



Minutes of the NREC Research Committee Meeting  
November 17, 2015  
Brandt Consolidated Offices – Springfield  
10:00 a.m.

DRAFT

Committee Members Present: Dale Hadden (Research Committee Chair), Howard Brown, Ed Corrigan, Matt Duncan, Marcia Willhite, Jessica Dexter, Cindy Skrukud, Ted Mottaz, Chuck Cawley, Dean Campbell, Linda Kull, Laura Gentry, Terry Pope, Curt Zehr, and Matt Hughes. Also present were Dr. Robert Hoeft (NREC Research Advisor), Jean Payne (NREC Administrator), Julie Armstrong (NREC Executive Director), Lauren Lurkins (ILFB).

Chairman Hadden called the meeting to order at 10:03 am. The committee and other participants introduced themselves and Chairman Hadden reviewed the purpose of the meeting. He also reviewed the Council's "Conflict of Interest" policy and reminded committee members to recuse themselves from voting or participating in discussion on projects where they have a conflict.

**Chairman Hadden reviewed the minutes from the October conference call and asked for a motion to approve the minutes as submitted. Terry Pope moved to approve the minutes, Ted Mottaz seconded and the motion carried.**

Treasurer Ted Mottaz and Executive Director Julie Armstrong reviewed the financial statements with the committee and provided both an updated budget report and a current Profit & Loss Statement. Dean Campbell raised a question about the reported retained earnings and group discussion followed regarding the level of funds in carryover/reserves. Dean and Linda Kull reviewed the levelized budgeting system used by Illinois Soybean Association and encouraged Julie and Ted to reach out to the ISA accountants on details. Jessica Dexter added that she feels it's important to be able to cover the next several years of projects that have already been promised funding.

Chuck Cawley reported that the Illinois Department of Agriculture is projected a total of \$2.36M in assessment collections for 2015.

Julie Armstrong reviewed the updated voting procedure and asked for group consensus on the process. It was accepted by the group and implemented as the preferred voting mechanism (copy attached).

Chairman Hadden then turned the meeting over to Dr. Hoeft to review proposals and lead discussion on individual proposals. The discussion began with a review of renewal projects.

**Proposal 8-16 (UI Multifunctional Buffer Continuation)** – Dr. Hoeft informed the committee that this project will be impacted by the University's decision to discontinue use of two of their research locations (Dixon Springs and St. Joseph). The need to move the research will impact NREC funded

projects but Dr. Hoeft has been assured that this won't have a financial cost to NREC. It will, however, extend the time necessary to secure useable data.

**9-16 UI Corn N Research Program Continuation** – this project is expanding and looking at inhibitors as well as N from DAP and MAP.

**13-16 UI INLRS Strategies Continuation** – the researchers engaged on this project asked for approval from the Council to extend the tile for this project across the test field to extend it about ¼ mile. This is a great producer and has been very engaged with NREC and this project. Extending the tile allowed the research to continue.

**15-16 Industry University Partnerships Program** – committee briefly reviewed Dan Schaefer's role and importance in executing the work that is being funded by NREC. Reworking the grant allocation to go directly to IFCA versus through the University allows Dan to remain engaged in these projects. This is a new project and was discussed in more detail later in the meeting. Terry Pope commented that the research should be all encompassing as Dan is only one person and cannot be everywhere all the time. Jessica Dexter also commented that NREC needed to be cautious as to not to accidentally hire an employee.

**22-16 ISU Paired Cover Crop Continuation** – this project got off to a slow start and eventually it took Dan Schaefer and Bob Fish planting the cover crops to get the project moving. Matt Hughes raised questions regarding proof of concept on this project. It was pointed out that the number of acres planted is actually double what was planned.

Discussion followed about the importance of understanding the researchers involved in projects, their areas of expertise, and any weaknesses that may cause issues in projects. Jessica Dexter asked about how we can accurately capture the amount of time that Dan Schaefer works on projects and make sure that we are allocating the proper amount of money for his time and services. She also commented about the need to assess whether the research projects were proper estimates of the true cost of the projects.

**5-16 UI Cover Crops Continuation** – This is another project impacted by the Dixon Springs research station closing. More information will be needed to outline the plan forward and how NREC research will be impacted.

**10-16 UI Residue Mgmt Tillage Continuation** – While this project has been extended several times, Laura Gentry asked questions to confirm that this is, indeed, the last year for the project.

