

The meeting of the South Dakota Nutrient Research and Education Council (NREC) was called to order by Chairman Ryan Wolf at 9:00 AM, July 7, 2022 at the SDSU Raven Precision Agriculture Center, Brookings, SD.

In attendance were council members Ryan Wolf, Ryan Schuchhardt, Colin Nachtigal, Jim Loken, Kevin Bachmeier, Jerry Runia, Kyle Gustafson, Bruce Haines, Bryan Jorgensen, Bill Gibbons, Tom Gere, and Paul Wegleitner. Also, in attendance was Angela Loftesness, Assistant to the Dean, College of Agriculture, Food and Environmental Sciences.

Ryan Wolf opened the meeting by asking for corrections or additions to the December 2, 2021 minutes. Bruce Haines moved to approve the December 2, 2021 minutes as presented. The motion was seconded by Kevin Bachmeier and the motion carried.

Jim Loken and Angela Loftesness reviewed the Financial Reports dated July 6, 2022. Kevin Bachmeier moved to accept the Financial Reports dated on July 6, 2022. The motion was seconded by Kyle Gustafson and the motion carried.

The draft 2023 Request for Preproposals was reviewed. Ryan Schuchhardt moved to approve the 2023 Request for Preproposals as presented. The motion was seconded by Jim Loken and the motion carried.

Ryan Wolf asked the Council to review the draft 2023 Request for Proposals. Bruce Haines moved to approve the 2023 Request for Proposals as presented. The motion was seconded by Kevin Bachmeier and the motion carried.

The terms of Council members were reviewed with Ryan Schuchhardt, Colin Nachtigal and Robert Walsh completing terms in December. The term dates for Kyle Gustafson will need to be reviewed in December.

Ryan Wolf asked the Council to review the draft of bylaws dated December 2, 2021. Bruce Haines moved to approve the bylaw draft dated December 2, 2021. The motion was seconded by Jim Loken and the motion carried.

Grant terms and conditions were reviewed. Colin Nachtigal moved that extension should be only for six months and that final costs shall be submitted within 60 days following the project end date. The motion was seconded by Kevin Bachmeier and the motion carried.

Consent projects for the December agenda were discussed. Jerry Runia moved that ten projects should be on the consent agenda for the December meeting, pending preproposal submission. The projects for consent are as follows:

- Jason Clark: Nitrogen fertilizer recommendation Update for Corn (3SF535), year 4 of 4, \$91,982.
- Sunish Sehgal: Breeding for Improved Nitrogen Use Efficiency (NUE) in South Dakota Winter Wheat Under Regenerative Agriculture Management (3SA175), year 1 of 3, \$74,625.

- Robert Miller: Evaluation of Soil Test Potassium and Side Dress Application of Potassium and Biochar on Corn Nutrition and Grain Yield in Eastern South Dakota (1847), year 1 of 4, \$34,000.
- Robert Miller: Evaluation of Zinc and Boron Micro-nutrients on Corn Nutrition and Grain Yield in Eastern South Dakota (1848), year 1 of 3, \$34,000.
- Lin Wei: Application of biosolid-based nitrogen control release fertilizers to improve nitrogen use efficiency of corn production and soil health in South Dakota (3SA175), year 1 of 1, \$95,405.
- John McMaine: Identifying Nutrient Loss Hot Spots in Tile Drainage, (3SC431), year 3 of 3, \$12,820.
- John McMaine: Engaging, Educating, and Empowering Agriculture through an NREC Focused Podcast Season (3SA177), year 1 of 1, \$12,000.
- David Clay: Influence of nitrogen stabilizers and application dates in no-tillage corn production on nitrogen use efficiency and N losses to the atmosphere and groundwater (3SB437), year 2 of 3, \$90,801.
- Peter Kovacs: Investigating Impact of Starter Fertilizer Placement on Plant Development, Grain Yield, and Nutrient Uptake (3SB435), year 2 of 4, \$89,954.
- Peter Kovacs: Investigating fertilizer response and requirement in high protein soybean varieties (3SB434), year 2 of 4, \$80,326.

The motion was seconded by Jim Loken and motion carried.

