Meeting Notes

Northeast Regional Committee on Soil Testing

NECC-2312

Thursday and Friday, October 5-6, 2023

Grey Towers (USFS), 122 Old Owego Turnpike, Milford, PA 18337

**Thursday, 10/05/23**

**Time Topic Led By**

1:00 pm Welcome, Discussion of Agenda Q. Ketterings

 New/returning participant introductions

Review & Approval of 2022 Minutes

*Minutes were approved unanimously.*

Election/Appointment of 2024 Chair (alphabetically; PA is up next)

*Spargo and White will co-chair for 2023-24 year*

1:30 pm NECC 2312 renewal K. Gartley

*K. Gartley led the renewal of the NECC 2312 project in NIMSS. See attached objectives report. Plan is good through 2028.*

1:45 pm Joint soil testing meeting in 2024 J. Spargo

*North Central region hosting. Daniel Kaiser is organizing the meeting the first week of June in the Twin Cities, MN. The meeting is usually Weds, Thurs, Fri. Dates will be locked in when the venue is confirmed. NECC will coordinate with Dan to draft the agenda. Will still hold the NECC meeting in October 3 and 4 at Grey Towers.*

*Topic ideas for MN: Northeast Regional P Index, Mid-Atlantic Chesapeake Bay work*

*Should private labs be invited to attend the NECC meetings? Private labs share same issues as public labs. But would private labs feel any incentives to attend the NECC meeting?*

2:00 pm NAPT update B. Hopkins

*J. Spargo serving as chair of oversight committee. 150 labs participating, which is holding steady even as some labs go out of business. Ag Gateway project to standardize methods and reporting units across labs. Ability to support acceptance of CSV or XLS files. Most large private labs are doing both ALP and NAPT. A few states require labs meet the standards of NAPT or ALP proficiency. ALTA acts as certifying agent for NAPT and ALP. PAP certification for NRCS requires having a method that passes proficiency for pH, nitrate, P and K. NAPT started collecting soil health data this year, but do not have enough participating labs to conduct the statistics.*

2:15 pm National FRST project update J. Spargo

*Advance accuracy of fertility recommendations with science-based tool. Develop community of practice, develop searchable tool for soil test correlation and calibration, provide for nutrient management scientist and modelers. Over 100 collaborators from 50 institutions.*

*Completed:*

*survey of land grant soil test practices and recommendations;*

*minimum dataset for soil test correlation and calibration trials;*

*collected legacy soil test correlation and calibration data;*

*determine relative yield definition for FRST;*

*soil test fertility trials.*

*Ongoing:*

*soil test fertility trials;*

*sampling depth study;*

*modeling soil test correlation data;*

*develop user-friendly searchable database;*

*lime project.*

3:00 pm Regional FRST project proposal H. Tao

*New NRCS-CIG funded project will conduct 45 fertilizer response trials over next 2 years in CT, NY, PA, DE, NJ, WV, and VA. Goal is to determine crop responsiveness, improve climate resilience, evaluate additional soil heath data (SOC&N, CO2 respiration) as covariates, update crop removal nutrient values. Experimental design will conform to FRST minimum standards and results will be submitted to FRST database.*

3.30 pm Break

4:00 pm Northeast region methods manual (action plan) B. Hoskins

*Consider adding chapter on recommended high tunnel soil testing. Conduct survey on what methods are being used for high tunnels. Authors review chapters and update what is necessary.*

Northeast CCA manual & Updates to Mid-Atlantic Nutrient Management Guide A. Shober

*A group is assembling to revise the Mid-Atlantic Nutrient Management Guide. Several members of the NECC group will be participating in the revisions. The guide is used as the standard for nutrient management training in several Mid-Atlantic states.*

*The Northeast CCA manual is also available as a resource for soil fertility and nutrient management topics.*

5:00 pm Adjourn

**Friday, 10/06/23**

**Time Topic Led By**

8:00 am State Reports All

*See attached reports.*

9:00 am 2nd edition of Mineral Nutrition and Plant Disease J. Heckman

*New edition of best-selling book released in 2023. Joseph updated the chapter on manganese. Understanding the role of plant nutrition in managing plant diseases is relatively overlooked and diseases are mostly managed with pesticides. However, resistance to fungicides is a growing concern. Mineral nutrition is often more cost-effective than fungicides. One of the problems with academic textbooks like this is that it is difficult for growers and the public to relate to it. Nitrogen management (NH4 vs. NO3) can have an effect on the type of resistance to certain pathogens. Index can be a great tool to navigate the book for finding info on specific nutrients, crops, or diseases.*

*Manganese is at the top of the list for micronutrient effects on diseases because pathogens can oxidize Mn which reduces availability. Cultural control can help, like a firm seedbed which allows for some anaerobic microsites. Mn fertilizer costs much less than fertilizers.*

9:30 am Ni application and improved urea conversion in tomato A. Rabinovich

*Urease has nickel in the molecular structure. Also involved in 11 different enzyme pathways that create proteins which break down radicals from stress. Experiment involved 3-way factorial of treatments with calcium, nickel, and irrigation (50% water vs. full water). Nickel was applied foliar at 25 mg/plant (0.25 lb/ac) when plants were 4-5” tall. Nickel is very mobile in the plant because it was detected in tissue tests 40 days later. Nickel had a prominent effect at doubling the biomass and increasing leaf nitrogen concentration, and increasing nickel gene expression. All plants got the same amount of urea. Foliar application of nickels could be the way to go in order to prevent soil contamination issues.*

10:00 am Break

10.30 am NE region P Index – spreadsheet tool under development Q. Ketterings

*New version of Northeast P index has been under development for several years. Was released in 2020. Switched from source x transport to transport x BMP. Get a relative transport score if manure were to be applied then multiply by BMP factors of method of application (setbacks, placement), groundcover and timing. If get over 100, applications are not allowed. >160 ppm Morgan, P applications not allowed. Matrix of PI score and soil test P controls whether manure rates can be N-based, P-based, or zero P.*

10.45 am Recalibration of PSNT and CSNT C. White

*Pennsylvania has updated their PSNT algorithm based on new research sites in corn. The algorithm is based on yield goal multiplied by a factor, minus PSNT nitrate level multiplied by a factor. There is only one “history factor”, which applies when there is a long-term manure history. The formula works for grass and legume monoculture cover crops and winter fallows and a variety of preceding crops in rotation. There is not a fixed critical level of nitrate-N concentration at which the sidedress rate is zero, rather it scales with the yield goal. Pennsylvania is also working on a dataset to update the corn stalk nitrate calibration/interpretation ranges.*

11:15 am Manure Expo 2023 in NY Q. Ketterings

*The North American Manure Expo is being held in Auburn, NY in 2024.*

11.30 am NEBCSA in 2024?

*Northeast Branch of tri-societies is being rejuvenated. Full slate of leaders has been elected. Summer meeting will be hosted at Cornell in Summer 2024.*

11:45 am Summarize goals for 2024 All

*Update the soil testing methods manual. Chapter authors have been identified for all. Bruce and Karen will coordinate the effort.*

12:00 noon Adjourn

Attendance (17):

NAPT:

Bryan Hopkins <hopkins@byu.edu>

New York:

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Pennsylvania:

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