**12-16 UI Soil N Tracking Continuation** – Committee discussed the fact that there were some concerns around getting N-Watch data and securing signed agreements from producers. We were assured that the agreements were secured and the data is available.

**37-16 The Wetlands Initiative** – Jean Payne reported that she attended the field day that was held at this location in Bureau County and highlighted that this project is a great collaboration between many different entities and is getting some good traction. There are essentially two phases to this project – Demonstration and Research. Dr. Hoeft asked the group if one of the two phases is more important and discussion followed. The general comments concluded that both phases are important. He also asked if

we would anticipate major differences from wetland to wetland. The group discussed the possibility of moving this project to additional locations to replicate results.

**Howard Brown moved that the research committee recommend continuing funding for all renewal proposals (excluding 18-16 and 26-16 which had amendments). Dean Campbell seconded the motion and it carried.**

The committee discussed two renewal projects that were presented with amendments from the proposals that had been approved in past years.

**18-16 SIU N Leaching Continuation** – This project, as amended (to include N-15), was sent out for peer review. The peer review folks had positive feedback and the general direction was that it is a great fit to do cover crop work in Southern Illinois.

**26 -16 ISU Purdue N Mgmt Research Farm Continuation** – Dr. Hoeft reviewed the peer review feedback and shared that the peer reviews were not positive on the amendment (adding N-15). The specific concerns were the size of the plot (too big), the expense, the amount of coaching that will be required of the research team, the relatively new tile (installed in 2013) and overall concerns around variability. It was discussed that this is a valuable site and has potential to house other projects. The Council needs to be able to leverage their investment for future projects.

**Curt Zehr moved to recommend 18-16 as amended and 26-16 without the N-15 amendment (\$129,782). Matt Hughes seconded the motion and it carried. Dr. Hoeft will work with the researchers to clarify the process.**

Discussion then moved to new proposals.

**NREC 2-16 Corn Soybean Fertilization** – this proposal has been presented before. The consensus in the past has been that there is little to be gained for producers. Matt Duncan pointed out that it's an innovative concept and with GIS-potential this could lead to efficiencies. Discussion continued around this having a fit for high value crops. There are concerns around access to water. Matt Hughes talked about the differences between chemigation and fertigation and the need to understand the potential for return on this research. Chuck Cawley pointed out that it could be good for identifying highest yield potential but questioned how that would apply across the board.

**NREC 3-16 NREC Improving P Use Efficiency in Corn** – This project looks at a band application of P directly below the seed. Strip till P applications have been more commonly used in academic settings. Two of the locations that are being utilized have P test levels that are higher than we would expect to see a yield response. However, a graduate student was able to show response in that scenario. Marcia Willhite pointed out that there is no tie to water quality in this research.

*A side discussion was held that talked about the direction and feedback that we should be giving to researchers when their proposal is not funded. This should be further discussed so that we can work with researchers to better capture the type of proposals that we are looking to fund.*

**NREC 14-16 UI Dissolved Reactive P Study and NREC 14-16 UI Dissolved Reactive P Study** – Both of these proposals deal with dissolved reactive P. One is a literature review and it was discussed that it would ideal for these two projects to work together. Ted Mottaz pointed out that this is a significant water issue and Marcia Willhite commented that this is a high priority for Illinois EPA and may help to

drive best practices. The dissolved reactive P is more available for algae growth and moves with the water. This study will utilize the Douglas County location. Matt Duncan asked for clarification on why 31-16 is a three-year project and Dr. Hoeft said that PhD projects are always three year projects. Dr. Hoeft with work with the PI's to coordinate efforts and present a joint report.

**NREC 15-16 Industry University Partnerships Program** – This project is primarily focused on Dan Schaefer's work and also the N-Tracker (formerly N-Watch) project. The organization submitting the proposal is IFCA. There was discussion around the role that Dan plays in NREC funded projects and concern that NREC would be unwittingly hiring an employee through this grant. Dr. Hoeft pointed out the value that Dan brings to the organization and how his expertise and outreach has ensured that projects get implemented in the way they are intended. Jean Payne talked about the status of the N-Tracker/N-Watch program and informed the group that she is working with Growmark to find a seamless way to transition the program from Growmark to IFCA/CCA. Curt Zehr expressed concern about the cost of the project and questioned if the Council would be better off to hire this person ourselves.

**NREC 16-16 UI Leached Soil N in Corn** – Peer reviewers asked about the legitimacy of measuring the leached N and indicated that they feel this project has a low likelihood of success based on the outlined protocols. Dale Hadden asked if they have locations lined up and Bob indicated that he does not believe that they do.

