



NREC Research Committee Meeting  
December 17, 2013  
Office of Brandt Consolidated, Springfield IL

Committee members in attendance: Dale Hadden, Howard Brown, Jim Larkin, German Bollero, Matt Duncan, Marcia Willhite, Jessica Dexter, Ed Corrigan. Cindy Skrukruud attended the meeting by conference call. Others in attendance were Dr. Bob Hoeft (Research Coordinator), Jean Payne (Administrator) and David Reid (Legal Counsel). Members of the public attending were Lauren Lurkins, Ted Mottaz and Caroline Wade.

Dale Hadden called the meeting to order at 9:10 a.m. and asked everyone to introduce themselves. He then asked David Reid to explain that the meeting would be conducted according to Roberts Rules of Order. David provided an overview of Robert's Rules as it pertains to motions and approvals of the committee and that to facilitate orderly input by the members. Member shall signal the Chair when they wish to contribute to the discussion. David also read the NREC policy on public participation which states that members of the public will be provided five minutes at the end of the meeting to make any statements to the committee.

#### **Review and Approval of Nov 15, 2013 Committee Meeting Minutes**

Dale asked the committee to review the minutes of the November 15, 2013 meeting. Howard Brown made a motion to approve the minutes, seconded by Jim Larkin, motion carried.

#### **NREC Financial Update**

Dale asked Jean Payne to provide the financial report; Jean reviewed the Profit & Loss statement and the Balance Sheet with the committee. As of December 17, 2013 NREC has net income of \$2,586,932.61. Jean reported that final payments on 2013 contracts will total \$273,500.

Jim Larkin provided an update from IDA on the NREC assessment invoicing and collection. He reported that the amount invoiced by IDA for NREC from the Spring 2013 fertilizer sales is \$1,811,206.75. There is \$12,057.82 outstanding as of Dec 17, 2013 and IDA is following up with those distributors with certified letters. From the Fall 2012 fertilizer sales, \$209.82 remains uncollected. IDA has procedures in place to rescind the license of active fertilizer distributors if assessments remain unpaid. The invoices for the fall 2013 fertilizer sales are beginning, and those payments are due to NREC in February 2014. Motion to approve the financial report made by Ed Corrigan, seconded by Marcia Willhite, motion carried.

#### **Review of Research Proposals**

Dale asked Bob to lead the discussion of the 26 proposed projects for 2014. Bob first reviewed the September 2013 Request for Proposal (RFP) memo from NREC Chair Gary Hudson that asked for projects that would focus on minimizing environmental impact, optimizing harvest yield and maximizing nutrient utilization. He also reviewed the list of subject areas that accompanied the RFP. Bob explained the mission of the committee is to review and narrow the list of projects to those that aim to address the issues outlined in the RFP. Bob also provided the committee with the external review report, but asked

that these reports be returned to him at the end of the meeting as is the practice of the external review process, to protect the confidentiality of the reviewer's comments.

Bob suggested the committee review the projects in numeric order. Dale reminded the committee that the full NREC Council has ability to go back to discuss any or all projects at its January 7, 2014 meeting. Dale suggested the committee vote on each proposal with a YES or NO based on its merits; once the committee gets through all the projects we can review the list, as well as the available funding, and reconsider any projects at that time.

With Bob leading the discussion, the committee reviewed and discussed each project as follows:

**#1. Identifying Critical Areas of Nitrate Loading in the Upper Sangamon Watershed.** This project was peer reviewed. Validating the inputs into the watershed model may be problematic. The author did not provide an experimental design. The co-investigator on this project is no longer with the State Water Survey. Committee Vote: NO (unanimous)

**#2. Fertigation to Improve Water and Nitrogen Use Efficiency.** This project was not sent to peer review. The committee questioned studying a fertility practice (fertigation) that is not widely utilized. Committee Vote: NO (unanimous)

**#3. Agronomic & Environmental Assessment of Cover Crops.** This is a continuation of a project funded by NREC in 2013; thus it was not sent for peer review. They are requesting a 2<sup>nd</sup> year of funding. Bob reported this project is proceeding well. Matt Duncan asked how #3 related to project #4. Bob responded that project #4 is a demonstration project which #3 is a project to measure the scientific validity of cover crops in a corn/soy rotation. Committee Vote: YES (unanimous)

