confidence with soil health-building practices
 - a. Dr. Wade Thomason, Dr. Alan Franzluebbers, Paul Davis, facilitated by Chris Lawrence.
 - b. Chris: Focus on corn for purposes of today's conversation - corn on 500,000 acres across VA.
 - c. Dramatic example (picture) of two fields with different management
 - i. Clearly soil A can provide more N to corn than soil B
 - ii. Clearly there is an opportunity to cut back on N fertilizer- but how much can we cut? With how much confidence can we cut? What factors should be considered in making the decision? Especially on fields with soil health improvements less obvious than this?
 - iii. Wade- corn and small grains specialist with VT/VCE. Yes we can fundamentally cut back.
 - iv. Alan- USDA ARS. Studied soil for a long time. Yes can cut back.
 - v. Paul- never till since 1999, intensive cover crops since 2006.
 - d. Wade
 - i. Focused on yield potential right now.
 - ii. How does current system take into account (or not) soil's capacity to provide N in the absence of fertilizer? → Mostly indirectly. These fertilizer recommendations developed from field tests. In all of those sites the soil contributed something. By grouping all together we have one single number so it doesn't account for differences in soil and differences in the soil's ability to provide the N based on management over time.
 - iii. At state level working with Dr. Maguire, Dr. Reiter, and Dr. Frame to assess mechanisms (both biological and chemical parameters) to predict soil N requirements. In last ten years we've moved to understand better the mechanisms by which nitrogen may be released.
 - iv. At farm level I tell producers to do experiments. It's fine to have assumptions about what has been done, but this is a really complicated picture. You need a deep understanding of nitrogen cycle and longer data- importance of individual experimentation. Our current system is not very precise and not great at predicting N need on individual field.
 - v. Chris- adaptive management!
 - e. Dr. Alan Franzluebbers
 - i. Perspective on current corn N rate recommendation system- mass balance approach that Dr. Stanford created back in 60s was very useful. Scaling to yield

- potential of crop. We have learned a lot from that. The precision that Wade talked about is probably what is most lacking in many of our recommendation systems.
- ii. Standard N fertilizer recommendations don't account well enough for the sources of N available to crops, one of which is mineralizable soil N – relative yield (fraction) vs sum of available nitrogen sources (lb N/acre)
 - iii. Starting to lose money if apply too much nitrogen- there is a zone that is a little nebulous. Up to that point will increase profitability and production and minimal nitrogen loss to water sources or atmosphere.
 - iv. Relationship of soil life to soil N-supplying capacity → soil-test biological activity (STBA) is strongly associated with mineralizable soil N, both of which become surface-enriched with conservation agricultural management. Suggests strong linear association. The biological activity is in the soil.
 - v. How can growers know if their soil organic matter and biological activity is sufficiently enhanced to allow for cutting back on N fertilization of corn with confidence? They have to be able to test the soil. In dozens of field trials, level of STBA associated with yield response.
- f. Paul Davis
- i. Has done soil testing with biological activity (Alan's carbon burst test)
 - ii. Long history of never till and cover crops- trying to aggressively increase organic matter.
 - iii. What factors should a grower consider? Did some experiments back in 2012 with Dr. Thomason in a heavy vetch versus a standard singular rye. Couldn't put enough nitrogen out to get the same yield out of the rye.
 - iv. Corn yield keeps going up. Built confidence that soil has strong nitrogen providing power.
 - v. Importance of on-farm testing- on the go yield monitor almost mandatory.

III. Coalition updates

- a. Full Coalition updates and some partner updates:
https://www.virginiasoilhealth.org/files/ugd/79d740_759373c16c534a12852242b05bac47ff.pdf
- b. **USDA Partnerships for Climate Smart Commodities opportunity**
 - i. Last Quarterly Meeting we shared the RFP for the USDA Partnerships for Climate Smart Commodities and had several USDA representatives speak on it.
 - ii. Many partners involved in different proposals so hopeful for funding to come to the commonwealth.
 - iii. Speak today to proposal that VSHC was heavily involved in that would continue to fund the Coalition. Proposal submitted by National Fish and Wildlife Foundation on behalf of various Chesapeake Bay State partnerships.
 - iv. VSHC piece of proposal, three main pieces:
 1. Capacity building through integrated conservation agronomy and farmer to farmer mentoring: We will bring high-level integrated agronomic education and technical assistance capacity to the state. In partnership with VT, DCR, NRCS, and many other coalition partners, we will scale an existing innovative strategy - the "Integrated Conservation Agronomy" (ICA) model - to transform and unify implementation efforts across Virginia. VT and VA NRCS have successfully piloted the ICA model over the past 18 months-

many of you know Lydia Fitzgerald who is the current embodiment of that model. We propose leveraging the pilot's momentum and lessons learned to expand this cross-agency collaboration. We will also expand the existing network of farmers/demonstration farms to further expand capacity.

