State Reports - 2024

2024 NCERA 103 State Report – Kentucky

1. The University of Kentucky has officially participated in the NCERA 103 since 2011. The office of the Associate Dean for Research fully supports participation and covers travel expenses associated with this meeting.
2. A statewide research project was conducted in 2022 – 2023 to test the effectiveness of a "liquid calcium" product (Advance-Cal, Agri-Tek International, LLC) with claims to neutralize acidity with a use rate of 2-5 gallons of product per acre. This work has been publicized in multiple field days, county meetings, and NRCS and extension agent trainings. In addition to the presentations, multiple posters and publications were posted, reposted, and viewed in multiple venues. A colleague presented the data at the American Forage and Grassland Conference to a national audience. A YouTube video is posted on the KY Forage Home page (https://www.youtube.com/watch?v=KnPzvNVb0k8) that has almost 1000 views to date. I don't have exact values, but I have had dozens of Ag agents contact me for the publication to provide this information to producers asking about using their product. Most of those interested in the product are smaller producers that do want or are not able to have a lime truck spread lime on limited areas. A conservative estimate that use is that I am contacted by 20 people each year that decide to not use the Liquid Lime for a total area of over 1,000 acres. This is saving producers' money two ways; from spending money on a product that doesn't work and losing yield by keeping them from using a product that works (ag limestone) and will change soil pH.
3. UK provided Kentucky specific data that was included in the collaborative NCERA-103 publication "Performance of Selected Commercially Available Asymbiotic N-Fixing Products in the North Central Region" last year. (https://www.ndsu.edu/fileadmin/snrs/Files/SF2080_Performance_of_Selected_N-fixing_Products.pdf

   This publication is shared with the UK Extension agents when questions arise. Agents were appreciative to have this information available for their use.

4. I regularly share the NCERA 103 website with agents, producers and other interested parties when I receive questions related to non-traditional or questionable products. I send the link to the website with the UK Extension listserve (120 counties) annually and probably another 10-15 times throughout the year. This website is extremely useful for investigating little or unknown products making unrealistic claims. Just having access to the website is worth participating in the NCERA 103 committee. It was a little disappointing when seeing the website metrics at our last meeting. I will link this to the QR code to include in extension publications to try to increase the use of the website by interested parties.

Bijesh Maharjan – University of Nebraska-Lincoln

Issue

Groundwater quality has remained a prime concern in Nebraska. In addition to human health concerns due to nitrate contamination in water, small rural communities are hit hard economically as it costs a considerable amount of money to purify water for their communities.

Action

There are numerous projects surrounding optimizing nutrient management to address water quality issues.

Findings/Outputs

In Western Nebraska, sugar-yield based fertilizer N model has been devised which allows farmers to reduce N input without adversely affecting their production. Traditionally, farmers apply N based on beet yield target.

Impact

This new N model in sugar beet can potentially reduce N input on farm acres by 20-30% every year, thereby, saving N cost upfront for farmers and also contributing towards environmental sustainability.

North Dakota State University State Report for NCERA-103
Brady Goettl, North Dakota Representative

Various alternative soil amendments and additives continue to be marketed to North Dakota crop producers, especially those products marketed to reduce fertilizer inputs. The Extension circular *Performance of Selected Commercially Available Asymbiotic N-fixing Products in the North Central Region,* developed by the collaborative effort of the NCERA-103 committee and published by North Dakota State University-Extension, has received over 2,300 views and has been downloaded 300+ times, indicating interested parties are looking to Extension for information of the efficacy of biologically-based soil amendments. With the increasing issue of acid soil in western North Dakota and limited sources of liming products, “liquid lime” products are being heavily marketed. Research is being carried out to develop recommendations for soil acidity management including liming rates and the use of byproducts as liming agents.

South Dakota

General Comments:

Activities/Outputs:

Fourteen soil fertility research trials were conducted on farmer cooperator fields to compare various combinations of fertilizer rates, products, application timings, and placement methodologies. These were used as demonstrations to show local farmers the effectiveness of university fertilizer recommendations.

Educational presentations were held to provide information regarding current fertilizer recommendations as part of seven SDSU Extension events to over 620 people. Two YouTube videos were also created by SDSU Extension specialists to explain phosphorus soil testing and subsequent fertilizer recommendations and have been viewed over 1,200 times.

A fact sheet was created by SDSU State Extension specialists to help individuals understand two of the main N fertilizer rate guideline methods used in the U.S. Midwest and their accuracy within South Dakota cropping systems.

Impact Statements:

Evaluations from SDSU Extension Events indicated that 80% of participants agreed that their knowledge regarding soil fertility recommendations increased as a result of attending the educational events. Additionally, one farmer we did a demonstration trial with us stated: “It’s all great information and data, glad to be a part of it". Farmers also benefited from learning about updated potassium recommendations where including additional soils information from cation exchange capacity, clay content and a biological test measuring microbes improved correct potassium recommendations by six percent. For crop consultants and agronomists, increasing their knowledge related to current soil fertility recommendations helps them save the farmers they work with money from lowering fertilizer costs. management practices.

NCERA-103

Name: Dorivar Ruiz Diaz
University: Kansas State University

Notes for the minutes:

List of new products this year that you've come across, with short description of what they are and any potential concerns you may have.

- *We continue to see new products defined as "biologicals" that might include inoculants applied with the seed, or with starter fertilizers, in-furrow.*

What products are people asking about (current or new products) and if there specific questions asked about a product.

- *Many of the questions are related to the "biologicals" currently offered in the market.*
- *Also "enhanced" fertilizers with the addition of humic acids.*
- *Many questions on "liquid calcium" as a source of Ca for crops.*

Impact Statements:

Results from our research on non-conventional products were used for extension educational programs providing local information to producers to improve efficiency and reduce cost. This information also helps to adapt new technologies and products for local produces.