**#4. Cover Crop Demonstration Project.** See above discussion on #3. This was not sent to peer review. No scientific study in this project; the committee felt the priority should be on assessing scientific merit of cover crops. Committee Vote: NO (unanimous)

**#5. Evaluation of Side-dressing Potassium in Corn.** Not sent to peer review. The committee was concerned there was little agronomic value to side dressing potassium. Jim asked if there were any previous studies on this. Bob knew of none, likely because side dressing of K is very difficult to accomplish. Ed explained K is not as mobile as nitrogen when it comes to side dressing thus making it a difficult and impractical fertilization practice and questionable on whether the K would be readily available to the plant in this manner of application. The committee felt this project did not meet the NREC priorities. Committee Vote: NO (unanimous)

**#6. The Study of Nitrogen Management Systems on Tile Drained Fields.** This project was peer reviewed and ranked high in value. It seeks to address NREC priorities outlined in the RFP. Bob suggested a few of the N treatments may need to be revised, as there are a few that are not nutrient best management practices. Bob would like to see monitors on the tile lines. The peer reviewers felt the same way. Automatic water samplers can be included but will add cost to the project. Bob suggested the project be conducted at two locations, under real farming conditions. The investigators can accomplish the project as they are very experienced in this type of research. Howard suggested going back to authors to ask for them to include the automatic sampling and include the cost in the budget.

The committee asked how this project is related to #10, which has a similar objective, and the peer reviewers noted that as well. The committee felt the researchers on both projects should collaborate and share information to maximize the value of this type of research. The nutrient treatments studied should be tied to best management practices. Marcia asked if there is value to looking at practices that may be

common but not necessarily BMP practices. Ed asked about a zero rate, or full rate N practice to serve as comparison. Dale agreed that these projects should not include treatments that are not BMPs. How many projects such as this are necessary to accomplish the goal of assessing practices and losses?

In comparing #6 to #10, #10 is installing brand new tile, which release more N for a time due to soil disturbance. Marica stated this may be of value to study since farmers are putting in more (and new) tiles. Committee Vote: YES (unanimous)

**#7. Keep It For the Crop Program.** This is an outreach program and not sent for peer review. CBMP is asking for a second year of funding to continue the KIC program. Bob suggested we need to continue caution on promoting cover crops until the science shows their value. Most of the funding for cover crops in this program is to train educators to help farmers make good decisions on proper cover crop seeding and management for those who wish to try the practice. Marcia said the KIC program is important to IEPA and the statewide nutrient reduction strategy. Committee Vote: YES (unanimous)

**#8. Aerial Photography to Predict Nutrient Losses.** Not sent for peer review. This project is a one year project to purchase a lot of equipment for aerial photography; there is already a lot of literature on this subject. The committee consensus was that by the time you sense nutrient loss from aerial photography it's too late to fix the problem. Committee Vote: NO (unanimous)

**#9. Survey of Farmer's Nutrient Practices in Lake Bloomington Watershed.** Not sent for peer review. This is intended to help verify if farmer practices match up with the practices retailers are reporting regarding 4R implementation (source, rate, time, place) which is a verification/accounting goal of the KIC program. Committee Vote: YES (unanimous)

**#10. Discovery Farm Project in McLean County.** This project was peer reviewed and ranked as very good. Bob expressed concern about use of radishes as a treatment to sequester N; the researcher may need some coaching on cover crop selection. The investigators on project #6 and #10 need to communicate and work together especially on the monitoring of the tile lines. Jim would like to also see a side dress application added to this project. Dale sees value in this project as it involves another university in another part of the state; the committee agreed. Committee Vote: YES (unanimous).

**#11. Multifunctional Buffers on Marginal Farmland to Add Value and Diversity.** This project was sent to peer review; the reviews were mixed. The reviewers were concerned about the number of crops being used in the buffer. This is a futuristic proposal from young and talented researchers looking at future ag landscapes. The reviewers and committee expressed some concern about the marketability of these alternative buffer crops, but this is an emerging area. What new value might we get out of this type of research? Reviewers suggested that they could monitor water flow across the buffer. Dale stated that FREC studied the functionality and value of buffers in the past; Jean will find that report and send it to the committee. Committee Vote: YES (with one opposed).

