

Farmer Focus Group on the Fulton County Research and Demonstration Program:
Illinois Farm Bureau and Metropolitan Water Reclamation District of Greater
Chicago Partnership 2020

July 14, 2020



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I. Introduction

The Illinois Farm Bureau (IFB) continue to build and strengthen relationships with wastewater treatment utilities across our state as we build connections between point source and nonpoint source sectors to address key concerns about nutrient loss reduction. Since 2018, IFB has helped to sponsor research and a partnership with the Metropolitan Water Reclamation District of Greater Chicago (MWRD) at a research and demonstration site located in Fulton County. With the help of the Fulton County Farm Bureau (CFB), MWRD has hosted IFB farmer leadership on several occasions for tours and discussions of their operations in the Chicagoland area. In return, IFB has helped to connect farmers and other agriculture professionals with researchers at MWRD and other collaborators, who highly value farmer feedback when developing their research and outreach priorities.

In 2020, instead of an in-person tour or field day, IFB gathered members of the Environmental Advisory Team, as well as farmers in Fulton County, to participate in an internal-facing, virtual focus group. This approach is an example of one of the many ways that IFB works to support researchers across the state, specifically, by connecting them to farmers. This focus group and the subsequent conversations stemming from it are only possible because of the collaborations between the following partners.

II. Partners

A. Illinois Farm Bureau

Since 2015, IFB has contributed to an impressive statewide effort, the Nutrient Loss Reduction Strategy (NLRs). Through leadership and participation from our farmer members across the

state, IFB has been able to make meaningful contributions toward water quality improvements in Illinois. From 2016 to present, IFB has committed approximately \$1.5 million of its own funding to build and maintain its sustainability programs.

The NLRS is a science-based framework for using research, technology and industry experience to assess and reduce nutrient loss to Illinois waters and to the Gulf of Mexico. The NLRS sets forth a plan to leverage existing programs to optimize nutrient loss reduction while promoting collaboration, research, and innovation among the private sector, academia, non-profits, wastewater treatment agencies, the agricultural sector, and state and local government. The primary goals include reducing nitrate-nitrogen losses by 15% and reducing total phosphorus losses by 25% by the year 2025 from established baseline conditions. The NLRS was released in July of 2015 after multiple years of stakeholder discussions in which IFB actively participated. Since 2015, IFB has continued its participation in NLRS meetings and work groups in order to strategically guide the effort. In addition, IFB created new programs in 2015 to support farmer implementation of best management practices (BMPs) to help Illinois meet the goals of the NLRS.

For the past several years, IFB has made it an organizational priority to lead on environmental issues, most notably, the NLRS. IFB's NLRS efforts focus in four priority areas: 1) education and outreach to farmers, landowners and the general public; 2) supporting research of best management practices to reduce nutrient loss from agricultural fields; 3) supporting farmer implementation efforts across the state; and 4) demonstrating progress toward the long-term goals of the NLRS. The IFB Board of Directors committed significant financial resources and support from staff to accomplish some ambitious goals, allowing IFB to tackle environmental challenges head-on. IFB will continue to prove that voluntary, incentive-based conservation, based on science, will move the needle on water quality improvements in our state.

The IFB Nutrient Stewardship Grant Program is one example of the many ways IFB is creating lasting impacts in implementing the NLRS across Illinois. This program funds CFB projects throughout the state focused on improving soil health and water quality. Since 2015, IFB has dedicated over \$550,000 to CFBs to complete a wide range of unique projects, including planting test plots of cover crops, watershed planning, water testing, hosting education and outreach activities. For more information on IFB's environmental efforts, see www.ilfb.org/take-action/current-priorities/protecting-our-environment/.

B. Metropolitan Water Reclamation District of Greater Chicago

The MWRD has been improving the environment and protecting public health since its inception as the Sanitary District of Chicago in 1889. MWRD operates the largest wastewater treatment facility in the world. The MWRD is implementing several innovations in renewable energy, while also recovering and developing reuse opportunities for water, biosolids, algae, phosphorus and other nutrients collected through the water treatment process. In addition to

their work as a wastewater treatment agency, MWRD also supports nutrient management research and other NLRs-supported actions in a variety of impactful ways.

While reducing total nitrate-nitrogen (N) and total (P) concentrations in effluent at its water reclamation plants through a series of wastewater nutrient removal technologies, MWRD believes the 45 percent nutrient loss reduction goal established in the NLRs could be achieved most quickly and economically through the collaborative effort of the point and non-point sources of nutrients. Thus, in 2014, MWRD initiated a research and demonstration program at the Fulton County site (13,000 acres) with 4,000 acres of strip-mined (reclaimed) and nonmined land to develop and test best management practices to reduce non-point source (agricultural) nutrient loss in a partnership with organizations of agricultural research and extension addressing nutrient loss. This program focuses on 1). Developing and demonstrating the effectiveness of in-field and edge-of-field best management practices (BMPs) in reducing nutrient loss from agricultural fields; 2). Disseminating BMPs to farmers via field days and various media; 3) Establishing the Fulton County site as a model to foster collaboration between the point source and the agricultural sectors in addressing nutrient loss reduction.

