

Request for Proposals (RFP) – 2021 (FY22)

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 2021 RFP cycle, the following topics are identified as priorities based on inputs from academic and industry stakeholders.

- 1) Integrated crop and livestock systems research:
 - a) Evaluate the impact of manure management practices on N and P loss and profitability.
 - b) Examine economic and environmental performance of integrated crop/livestock systems and/or diversified cropping systems.
- 2) Socio-economic water quality research:
 - a) Assess the economic benefits/costs of conservation practice implementation.
 - b) Determine/examine barriers to adoption of Best Management Practices (BMPs) for water quality.
 - c) Investigate methodologies for scaling-up nutrient reduction practice implementation through use of cheaper, easier, or innovative approaches.
 - d) Examine the effects of public policy on conservation practice implementation and water quality improvement.
- 3) Changing climate:
 - a) Evaluate/model impacts of changing climate on nutrient loss and nutrient reduction practice performance.
 - b) Identify areas of potential farmer adaptation and management changes necessary to meet INRS nutrient reduction goals under shifting climatic conditions.
- 4) In-stream processes and scales of N and P yields:
 - a) Examine relationship between nutrient delivery to streams and watershed outputs.
 - b) Investigate in-stream nutrient processing and impacts on nutrient loads.
 - c) Assess watershed outputs of N and P yields.
- 5) Synergistic and unintended consequences:
 - a) Evaluate unintended consequences of nutrient reduction practices.
 - b) Assess potential synergistic co-benefits of nutrient reduction practice implementation, such as carbon sequestration, habitat and air quality, and/or how these co-benefits could drive changes in practice implementation.
 - c) Identify/quantify soil health benefits and impact on water quality.

- 6) New technologies:
 - a) Investigate nutrient reducing subsurface drainage improvements such as incorporating P filters and blind inlets.
 - b) Assess the effectiveness of stacked practices on nutrient reduction.
 - c) Identify best practices for implementation by geographic location through county/watershed analysis.
 - d) Quantify water quality impacts of perennial cover crops and/or biomass crops.

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 justification page is not counted as part of your page total).

Budgets can be for up to two years, starting August 15, 2021. Note that **INRC does not pay indirect cost**. Investigators whose proposals are selected for funding may be asked for more details. **Proposals submitted as MS WORD documents are due close of business April 30, 2021 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 2020 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 mid-June.