Iowa Nutrient Research Center – Advisory Council

2nd November, 2021 (8:30 am – 10:00 am)
Zoom video conference & in-Person at 4321 Elings Hall

Attendees:

- Dan Robison, Endowed Dean's Chair, College of Agriculture and Life Sciences
- Maureen Clayton, University of Northern Iowa, Associate Dean of Communities arts, and sciences
- Chris Jones, Research Engineer, IIHR-Hydroscience and Engineering, University of Iowa
- Susan Kozak, IDALS, Director Division of Soil Conservation and Water Quality
- Adam Schnieders, Iowa Department of Natural Resources, water quality resource coordinator
- Keith Summerville, Deputy Provost, Drake University Deputy Provost, Associate Dean College of Arts and Sciences, Professor of Environmental Science
- Carolyn Lawrence-Dill, ISU-CALS Associate Dean for Research and Discovery;
- Dan Anderson, Associate Professor, Agricultural and Biosystems Engineering;
- Raj Raman, Morrill Professor, Agricultural & Biosystems Engineering, Iowa State University , Presenter;
- INRC Staff: Matt Helmers, INRC Director, Professor Agricultural & Biosystems Engineering, Dean's Professorship, Associate Chair for Research & Extension, Iowa State University; Kay Stefanik, INRC Assistant Director; Malcolm Robertson, INRC Program Specialist; Wendy Borja-Diaz, INRC-CALS Accountant; Ann Y. Robinson, INRC-CALS Communications Specialist

- CALS Dean Dan Robison welcomed the council, reminding the group of the tremendously important nature of this effort. Reminded the group of multiple promising, related efforts.

- Matt Helmers invited attendees to introduce themselves. The March 2021 meeting summary was approved, as posted online.

INRC Budget Update – Matt Helmers

$1.4 million pledged for FY2022 projects. Funded 11 proposals out of about 30. Include diverse collaborators from across Iowa. As of INRC's 9th year of funding, has funded more than 115 projects, for a total $13.6 million. Nearly all resources have gone back out for research. INRC never knows from year to year what it will receive from sales of ag fertilizers - estimate for planning purposes $1.2 to $1.4 million/annually.

2021 RFP Process and Review – Matt Helmers

Reviewed about 30 proposals, 11 selected. Most for two years at a range of $50,000-$60,000 annually. Outside reviewers from multiple states and practice areas in the Midwest were recruited to review proposals.

Co-sponsored a small collaborative grant funded project with the Iowa Water Center with an emphasis on social/economic dimensions of water quality. One project funded last year; another round is out for proposals.

Project of interest to group, funded 2019, looking at how to relay information to farmers to have the most impact, looking at field days, different images and which ones resonate best with landowners, how people want to receive info. COVID slowed things down: Expect final report soon.

Question/Comments

Robison: Is there a way to assess how these funds have enabled scientists to leverage other funding?
Helmers: We are working to capture that as part of annual and final reports. We know this has happened quite a bit and trying to track in reports from researchers. Hope to have more concrete #s by next advisory meeting.

Kenney: Appreciate research on how to best reach farmers and landowners who can make a difference on the ground. A lot of things we're doing – but challenging to reach new audiences.

Presentation: Perennial Ground Cover – Raj Raman

Appreciate early funding for initial research from INRC that helped lead to new $10 million grant from USDA National Institute for Food and Agriculture for RegenPGC (Perennial Ground Cover) project. Acknowledge ISU visionary and partner on project, Kenneth Moore, Charles F. Curtiss Distinguished Professor in Agriculture and Life Sciences. Working with dream team of scientists at ISU and beyond and many engaged stakeholders, including farmers, industry, nonprofits.

Why is our zero-competition (ZCA) ag system dominant? Because it's simple, reliable, high-yielding and scalable. Many benefits but has some serious unintended side-effects/externalities (inc. soil organic carbon loss, erosion, greenhouse gas & water quality impacts, nutrient export and local issues for farmers losing long-term productivity). PGC might be part of the silver buckshot across landscape we need to address these issues.

Can we eliminate the "bare ground" aspect of ZCA? Adoption rates for annual cover crops are low, ~ 4% across state due to tangible and intangible costs. Could we simplify and reduce cost of cover crops by perennializing? Not trying to change practices of 4% doing it, but on 90% plus of working lands not doing this.

Idea to move from ZCA to managed competition ag in the short run - can take bigger steps later. For now, focus on how to manage competition between perennial cover and row crops. Initially, chemically suppressing cover during crop growing season; as cash crop senesces and is harvested, perennial cover starts to come back. Many benefits – inc. don't have to annually replant, weed suppression, reduces P loss. Using INRC funding to get a better handle on N impact. System works with existing crops and markets/ equipment/insurance/etc. Early work has shown can work, but is "brittle," more complex than ZCA. Need to make it more robust. Looking at variety of perennials, but bluegrass (Poa bulbosa) most reliable so far.

Working with landowner in eastern Iowa to trial. Work will be highlighted at field day, November 11, at Nashua in Northern Iowa, co-hosted by INRC. Please feel free to reach out if we can answer questions.

Review of 2021 (March-October) Center Activities and Center Director Update – Matt Helmers

Outreach and communication efforts include annual review of activities, INRC seminar series; Coordination with ISU digital repository to improve access to related research publications; webinars, field days and virtual field days, several new articles and interviews with researchers; new videos. Coordinating IA-MN-SD Drainage Research Forum, November 23. Last summer hosted two field events, including Step up the Science of Water Quality workshop for K-12 educators with Iowa Agriculture Literacy Foundation; creating a researcher directory; Submitted proposal for support from National Science Foundation-Research Experiences for Undergraduates (REU) for internship program. Involved with organizing the 2022 International Drainage Symposium.

Have been working with developer of Nutrient Tracking Tool (NTT), to make sure modeling tool reasonably reflects observed data at field sites in Iowa. Also, Kay is preparing manuscript for peer-reviewed publication on INRS Nitrate N Load Model modified to run at multiple scales, working with USGS.

Welcome input on topics for future meetings. Plan for stakeholder meeting in Feb 2022 to help guide next RFP.

Lawrence-Dill: I think one of my jobs as a participant is to help figure out how to get the word out or how to overcome obstacles: What is getting in the way?

Helmers & staff: Think benefits from opportunities to continue to build relationships with Extension staff, Ag Ed & Studies program, student groups, especially groups with interdisciplinary interests.

Matt: One other issue want to get input on: Frequently get interest in small, special project. Might be something on the order $10,000 to sponsor something, pilot project that we might consider of value. Would be interested in getting feedback from Advisory Council from how to handle small proposals, even engage small committee to review short proposals if we may have funds. Volunteers: Adam, Susan, Carolyn.

Next Advisory Council meeting - March-April timeframe.

Comments:

Schnieders: Suggestions for future webinars: What's fascinating from research? Status of new technologies, different innovations; Research on engaging stakeholders.

Helmers: Thanks! As always, as have suggestions, comments, etc., send them our way. Always appreciate time with Advisory Council. Thank you for your engagement.

No public comments.

Meeting adjourned at 10:05 a.m.