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MEMO TO: NREC Potential Project Investigators  
FROM: Ed Corrigan, NREC Research Committee Chair  
RE: **REQUEST FOR 2021/2022 NREC PROJECT PROPOSALS**

We are pleased to announce the solicitation of projects for the crop year 2022 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.

As NREC approaches our 10<sup>th</sup> year of funding, we are looking for research projects that achieve "Phase 2" of our understanding of agronomic practices around nutrient management. Much of this research will need to be multidisciplinary, with multiple sites and using a systems approach. 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 2022, 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 phosphorous, 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. Maintain statewide distribution of work on optimum N rate to meet the needs of the MRTN.
  - b. Evaluate the efficacy of combinations of (4R's) source, place, rate and time of application on N efficiency.
  - c. 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. Cover Crop systems following soybeans and ahead of corn to maximize corn production and minimize nutrient losses.
  - b. Engineered cover crops/Cover crop options beyond cereal rye.
  - c. Addition of wheat to corn/soybean rotation to increase nutrient utilization
3. Evaluate 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, as well as placement and timing of Phosphorous applications in corn and wheat.
  - a. Conduct a literature review on the body of research related to phosphorus transport in streams associated with streambank and streambed erosion at the watershed scale.
5. NREC is also very interested in research projects that go beyond the “known” into more innovative (novel, inventive, original) and forward-looking research. This could include edge-of-field practices.

We encourage you to submit well-defined proposals that will endure peer review yet will also be 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 33 projects and many of these will be considered for continued funding in 2022. Please go to [www.illinoisnrec.org](http://www.illinoisnrec.org) to view a summary of these projects as well as the 2019 Annual Report. The 2020 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. Please limit your proposal 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](mailto:sgolovay@illinoisnrec.org) by May 7th.** Shani will acknowledge receipt of your proposal. The NREC Council will consider the proposals and will announce in August 2021 the projects NREC will fund in the 2021/2022 crop year. If you have questions, please direct them to Shani, who can also be reached at 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.



## **FORMAT FOR 2021/2022 NREC RESEARCH PROPOSALS**

In addition to your proposal, please also complete and return the Summary Sheet that was distributed with the RFP packet.

### **I. Title**

- A. Should immediately identify the project and its location.

### **II. Cooperators and Locations**

- A. Project Investigators: include biographical information for the PI and co-PI(s). Include email address and cell phone for the PI(s).

Cooperators and advisors: list all, including area of expertise.

Graduate students, post docs and technicians that will be funded and their expected role.

### **III. Objectives**

- A. These should be specific and concise. The objectives more nearly describe the project than any other part of the write-up.
- B. The goal(s) should be stated.
- C. The final objective should state: "To include a final report at the conclusion of this project to address each of the objectives stated above".

### **IV. Justification Statement**

- A. Why this work is needed.
- B. Literature review of related research that has been conducted or is now being conducted.

- C. New advances and information expected to be contributed by the project.

## **V. Work Plan**

Explicitly state the procedures or methods to be applied to achieve the objectives of the proposed project. These may include, but are not necessarily limited to:

- A. Site selection or criteria to be used in selecting site. Due to the new funding cycle any fall work such as cover crops and fall fertilizer will be expected to go out the year funding starts. If your proposal begins in the Fall of 2021 it is expected that a site has already been selected.
- B. Description of the proposed project activities in the sequence in which you plan to carry them out.
- C. If applicable, a description of stakeholder involvement in problem identification, planning, implementation and evaluation.
- D. Techniques to be employed, including their feasibility and rationale for their use in the project.
- E. Means by which data will be collected, analyzed and interpreted.
- F. Details of plans to communicate results to stakeholders and the public. Means by which Extension and/or education activities will be evaluated.
- G. Means by which Extension and/or education activities will be evaluated.
- H. Economic Cost/Benefit Analysis of the practice as to the practicality of the adoption or utilization of these practices in a farming operation.

