

Request for Proposals (RFP) – 2019(FY20)

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 2019 RFP cycle, the following topics are identified as priorities based on inputs from academic and industry stakeholders.

New technologies or strategies:

- a) Evaluate new techniques/strategies that add knowledge leading to cost-effective reduction of non-point source N and P.
- b) Increase understanding of manure nutrient concentrations, variability in application and availability to reduce risk of N and P loss and enhance profitability.
- c) Evaluate the water quality benefits of oxbow restoration.

Implementation methods and barriers:

- a) Develop/design methods that will help implement INRC water quality research findings at the local watershed level.
- b) Determine barriers to implementation of conservation practices or factors leading to their discontinued use and develop means to overcome the barriers.
- c) Evaluate economically viable alternative uses of marginal land, e.g., pasture land, perennially based systems.
- d) Evaluate the long-term impacts and changes resulting from incentive programs.

Relationship between BMP's and water quality:

- a) Assess/model the effectiveness of an individual BMP vs. multiple/stacked nutrient reduction BMPs in terms of water quality and economic viability at various delivery scales including the sub-watershed level.
- b) Evaluate the impact of current BMPs on dissolved and reactive P in tile-drained watersheds.
- c) Evaluate/model in-field variability and identify "hotspots" of nutrient loss.
- d) Collect, analyze and model practice and water data to better understand the impact of practices on in-stream concentration and loads of nutrients.

Cover crops:

- a) Evaluate economic and environmental impacts of cover crops, including livestock grazing of cover crops.

Soil health and water quality:

- a) Identify key soil health indicators and evaluate their relationships with water quality for existing conservation practices through empirical data.
- b) Investigate interactions between soil microbes, rhizosphere microbes and plants on the solubilization, capture and cycling of nutrients, and related implications for water quality.

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. A producer or USDA personnel 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. (Note: Letters of support or commitment, if included, are not counted as part of your page total).

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 July 1, 2019. 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 24, 2019 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 2018 for multiple years do not have to reapply. Investigators requesting funding to continue monitoring on a project funding 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 June.