**NC 1195 Meeting Minutes**

**Project/Activity Number:** NC1195

**Project/Activity Title:** Enhancing nitrogen utilization in corn based cropping systems to increase yield, improve profitability and minimize environmental impacts

**Period Covered:** March 4, 2021 to February 28, 2022

**Date of this Report:** March 21, 2022

**Annual Meeting Date(s):** March 1-2, 2022

**Meeting attendees:**

14 attendees. Canisares, Lucas ([Lucas.canisares@uky.edu](mailto:Lucas.canisares@uky.edu)) – University of Kentucky; Erickson, John ([john.erickson@usda.gov](mailto:john.erickson@usda.gov)) – NIFA National Program Leader; Horwath, William [wrhorwath@ucdavis.edu](mailto:wrhorwath@ucdavis.edu)) – University of California Davis; Khanal, Sami ([khanal.3@osu.edu](mailto:khanal.3@osu.edu)) – Ohio State University; Laboski, Carrie ([laboski@wisc.edu](mailto:laboski@wisc.edu)) – University of Wisconsin; Lamkey, Kendall ([krlamkey@iastate.edu](mailto:krlamkey@iastate.edu)) – Iowa State University; Li, Xiaofei ([xiaofei.li@msstate.edu](mailto:xiaofei.li@msstate.edu)) – Mississippi State University; McDaniel, Marshall ([marsh@iastate.edu](mailto:marsh@iastate.edu)) – Iowa State University; Norton, Jeanette ([Jeanette.norton@usu.edu](mailto:Jeanette.norton@usu.edu)) – Utah State University; Owens, Vance ([Vance.Owens@usda.gov](mailto:Vance.Owens@usda.gov)) – USDA-NIFA National Program Leader; Poffenbarger, Hanna ([hanna.poffenbarger@uky.edu)-](mailto:hanna.poffenbarger@uky.edu)-) University of Kentucky; Russell, Ann ([arussell@iastate.edu](mailto:arussell@iastate.edu)) – Iowa State University; Saha, Deb ([dsaha3@utk.edu](mailto:dsaha3@utk.edu)) – University of Tennessee; Yin, Frank ([xyin2@utk.edu](mailto:xyin2@utk.edu)) – University of Tennessee

**Brief summary of minutes of 2022 annual meeting:**

The 2022 meeting was held March 1-2 virtually online.

* The 2021 meeting minutes were approved with no changes or discussion.
* State reports. All attendees gave 15-30 minute presentations about their work relevant to this project theme, followed by discussion of each topic area:
  + Lucas Canisares and Hanna Poffenbarger (University of Kentucky): Cover crop effects on corn and cotton optimum N rate
  + Will Horwath (University of California Davis): Practices for carbon neutrality in California agroecosystems
  + Ann Russell (Iowa State University): Translating scientific research into user-friendly, online education resources
  + Jeanette Norton (Utah State University): Managing microbes for N cycle sustainability
  + Xiaofei Li (University of Mississippi): Machine learning for predicting the EONR
  + Carrie Laboski (University of Wisconsin): Weed control, phosphorus, and potassium effects on corn response to N rates; predicting AONR using soil health tests
  + Marshall McDaniel (Iowa State University): Rhizosphere nutrient/microbe dynamics in diversified and conventional cropping systems
  + Deb Saha (University of Tennessee): Cover crops mitigated nitrous oxide emissions from extensive soil drying and rewetting
  + Sami Khanal (Ohio State University): Understanding cover crop presence, biomass, and impact on yield of cash crops
* NIFA update. John Erickson and Vance Owens gave the NIFA update:
  + Staffing is as good or better than it was before the move to Kansas City in 2019
  + Staff are still working remotely, although there is a plan to return to the workplace
  + New RFAs have been delayed due to transition to new administration
  + Priorities
    - Addressing climate change – mitigation, adaptation, equity and environmental justice, research and development
    - Equity and inclusion
    - More and better market opportunities
    - Food and nutrition insecurity
    - Making USDA a great place to work for everyone
  + Program highlights
    - Sustainable Agricultural Systems – RFA should be out shortly
    - AFRI Foundational and Applied Science – Year 2 of 2-year RFA
      * Increased budget size ($650K) for standard grants
      * Partnership opportunities can increase budget by $150K
      * New Investigator seed grants – open and eligible to all institutions
  + Double check that you have the correct NPL when reaching out about program opportunities
* Administrative update. Kendall Lamkey gave the Administrator Advisor’s report.
  + Congratulations on the new project.
  + Moving forward, we should encourage broad participation in our committee – we could integrate stakeholders outside of academia and have members outside of north central region.
  + Continue find ways to work together and develop synergistic collaborations among members of the committee.
  + NCRA webpage has good info on impact reporting
    - [North Central Regional Association (NCRA) (ncra-saes.org)](https://www.ncra-saes.org/)
    - [Virtual NC Multistate Handbook | ncra (ncra-saes.org)](https://www.ncra-saes.org/multistate-handbook)
* Key discussions:
  + Several members are interested in machine learning with multivariate datasets
  + We could consider applying for the Climate-Smart Agriculture Partnerships program and/or Sustainable Agricultural Systems program
    - Set up on-farm research in different states
    - Integrate economic analysis
  + Several members are interested in developing a compilation of EONR/AONR vs CO2 burst data to evaluate the potential of this test to improve N fertilizer recommendations. We discussed writing a grant proposal to hire a PhD student or postdoc to work on this.
* Meeting in 2023: The group agreed to hold the next meeting on March 7-8, 2023 at Fairfield Inn and Suites, Kansas City, MO.
* Executive Committee changes: The current Secretary, Hanna Poffenbarger, will be the Chair in 2023; the current Member-at-Large, Sami Khanal, will be the Secretary. Debasish Saha was elected as the Member-at-Large for 2023. The current Chair, Xiaofei Li, will be the past Chair.