**NREC 19-16 SIU Saturated Buffers** – Reviewers were concerned about the depth of soil sampling proposed but otherwise had positive feedback. Matt Duncan felt that there was an additional treatment needed and it was discussed that this 4<sup>th</sup> treatment should be added for future funding. Marcia Willhite was an advocate for this project and Dale Hadden pointed out that it was a good opportunity to look at Southern Illinois.

**NREC 23-16 UI Nitrate Reduction to Ammonium in Soils** – This proposal was also sent last year and was sent for peer review last year. No major concerns but may be more forward thinking.

**NREC 24-16 UI Modeling Cover Crop Efficacy** – This proposal looks at modeling on cover crops but will set up some experiments. Discussion focused on the feeling that an economic look at cover crops may be more valuable to stakeholders. This is other research being done in this area. The committee asked Dr. Hoeft to ask them if they can model over existing sites.

**NREC 25-16 UI Sustainable Manure Practices Dairy** – The majority of the discussion on this proposal centered on the question around if this meetings NREC objectives. Questions also arose about how many acres in Illinois this would actually apply to and if there would be a significant ROI on this research and if it could potentially identify BMP's.

**NREC 27-16 UI Assessing Synergies Tradeoffs for BMPs** – this proposal was sent for peer review and received positive feedback from all three reviewers. The University if funding the tile work and the committee discussed that determining if BMP's work together would be valuable. There was some concern around the new tile and wondering how long it would take for the tile to be viable. Laura Gentry also expressed concern about the site's 300' laterals and if there is enough water for sampling. It was also pointed out that this site is in continuous corn and Dale Hadden pointed out that there are

advantages to studying at least some on continuous corn. There were also questions about potentially combining this with the ISU study.

**NREC 28-16 TNC Economic & Water Quality Impacts Lake Bloomington** – this was sent for peer review and the feedback was not very positive. The reviewers indicated that the design for portions of the study are not scientifically sound. For example collecting data on field base without insuring that all other variables are held constant confounds the data and will make any model suspect at best. Reviewers question the ability of individuals to manage and complete the project as described. Projects funded through ISU are surveying farmers in Lake Bloomington Watershed, collecting water quality data from controlled experiments-, collection of stalk nitrate values will tell us whether excess N was used on that field that year, but will not tell us whether use of that rate will be excessive in coming years, collection of soil nitrate data in fall and spring will show differences in nitrate level, but will not tell where it went or where it came from. Only one of the PI's is cited in the reference list. That raises a red flag indicating that the others may not be trained to do field and/or laboratory research. Jessica Dexter asked whether this could be bundled with the work being done by ISU.

**NREC 29-16 ICGA Field Lab Network for BMPs** – Peer review feedback expressed concern around management by committee with little input from NREC. Matt Duncan expressed his concern with funding a research center with no input on what is being researched and discussion followed on that point. The question was raised asking if this is similar to funding tile installation which has not been supported by the Council.

*Side discussion was held on the need to further develop existing sites or identify new sites where more than one project could be done and where NREC could guarantee ongoing work could occur. It was also discussed that we may need to expand and diversify the people/organizations that we are funding and that there is a need to further mentor individuals who can successfully complete the research that will lead us towards the goals outlined in the Nutrient Loss Reduction Strategy. Further, it was discussed that there may be a need for more "private" research and more private/public partnerships. Howard suggested that perhaps NREC issue an RFP for this type of work in the future.*

**NREC 30-16 UI Microbial Shifts Long Term Practices** – Group discussion centered on this proposal seeming to be "defensive" and looking at new projects coming online. Chuck Cawley pointed out that IDOA is seeing these types of products coming online. Linda Kull questioned the connection to water quality and if there is any economic benefit to these practices. Jessica Dexter expressed concern that this may looking at proprietary practices and would fall outside the scope of what NREC funds.

**NREC 32-16 SIU Gypsum Impact on Water Quality** – Two of three peer reviewers saw little impact to farmers from this research and gave it a low level of confidence of success. Discussion followed around the agronomic advantage of gypsum and Chuck Cawley told the committee that the product is becoming aggressively marketed so research may be more consumer protection than anything. Matt Hughes commented that there are Universities looking at this (Purdue and Ohio State) but no official recommendations have come out. There are lots of people playing with it on their farms. Jean Payne pointed out that it will be taxed as fertilizer. *The committee wonders if we should put out a specific RFP ask next year to look at Sulphur vs. AMS.*

**NREC 33-16 UI Protecting N in P Fertilizers with Cover Crops** – The peer reviewers felt that the PI's need another year to further develop their plan of work and put more details into the plan. Dr. Hoefl pointed

out that while we do want to identify projects in Southern Illinois this may not be a great fit since they may not use DAP or MAP in the intended study area.