2. CSAF Pilot projects: The Coalition will partner with researchers from the VT College of Agriculture and Life Sciences and DCR to implement three pilot projects to increase acreage of implementation of CSAF practices measure and quantify the carbon sequestration and greenhouse gas reduction and associated economic benefits.
3. Climate Smart Market Development and Value Chain Coordination: We will work with supply chain partners across Virginia to foster supply and demand for climate-smart commodities. We will prioritize ensuring equitable access to these markets for small, mid-sized, and historically underserved producers, jumpstarting emerging initiatives in this arena.

c. Southern SARE Professional Development Program grant

- i. VT/VSU and VSHC partners received funding from Southern SARE PDP program to develop and implement soil health training for conservation professionals across the state. Planning to begin later this month with anticipated programming starting this fall.
- ii. Steering Committee saw need for a comprehensive, both informational and inspirational, training for agricultural and conservation professionals on soil health. We also saw the benefits of multiple approaches to training, a buffet if you will, as opposed to one intensive training, so more a buffet of options.
- iii. Proposed activities include: 1) webinar trainings; 2) field days/in-person workshops; 3) Series of written/video case studies and video soil health demonstrations; 4) Creation of online library of resources; 5) Continue networking among conservation and agricultural professionals across the state.

d. Strategic planning

- i. Coalition is currently embarking on a Strategic Planning process to identify opportunities for increased collective impact and our priorities over the next three years. We started this process in April and it will continue until about October
- ii. This process is guided by the Coalition's Steering Committee, staff, and other key constituents. We are excited to work with Due East Partners
- iii. We will have the opportunity for more feedback today but also want everyone's input via the following survey: https://www.surveymonkey.com/r/VSHC_Survey

IV. The future of the VA Soil Health Coalition: A strategic planning session with Due East Partners

- a. Due East Partners: brings over three decades of experience in strategic planning and hands-on management.
- b. May 12th- visioning session with Steering Committee and Strategic Planning Committee. Feedback from that meeting and other stakeholder input led to the draft vision and mission that are being shared today.
- c. Summary breakout group 1 (facilitated by Bess)
 - i. Vision: discussion about qualifying words and can we just simplify to "healthy soil supporting farms, food, and communities"

- ii. Mission: liking front end but can we get more specific about what we do
- iii. Priorities: Role in education and building awareness, building resources we need for Coalition and work we do, importance of coordination.
- d. Summary breakout group 2 (facilitated by Sarah)
 - i. Vision; some liking some of the qualifiers. Need to include the environment to encompass water, air, ecosystem. Thriving ecosystems?
 - ii. Mission: Feeling like this is a good start but maybe adding in a little color and context about what result group wants to accomplish. Potentially add in the word expansive.
 - iii. Priorities: Helping people get more clear about what soil function they want and how to improve it, education and facilitation, fostering innovation, engaging farmers, continuing to communicate.
- e. Summary breakout group 3 (facilitate)
 - i. Vision: Thinking more than soil. Specifying co-benefits and overall ecosystem.
 - ii. Mission: What does inclusive mean to the Coalition?
 - iii. Priorities: Education being a central role. Sharing information resources.
- f. Lots of overlap overall.

V. Announcements/wrap-up

- a. Upcoming events (can find full list at www.virginiasoilhealth.org/calendar):
 - i. June 18th: Save Soil RVA Walkathon
 - ii. June 22nd: Science on Tap with 4 The Soil at Rising Silo Brewery
 - iii. June 22nd: VA Association of Soil and Water Conservation Districts Board Meeting
 - iv. June 22nd: 2022 Vegetable and Strawberry Field Day at the Eastern Shore AREC
 - v. June 23rd: Weed Science Field Day & Delmarva Weed Tour at the Eastern Shore AREC
- b. Reminders
 - i. Share your logo in support of Coalition's mission, vision, and principles
 - ii. Take the pledge and download the podcast: www.4thesoil.org
 - iii. Reach out to us about project ideas and collaboration opportunities
 - iv. Have a topic you want to hear more about or want us to bring a speaker in-let us know
 - v. Stay tuned for more information on soil health training