**#12. Study of Supply Chain Disruption from Fall N Restrictions.** Not sent for peer review. This is a continuation of a previous FREC project on implications to the industry of changes in fall N practices. Is there value in knowing the changes in the industry since the 2010 results of initial study? Dale wasn't sure farmers would see value in this survey although retailers might. Marcia indicated the information on cost of implementation of new practices is valuable from a policy standpoint. There is some value but not as valuable as some other projects. Committee Vote: NO (unanimous).

**#13. Improving N Use Efficiency in High Yielding Corn.** Not sent for peer review. This study uses a proprietary product. It does not address water quality impacts. The committee discussed and was not sure this would lead to any new findings. Committee Vote: NO (unanimous).

**#14. CBMP Discovery Farms.** This is a continuation of a 2013 NREC project and was not peer reviewed. CBMP will be working with Dr. Armstrong at the ISU research site (#10). The committee asked how the funds were allocated in last year's project, was a site able to be established? The progress report from that project indicates that \$193,000 of the NREC funds provided in 2013 are installing the field tile and monitoring systems for project #10, and \$7,000 was expended for establishment of subsurface monitors at a site in Champaign County; this project will continue the implementation, data gathering and outreach work at those sites. Committee Vote: YES (unanimous).

**#15. Evaluation of P & K Recommendations in Illinois.** This is a continuation of a 2013 project and not sent for peer review. Progress is being made on this project and the value is there of the findings; the committee asked if it could possibly coordinate with #25 if #25 is funded. Committee Vote: YES (unanimous).

**#16. Late Application of N to Optimize Yield & Reduce Losses in S Illinois.** This was peer reviewed; The reviewers ranked it high if a few modifications are made, such as some of the treatments being reconsidered; some of them may not be necessary. These are young and talented researchers and the project addresses research needs in Southern Illinois regarding post applied nitrogen. Dale asked about the project proposing to purchase a 4 row injector for \$20,000—what could this equipment also be used for when this 3 year project is complete? Is this equipment already available? Bob will investigate this. Committee Vote: YES (unanimous).

**#17. Improving Phosphorus Efficiency in Corn.** This was peer reviewed; it was ranked low by all three reviewers. Soil test levels in the study are already adequate for crop response. There are only two planting rates being proposed. Committee Vote: NO (unanimous).

**#18. Residue Management, Tillage & N Response in Continuous Corn.** This was not sent for peer review because it is a continuation of a FREC funded project; it was not funded by NREC last year due to funding limitations. Committee Vote: YES (unanimous).

**#19. Systems Approach to Managing Soil Potassium.** This project was sent for peer review. The overall ranking was low to very low. There is no indication this study will benefit farmers. Committee Vote: NO (unanimous).

**#20. Paired Watershed Cover Crop Study.** This project was peer reviewed and received very favorable ratings. It is a small watershed (300 acres). One reviewer suggested they document other practices going on in the watershed. It needs to include a grass cover crop. Inserting timing of N application may complicate the analysis. Need to pretest the tile flow before the project. Can they get cover crops in the entire watershed? Would be good to know what level of adoption we can get even if not 100%. This differs from project #3 in that #3 is not looking at effects of cover crops in a watershed. The reviewers suggested the experimental design be improved upon. This could be a somewhat high risk project if they don't get enough cover crops planted but it appeared the researchers felt confident about the rate of adoption. Bob asked if the farmer survey in this same watershed (being in McLean County; see project #9). Committee Vote: YES (unanimous).

**#21. Phosphorus Runoff Study.** This is a continuation of a 2013 NREC project is and proceeding on schedule. Committee Vote: YES (unanimous).

**#22. Buffer & Agroforestry Education, Demonstration & Outreach.** This was not sent for peer review as it is an outreach program. This project is mostly demonstration, not a scientific experiment, to encourage buffer and agroforestry practices. The committee felt it is a nice project but is it a priority

since it does not include any water quality assessment? Howard wondered if a split watershed would be a good place for this effort. It could provide value in a watershed project but not as much value by itself. Committee Vote: NO (unanimous).