Discussion then moved to the proposals that were identified as “Outreach and Education”.

**NREC 1-16 IL Pork Proposal** – The earlier discussion around who owns the data in N-Watch (Growmark) continued in more detail and Jean Payne reiterated that IFCA/CCA will be re-launching this program as N-Tracker and that they are still working with Growmark to get access to the current data. Further discussion centered on a concern around putting livestock data into the same database as non-manure locations. It was also discussed that P is actually the larger concern on livestock operations. The committee also questioned if Illinois Pork Producers is equipped and ready to take on this work.

**NREC 4-16 Champaign SWCD and NREC 11-16 Champaign SWCD Baseline Study** – The committee was concerned about the survey questions being asked and the willingness of producers to answer those questions. Lauren Lurkins mentioned that the questions could be shared with NASS and wondered if working with NASS may be a better use of the money to have this type of work be further reaching than just one county.

**NREC 36-16 ISA Phosphorus Education Project** – There were significant concerns within the committee around the cost of the project and the large expenses associated with outside contractors. Committee members also expressed concerns about making this large of investment and how NREC would be credited during the programs.

**NREC 34-16 Macon SWCD Cover Plot Plots** – Overall comments focused on appreciating that they submitted a proposal and are looking at ways to close funding gaps. There were concerns about the details in the proposal and the likelihood of success.

Once discussion was completed, the committee voted on all new proposals individually (as outlined in attached document) and the results are listed below. The 2016 Total column reflects the total dollar recommendation which includes \$1,880,223 for renewal projects.

2016 Proposal Number	Institution	Project Title	2016	Ranking	2016 Total
14-16	UI	Understanding mechanisms and processes of dissolved reactive phosphate (DRP) loss in Illinois tile-drained fields	\$ 160,709.00	4.6429	\$ 2,040,932.00
15-16	IFCA	Ind./University Partnership & KIC 4R Programs	\$ 394,849.00	4.4667	\$ 2,435,781.00
19-16	SIU	The two stage saturated buffer: Integrating the use of cover crops into saturated buffer designs for nitrogen mitigation	\$ 110,938.00	4.4667	\$ 2,546,719.00

34-16	Macon Co. SWCD	Conservation cropping demo plots in Macon Co.	\$ 14,912.00	4.0833	\$ 2,561,631.00
23-16	UI	Dissimilatory nitrate reduction to ammonium: An unexplored microbial pathway for nitrate retention in agricultural soils	\$ 96,671.00	3.6000	\$ 2,658,302.00
31-16	UI	Dissolving uncertainty: A comprehensive evaluation of dissolved P in tile drainage	\$ 21,559.00	3.4667	\$ 2,679,861.00
27-16	UI	Assessing synergies and tradeoffs of recommended BMPs to reduce nutrient loss	\$ 181,224.00	3.3333	\$ 2,861,085.00
29-16	Il Corn Growers	Developing a field laboratory network to support agricultural research of best management practices across Illinois	\$ 200,400.00	3.0769	\$ 3,061,485.00
03-16	UI	Improving phosphorus use efficiency in corn production with precision placement	\$ 60,000.00	3.0000	\$ 3,121,485.00
33-16	UI	Protecting nitrogen in phosphorus fertilizers with cover crops on tile-drained claypan soils in Southern Illinois	\$ 77,168.00	2.9231	\$ 3,198,653.00
04-16	Champaign SWCD	"What I can do"	\$ 20,000.00	2.8462	\$ 3,218,653.00
11-16	Champaign Co SWCD	Finding today's baseline for agriculture in Champaign County soil and water	\$ 5,000.00	2.8462	\$ 3,223,653.00
01-16	IL Pork Producer	N-Watch Sentinel site project	\$ 61,380.00	2.3333	\$ 3,285,033.00
30-16	UI	Microbial shifts under long term contrasting agronomic practices	\$ 89,497.00	2.2308	\$ 3,374,530.00
02-16	UI	Improving nutrient use efficiency of corn and soybean with fertigation	\$ 50,000.00	2.2000	\$ 3,424,530.00
28-16	Nature Conservancy	Evaluation of the economic and water quality impacts of nitrogen management in Lake Bloomington watershed, Illinois	\$ 100,010.00	1.9333	\$ 3,524,540.00
16-16	UI	Measurements of leached soil nitrogen in corn fields	\$ 60,009.00	1.7333	\$ 3,584,549.00
25-16	UI	On farm assessment of sustainable manure practices in dairy operations of Southern IL	\$ 56,048.00	1.6000	\$ 3,640,597.00
36-16	Il Soybean Association	Phosphorous education, outreach and engagement in	\$ 198,545.00	1.5833	\$ 3,839,142.00