## **VI. Impact of the Research**

- A. Explain fully the agronomic, economic and environmental impact of this project.
- B. Clearly identify the potential benefactors of this project.
- C. Include the outreach programs and activities associated with the delivery of the science-based knowledge derived from this project.

**VII. Date of Initiation and Completion**

- A. List the anticipated timetable with targeted goals and any established deadlines for accumulative affects to become apparent.

**VIII. Project Budget (both annual and total project)**

- A. Itemize cost of labor, equipment, material, etc. (use attached budget format). Salary may not exceed 45% of total grant funding unless there are extenuating circumstances, a literature review or white paper is being proposed or total funding is less than \$50,000. Requests for any excessive salaries will need detailed reasoning and rationale.
- B. The recovery of indirect costs under this program may not exceed 10 percent of the total funds awarded for the project work required.
- C. Include any additional sources and amounts of funding currently held or being requested for this project.
- D. Tuition remission is not allowable.

**IX. Reports**

- A. Dates when semi-annual reports (**brief updates of projects including the semi-annual expenditure reports**) will be submitted.
- B. Date of projects final report and summary statement submitted for publication.

**X. Synopsis**

- A. A brief synopsis of the project attached as a cover letter to submitted proposals.

**XI. Additional Information**

- A. Provide any other pertinent information deemed necessary that relates to the project.



# 2021/22 RFP Summary Sheet

## Applicant Information

Project Title: \_\_\_\_\_

Institution: \_\_\_\_\_

Primary Investigator: \_\_\_\_\_

Additional PI's: \_\_\_\_\_

PI Phone: \_\_\_\_\_ PI Email: \_\_\_\_\_

Primary Focus of Project: (select all that apply)

- Demonstration     Education/ Outreach     Modeling
- Publication     Other (please explain) \_\_\_\_\_

Do you feel that your project aligns with one of the 6 outlined NREC priorities for 2019?     Yes     No

If you answered "yes" please mark the areas:

- Priority Area 1     Priority Area 2     Priority Area 3
- Priority Area 4     Priority Area 5     OTHER

Primary Area(s) of Study – NLRs Approved Practices: (select all that apply)

- N-Rate or Form     N-Timing     Wheat     Streambanks
- Cover Crops     4-R     Wetlands     Buffers
- Tillage     P-Rate     P-Source     Other

Primary Area(s) of Study – Non-NLRs (Please indicate primary areas of study below)

- \_\_\_\_\_  \_\_\_\_\_
- \_\_\_\_\_  \_\_\_\_\_

Total \$ Requested for 2021: \_\_\_\_\_

Additional Notes: \_\_\_\_\_

## Internal Use

New Proposal:     Extension:     Project Accepted  Project Declined

Contract Sent:  Date \_\_\_\_\_ Signed Contract Received:  Date \_\_\_\_\_

Q1 Pay  Date \_\_\_\_\_ Q2 Pay  Date \_\_\_\_\_

Q3 Pay  Date \_\_\_\_\_ Q4 Pay  Date \_\_\_\_\_

# 2021-22 Nutrient Research & Education Council Budget Format

For Time Period of \_\_\_\_\_ to \_\_\_\_\_  
(month) (year) (month) (year)

<u>Categories</u>	<u>Items, Names or Activity</u>	<u>Amount</u>	<u>Subtotal</u>
A. <u>Personnel</u> * please provide justification for all personnel.			
	1.		
	2.		
	3.		
	4.		
	Subtotal		
B. <u>Fringe Benefits</u>			
	1.	-	
	2.		
	Subtotal		
C. <u>Travel</u>			
	1.		
	2.		
	Subtotal		
D. <u>Equipment</u>			
	1.		
	2.		
	3.		
	Subtotal		
E. <u>Supplies</u>			
	1.		
	2.		
	3.		
	4.		
	Subtotal		
F. <u>Contractual Services</u>			
	1.		
	2.		
	Subtotal		
G. <u>Other</u>			
	1.		
	2.		
	Subtotal		
H. <u>Indirect Charges</u>			
I. <u>Total Cost</u>			