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MEMO TO: NREC Potential Project Investigators
FROM: Matt Duncan, NREC Research Committee Chair
RE: **REQUEST FOR 2022/2023 NREC PROJECT PROPOSALS**

We are pleased to announce the solicitation of projects for the crop year 2023 for the Illinois Nutrient Research & Education Council (NREC).

NREC's priority is funding projects that advance the science of products and practices that increase the efficiency of nitrogen and phosphorus use while maintaining productivity goals. It is expected that the results of such projects will be shared with other scientists by publishing in peer-reviewed scientific journals. We also expect the results to be widely distributed to farmers and crop advisors via meetings, news releases, and electronic media in a manner that effectively promotes and assures implementation of the derived conclusions or best management practices.

We are looking for research projects that achieve a new level of understanding of improved agronomic nutrient and conservation practices by producing results showing how applying a systems approach to nutrient management impacts nutrient use efficiency, farm economics, and nutrient losses. A multidisciplinary, multiple site system of practices is needed to produce recommendations that are practical and implementable on farms throughout Illinois. Therefore, priority will be given to those projects that demonstrate a multidisciplinary approach and collaborate with researchers from other universities or entities.

Under our new funding cycle, it is expected that any project proposed with cover crops, fall nutrient applications or other fall treatment be initiated the year funding is awarded. With this in mind, site identification, cooperators, equipment, and other needs must be complete when submitted.

Economic Cost/Benefit Analysis: Feedback from farmers in Illinois consistently shows that a major hurdle in the adoption of conservation practices is the lack of economic information. To that point, we are looking for research proposals that include an annual economic analysis OR a

stand-alone project that utilizes data from other NREC-funded projects in order to conduct the economic analysis.

For 2023, NREC is focusing on the following key areas of investigation that farmers and other key stakeholders have identified as needed based upon the goals outlined in the Illinois Nutrient Loss Reduction Strategy. While much of our current research has been focused on nitrogen and phosphorus, we recognize that other nutrients play a role in crop nutrition and we are open to research projects that look beyond these two primary nutrients.

1. Continue studies testing the impact of N management systems on efficiency of N use.
 - a. Evaluate the efficacy of combinations of (4R's) source, place, rate and time of application on N efficiency
 - b. Synergistic approaches to 4R's including utilization of macro/micronutrients to improve N efficiency
2. Cover crop systems: Evaluate the economics, feasibility, water quality impacts and best management practices of growing cover crops to address nitrogen and phosphorus loss as well as crop productivity. Proposals should address all aspects of cover crops from crop selection, seeding and grazing through crop termination and subsequent mineralization and nutrient release.
 - a. Regionalized distribution of research into cover crop systems following soybeans and ahead of corn to maximize corn production and minimize nutrient losses
 - b. Cover crop options beyond cereal rye
 - c. Addition of wheat or other cash crop to corn/soybean rotation to increase nutrient utilization
 - d. Nitrous oxide emissions from cover crop systems
3. Technical assistance to educate on the agronomic and environmental benefits of reduced tillage/strip till/erosion control and the placement, timing and rate of nutrient applications throughout the entire state.
4. Phosphorus: Continue studies testing the impact of phosphorus management systems on efficient phosphorus usage, the role of legacy phosphorus both in agricultural production lands and streambanks and streambeds, as well as placement and timing of phosphorus applications in corn and wheat.
5. Research proposals that go beyond the "known" into more innovative (novel, inventive, original) and forward-looking research. This could include edge-of-field practices, new technologies, modeling, unique partnerships, etc.

We encourage you to submit well-defined proposals that will generate publishable results and also useful to crop producers and the agribusiness industry in their quest for higher yields, while minimizing potential negative environmental impacts of crop production practices in

Illinois. In addition to detailed mid-year and year-end project reports, we also require that each project identify at year-end any critical observations learned from the study that can be shared with the industry and the general public.

NREC is currently funding 31 projects and many of these will be considered for continued funding in 2023. Please go to www.illinoisnrec.org to view a summary of these projects as well as the 2020 Annual Report. A review of these current projects will provide insights into the types of projects that are typically funded by NREC and will also allow applicants to avoid duplication of projects already underway. NREC does encourage new proposals that expand or build upon current projects but must demonstrate a new methodology, scope, etc. The 2021 Annual Report will be available later this Spring.

Attached is an outline for submitting a project to NREC, a standard cover sheet and the project budget template. Proposals must be limited to ten pages total and the synopsis to one page. You can modify the budget template accordingly to best reflect your project's unique or specific budget items. Please be succinct but descriptive with your project titles and include an email and telephone number where the lead investigator can be reached.

Please submit your proposals in PDF format via email to the NREC Research Manager at sgolovay@illinoisnrec.org by May 13th. Shani will acknowledge receipt of your proposal. The NREC Council will consider the proposals and will announce in August 2022 the projects NREC will fund in the 2022/2023 crop year. If you have questions, please contact Shani via email or phone (618-593-9229).

Thank you for your interest in NREC and helping us pursue research and educational projects to advance Illinois agriculture and protect our natural resources.