IOWA STATE UNIVERSITY College of Agriculture and Life Sciences
OF SCIENCE AND TECHNOLOGY Iowa Nutrient Research Center
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Request for Proposals (RFP) – 2023 (FY24)

Iowa Nutrient Research Center at Iowa State University is requesting proposals from faculty and staff at Iowa State University, University of Iowa, and University of Northern Iowa to address nitrogen and phosphorus nutrient losses to surface waters. The INRC is an Iowa Board of Regents center established in response to the legislation passed by the 2013 Iowa Legislature which states: The purpose of the center shall be to pursue a science-based approach to nutrient management research that may include but is not limited to evaluating the performance of current and emerging nutrient management practices, and using an adaptive management framework for providing recommendations for the implementation of nutrient management practices and the development of new nutrient management practices.

Proposals must address the legislation-defined purpose of the center. For the 2023 RFP cycle, the following topics are identified as priorities based on input from stakeholders representing diverse interests, including academia, industry, farmers and landowners, agencies, and conservation groups.

1) Integrated crop and livestock systems research:
   a) Evaluate the impact of manure management practices on N and P loss and profitability.
   a) Optimize cover crops for fall manure application by identifying appropriate crop varieties, assessing planting methods, and/or synergizing timing of cover crop planting with manure application.
   b) Examine economic and environmental performance of integrated crop/livestock systems and/or diversified cropping systems.
2) Sociological water quality research:
   a) Assess what inspires farmers to make their in-field and edge-of-field management choices.
   b) Investigate adaptive field management and use of on-farm evaluations.
   c) Identify ways to best reach farmers and landowners who could make a difference by implementing nutrient reduction practices.
   d) Examine the effects of social learning – the importance of observing and imitating the behaviors and attitudes of peers – on nutrient reduction practice implementation.
3) In-stream processes and scales of N and P yields:
   a) Examine relationship between nutrient delivery to streams and watershed outputs.
   b) Expand work on understanding phosphorus loads from streambed and bank erosion.
   c) Assess watershed scaling of N and P flux and effectiveness of nutrient reduction practices at larger, delivery scale.
4) Co-benefits and unintended consequences of nutrient reduction practices:
   a) Quantify ecosystem services of practices and improve understanding of conservation practice benefits including biological values, added values for the greater good, and floodwater retention benefits.
   b) Investigate the relationship between carbon and water quality and potential for carbon sequestration.
   c) Quantify watershed scale impacts of stacking practices and assess landscape opportunities.
   d) Perform economic analysis of nutrient reduction practices, develop decision tools that incorporate co-benefits and consequences into the decision-making process, and/or examine potential credit programs such as carbon credit programs.
5) New technologies:
   a) Assess the effectiveness of stacked practices on nutrient reduction through combining in-field

and edge-of-field management practices, identify how various practices complement each other, and/or the effects of stacking practices at spatial and temporal scales.

b) Develop or identify methods for scaling from plot to field to watershed level for optimal nutrient management.

c) Evaluate and/or develop new practices leading to cost-effective reduction of non-point source N and P.

d) Explore impacts of strip tillage and or vertical tillage on non-point source N and P.

Important information about the RFP process

Who may submit a proposal? Faculty and staff at Iowa State University, University of Iowa, and University of Northern Iowa. Producers, USDA personnel, non-governmental organizations, and other stakeholders may partner with the Regent university faculty or staff on a project, but the project PI must be a faculty or staff member at one of the Regent universities.

What to include in your proposal? Please refer to the focus areas to find the appropriate fit for your proposal. Prepare a four-page concept paper with these required elements. References are not counted towards the four-page limit. (Note: Letters of support or commitment are not accepted).

1) Separate **cover page** with project title, complete contact information of the principal investigator including mailing address, phone number and email address; dollar request per year; and the focus area that best fits your proposal. (Note: The cover page is not counted as part of your page total).

2) **Justification** —Why is this specific research needed?

3) **Objectives** — What will be achieved? This must be clearly defined and measurable.

4) **Brief Description of the Methodology** – System setup, experiment design, data collection (frequency), and data analysis.

5) **Anticipated Deliverables and Outcomes** — What will be the outcomes, both end-of-project and long-term, if you achieve your objectives? How will the proposal contribute to improvement of water quality?

6) **Outreach** — How and with whom will you share the project results? You are strongly encouraged to outline plans to work with groups such as ISU Extension and Outreach, NRCS, PFI, or other NGOs to help disseminate information about your work to producers.

7) **Budget** — Itemized listing and brief justifications of project budget. (Note: The budget and budget justification are not counted as part of your page total).

Successful PI's from University of Iowa and University of Northern Iowa will receive a budget and budget justification template to be used during the contract development stages.

Budgets can be for up to two years, starting August 15, 2023. Note that **INRC does not pay indirect cost**. Investigators whose proposals are selected for funding may be asked for more details.

No Match Required - The INRC has **NO** matching requirement. INRC will not factor matching resources into the review process as an evaluation criterion.

Proposals submitted as MS WORD documents are due close of business April 28th, 2023 to malcolmr@iastate.edu**.**An email acknowledgement will be sent upon receipt of your proposal (otherwise, contact Malcolm or Matt to inquire). Investigators funded in 2022 for multiple years do not have to reapply. Investigators requesting funding to continue monitoring on a project funded by INRC earlier should submit a formal proposal. Questions should be directed to Matt Helmers (515.294.6717 or mhelmers@iastate.edu) or Malcolm Robertson (515.294.5692 or malcolmr@iastate.edu). Award decisions will be made in early July.