		Southern and Western Illinois priority watersheds			
24-16	UI	An integrated experimental and modeling study to evaluate the efficacy of winter cover crops as nutrient loss reduction strategies at field and watershed scales.	\$ 137,209.00	1.5333	\$ 3,976,351.00
32-16	SIU	Water quality and agronomic impacts of gypsum applications in Southern Illinois	\$ 89,931.00	1.4615	\$ 4,066,282.00

**Dean Campbell moved that the committee pass along this ranking of 2016 proposals and recommend funding all projects with a ranking of 2.8462 and higher. This includes \$1,880,223 in renewal projects and \$1,343,430 in new projects for a total of \$3,223,653. Howard Brown seconded the motion and the motion carried.**

**The meeting was adjourned by Vice Chairman Ed Corrigan at 3:39 p.m.**



## ATTACHMENT A

### Voting Procedures for NREC Research Funding

Each committee member will have the opportunity to rate each proposal according to the degree to which each proposal aligns with the purpose of NREC as defined in Article II, Section 1, items A, B, and G.

#### **ARTICLE II: PURPOSE**

*SECTION 1. Purpose. The purposes of the NREC include the following:*

- A. To pursue nutrient research and educational programs to ensure the adoption and implementation of practices that optimize nutrient use efficiency, ensure soil fertility, and address environmental concerns with regard to fertilizer use.*
- B. To prioritize nutrient research and education needs and solicit research proposals to generate findings and make recommendations to the industry based on the findings.*
- G. To engage in outreach and field level trials and educational programs with growers and consumers, publicize these events and provide learning opportunities for the general population to ensure that our society understands the importance of nutrient utilization.*

Committee members will each get one vote unless that member has had to recuse themselves from the vote due to conflict of interest. Votes will be cast in a scale of 1-5 with 1 being least and 5 being most.

- 5 points: Fully Meets Goals of NREC
- 4 points: Meets, with minor gaps
- 3 points: Meets, with moderate gaps
- 2 points: Partially meets (significant gaps)
- 1 point: Does not meet

Votes will then be tallied and put into one of three buckets – Low Priority (ratings of 1 and 2), Medium Priority (rating of 3), and High Priority (ratings of 4 and 5).

There are total of 16 votes available for each proposal. However, with some members unable to attend the meeting, the total number of votes available will be adjusted based on actual attendance. Members who are not in attendance cannot vote via proxy and absentee votes are not allowed.

When a member has to recuse themselves from the vote, an average of the cast votes will be taken and applied to the tally.

Example 1:

There are 14 committee members attending the meeting. On item #4, one member must recuse themselves due to conflict of interest. Therefore, there are only a total number of 13 votes available for this particular item. The remaining committee members cast their votes as such:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	2	3	5	3

In order to account for the missing voter – an average of the cast votes is calculated as 3.69. This would be rounded up to 4 and a vote of “4” will be counted towards this project.

<b>Low</b>		<b>Mid</b>	<b>High</b>	
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	2	3	6	3
<b>2</b>		<b>3</b>	<b>8</b>	

Therefore, this project would have two votes for “low”, 3 votes for “medium” and 8 votes for “high”.

Example 2:

There are 14 committee members attending the meeting. On item #8, two members must recuse themselves due to conflict of interest. Therefore, there are only a total number of 12 votes available for this particular item. The remaining committee members cast their votes as such:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5	1	4	2	

In order to account for the missing voter – an average of the cast votes is calculated as 2.25. This would be rounded down to 2 and two votes of “2” will be counted towards this project.

<b>Low</b>		<b>Mid</b>	<b>High</b>	
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
5	3	4	2	
<b>8</b>		<b>4</b>	<b>2</b>	

*Therefore, this project would have 8 votes for “low”, 4 votes for “medium” and 2 votes for “high”.*