**#23. Assessing the Potential for Drip Irrigation to Manage Water & Nutrient Resources.** This project was not sent for peer review. Drip irrigation is not widely used in Illinois except on some vegetable crops. Matt Duncan felt it was good study for areas farther west, but probably not a fit in Illinois as this time. Committee Vote: NO (unanimous)

**#24. Comprehensive Corn Nitrogen Research Program for Illinois.** This project was sent for peer review. The reviews were mixed. This would help establish a “center” for corn nitrogen research. Reviewers suggested it needs a full time technician to make this feasible. Products tested at the center would be on a “fee” basis for those asking for the research. Long term this type of corn nitrogen research “center” would be valuable to Illinois. Committee Vote: YES (unanimous)

**#25. Updating P & K Responses and Crop Removal Numbers for Illinois.** This project was peer reviewed; two reviewers rated it low and one thought it had value. The crop removal portion of the project has value but the soil testing on a large scale is problematic. Inclusion of rate studies would be helpful but are not in this project. Removal rates are an important area for farmers. Coordination with project #15 could be helpful. This involves on farm data collection which could be problematic from a consistency standpoint but adds some value because of the number of samples being collected. Committee Vote: YES (3); NO (5); Majority voted NO

**#26. Measuring Soil Quality Changes in Corn/Soy Rotations.** This project was peer reviewed. Two reviewers ranked it positive and one not as favorable. This is a fairly low cost proposal; not sure if it has value from a nutrient management or water quality standpoint but soil quality is also a current issue for agriculture. Committee Vote: YES (unanimous).

After finalizing discussion on the projects, the committee broke for lunch. When they returned, Dale asked Jean to review the financial report again to look at what funding would be available (less expenses and commitments). After looking at the financials and totaling the projects that received a YES, the committee determined they had approximately \$2.2 million available; the projects receiving a YES totaled \$2,440,640. After discussion and looking again at the overall projects that received YES votes, the committee felt we should ask all the projects to reduce their budgets by 10% to free up \$244,064 to enable the funding of all the projects that the committee felt had value and fulfilled the priorities of NREC.

Marcia Willhite made a motion that the Research Committee recommend to the NREC Council to fund projects 3,6,7,9,10,11,14,15,16,18,20,21,24,26 and ask the investigators accept a 10% reduction in their proposed budget. Dale stated that this is a recommendation of the committee to NREC and there would be no communication with the researchers until the NREC Council meets on January 7, 2014 to make the final determination. With that understood, Jim Larkin seconded the motion, and the motion carried unanimously.

### **Outreach on 2013 NREC Projects**

Jean suggested publishing an annual report summarizing the 2013 projects to the NREC website and issuing press releases and industry articles to drive people to the website and the report. Several of the 2013 projects will be presented at the IFCA convention on January 20, 2014. Howard stated that the CCA organization would also like to develop training modules for the industry, and the projects could also be included into that system, allowing CCAs to earn CEU credits for learning about the projects and

taking a quiz on their finding. Dale asked that Jean also work with Farmweek and other publications to promote the availability of the 2013 report.

### **Public Participation**

Dale asked the 3 members of the public if they wanted to make any comments. They provided comments as follows:

Caroline Wade, who is with IL Corn and also assisting on CBMP projects, stated that they are actively working with up to 20 individuals as well as community colleges in Illinois to develop a cover crop training curriculum. She also reported that she is familiar with project #20 as proposed, and they are very open to modifications to improve that project. She also felt it was important for NREC to encourage collaboration between the universities on similar projects to enhance the value and dissemination of what is learned.

Lauren Lurkins, who is with Illinois Farm Bureau, stated that she would be very willing to assist in sharing information about NREC projects through the County Farm Bureaus and also at regional meetings.

Ted Mottas, who is on the Board of Illinois Corn Growers, said he appreciated seeing how the NREC evaluation process works, and that NREC's goals in evaluating and selecting projects is in line with the goals of the ICGA. He is also part of a Mississippi River Dialogue group that brings together point sources, farmers and academia to look at ways to reduce nutrient losses, and that this type of research is vital to continue a productive dialogue with other nutrient stakeholders. He also felt it was very important that research projects consider the statewide needs of Illinois agriculture to assure producer support of the program and keep it moving forward.

Dale thanked the public members for their interest and their comments. Having finished with all business, Dale asked for a motion to adjourn. Motion made by Howard Brown, seconded by Ed Corrigan, motion carried and the meeting adjourned at 1:00 p.m.