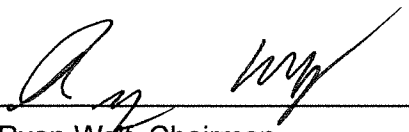
At 9:30 AM, project updates were presented as follows:

- Jason Clark: Combining soil fertility and soil health to improve corn potassium, phosphorus, and sulfur fertilizer recommendations (3SC430), year 2 of 2, \$69,993.
- Jason Clark: Building potassium fertilizer guidelines that include soil classification information (3SC433), year 3 of 3, \$107,721.
- Jason Clark: Nitrogen fertilizer recommendation Update for Corn (3SF535), year 4 of 4, \$91,982.
- Jason Clark: Influence of interseeding cover crops on nitrogen fertilizer rate requirement for optimal corn grain yield in a no-till system (3SD417), year 3 of 3, \$74,224.
- Sunish Sehgal: Breeding for Improved Nitrogen Use Efficiency (NUE) in South Dakota Winter Wheat Under Regenerative Agriculture Management (3SA175), year 1 of 3, \$74,625.
- David Karki: Calibration of Nitrogen requirement of oats grown for grain in South Dakota (3SF340), Year 5 of 5, \$35,382.
- Robert Miller: Evaluation of Soil Test Potassium and Side Dress Application of Potassium and Biochar on Corn Nutrition and Grain Yield in Eastern South Dakota (1847), year 1 of 4, \$34,000.
- Robert Miller: Evaluation of Zinc and Boron Micro-nutrients on Corn Nutrition and Grain Yield in Eastern South Dakota (1848), year 1 of 3, \$34,000.
- Lin Wei: Application of biosolid-based nitrogen control release fertilizers to improve nitrogen use efficiency of corn production and soil health in South Dakota (3SA175), year 1 of 1, \$95,405.
- Srinivas Janaswamy: Synthetic nodules for nitrogen nutrition in cereal crops (3SA436), year 2 of 5, \$49,932. No longer funded.

- John McMaine: Identifying Nutrient Loss Hot Spots in Tile Drainage, (3SC431), year 3 of 3, \$12,820.
- John McMaine: Precision Controlled Drainage for Reducing Nutrient Loss through Tile Drainage and Improving Yield (3SA176), year 1 of 4, \$54,285.
- John McMaine: Engaging, Educating, and Empowering Agriculture through an NREC Focused Podcast Season (3SA177), year 1 of 1, \$12,000.
- Sam Ireland/Dwayne Beck: The impact of soil test level differences on crop response, P leaching, and P runoff under long-term no-till management in South Dakota (3SF426), year 5 of 5, \$78,628.
- David Clay: Influence of nitrogen stabilizers and application dates in no-tillage corn production on nitrogen use efficiency and N losses to the atmosphere and groundwater (3SB437), year 2 of 3, \$90,801.
- David Clay: Building a South Dakota Corn No-tillage N Recommendation Algorithm that Considers Improvements in Soil Health (3SD416), year 4 of 4, \$47,152.
- Ali Nafchi: Development of an Inexpensive Y-drop System Combined with a Cover Crop Planter to Improve Nitrogen Use Efficiency While Inter-Seeding Cover Crops (3SA172), year 1 of 3, \$103,907.
- Peter Kovacs: Investigating Impact of Starter Fertilizer Placement on Plant Development, Grain Yield, and Nutrient Uptake (3SB435), year 2 of 4, \$89,954.
- Peter Kovacs: Investigating fertilizer response and requirement in high protein soybean varieties (3SB434), year 2 of 4, \$80,326.
- Peter Kovacs: Influences of manure and fertilizer application in corn-soybean-spring wheat/cover crops rotation on water availability and quality, soil fertility, and crop yield (3SB438), Year 2 of 2, \$81,770.

The next meeting will be held in-person in December 2022 and Angela Loftesness will send out a request for possible meeting dates. Ryan Schuchhardt moved for the meeting to adjourn and the motion was seconded by Jim Loken The motion carried and the meeting adjourned at 3:45 PM.

Submitted by:

A handwritten signature in black ink, appearing to read "Ryan Wolf", is written over a horizontal line.

Ryan Wolf, Chairman