Since 2015, research and demonstration projects have been established at the site in collaboration with several partners, including the University of Illinois (U of I), IFB and the Fulton CFB. The projects currently established include inter-seeded cover cropping, riparian grass buffer, runoff irrigation, sub-irrigation, denitrifying bioreactor, drainage water management, designer biochar, and watershed-scale nutrient reduction demonstration. Findings from these projects are shared to local and regional agricultural communities through field days, annual meetings, and publications (e.g. project reports and peer-reviewed journal articles).

C. Fulton County Farm Bureau

The Fulton CFB was established in 1916 and is currently located in Lewistown, Illinois. The Fulton CFB is committed to supporting a variety of programs and initiatives, including Ag in the Classroom, pollinator support, and many others. In 2019 the Fulton CFB was awarded a Nutrient Stewardship Grant from IFB to host a field day in partnership with MWRD. In 2020, the CFB also received a grant to continue supporting this collaboration.

III. 2020 Focus Group

Prior to convening in a Virtual Focus Group on July 14, 2020, farmer members of IFB Environmental Advisory Team and farmers from Fulton County were given copies of a draft white paper containing MWRD background and research, as well as a video tour of the Fulton County research and demonstration site. Participants were asked to join the Virtual Focus Group for the full two hours – a significant request for a primarily farmer audience. Over 30

individuals joined and participated for the majority of the time. The agenda for the virtual focus group roughly adhered to the following agenda:

1. Introductions, overview of the workshop
2. Background to the Fulton County Research and Demonstration Site
3. Understanding farmer support of research and demonstration sites
4. Increasing engagement of farmers, collaborators and other stakeholders, primarily in terms of sharing research and other information
5. Developing more direct engagement with stakeholders, especially farmers
6. Increasing adoption of BMPs (*group ran out of time to explore this topic in great detail*)

Before beginning the question and answer portion of the focus group, MWRD and U of I partners were given the opportunity to give a brief presentation on their research on the site. Presenters from MWRD and U of I included:

- Albert Cox, Environmental Monitoring and Research Manager (MWRD)
- Guanglong Tian, Principal Environmental Scientist (MWRD)
- Olawale Oladeji, Senior Environmental Soil Science (MWRD)
- Wei Zheng, Principal Research Scientist, Illinois Sustainable Technology Center (U of I)

The MWRD team covered the many BMPs being researched at the Fulton County site, including riparian grass buffers, cover crops, and others. The research team also helped make connections between this work and the NLRS, as Albert Cox noted, “we want to appreciate all that it takes to make this program a success... we do understand the importance of keeping nutrients out of our waterways and contributing to the success of the statewide NLRS.”

Once presentations from the researchers were completed, IFB helped to facilitate the conversation with farmers. The primary goal for IFB and MWRD in 2020 was to host a more internal-facing focus group that would allow farmers to directly connect with the MWRD research team. The following sections outline the primary responses to questions provided by the MWRD research team, as well as some of the important suggestions farmers provided for future work with this partnership. The intent for this effort was to help research collaborators from MWRD gather farmer input in order to understand “where to go next” in developing the research site and fostering a program that is meaningful for Illinois’ agricultural community.

A. Generating Interest and Continued Support

Overview: The first section of the focus group covered topics that generally related to farmer involvement with research programs. This specifically included covering what sorts of university research and demonstration sites farmers tend to support, as well as additional information that should be gathered from research and demonstration projects as a way to gain additional support of the Fulton county research site. Key takeaways from this section included:

- Developing local and flexible research partnerships and programs.
 - Sharing data in multiple ways to meet the needs of members across the agricultural community.
 - Producing more practical research for farmers, as well as considering economic benefits of conservation practices.
 - Providing specific recommendations for MWRD to improve the research program.
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To start the first section of the focus group, the farmer audience was asked about the **factors that influence their interest and support of research and demonstration sites**. To clarify, they were reminded that support from the agricultural community helps MWRD to generate relevant outputs and ensure continued support and availability of the Fulton county research site and demonstration program. When specifically asked about the factors that influence their support of university research and demonstration programs, one participant responded, “**I think it’s important that the research is local and that it’s able to apply to what’s going on, on the farm.**” Members of the group expanded on this idea, adding that having a research site that is both local and that allows flexibility for what can be implemented and then researched is very important in terms of whether or not someone chooses to support a demonstration and research program.

Participants were also asked to share suggestions about how to **continue generating interest about the Fulton County research site in the agriculture community**, especially in terms of any **materials that could be shared or events that could be hosted**. IFB staff prompted the audience to think about all research partnerships IFB sponsors, including the collaboration with the MWRD research team, and the ways that researchers could share data and other relevant information. Participants had several ideas for how to generate interest, noting that approaches to sharing information are rarely “one size fits all.” To further explain, one member said, “**I think if you have the real-time data some farmers are really into that [...] as the weather is developing and the crops are developing and I think you are going to have some farmers that like newsletters in monthly or quarterly publications.**” This member also provided the example of listening to podcasts while he is busy in the field as a way he consumes

'real-time' information. While the audience generally agreed with these ideas, a few individuals noted that this particular approach to generating interest may only be successful for farmers that are "on the cutting edge," and that **information should be shared in multiple ways**. One participant also noted that **research should also be targeted at the ag-retail community**, an idea that was explored in more detail later in the agenda.

In addition to thinking about ways to generate interest from the farming community, the audience was asked to think more specifically about **BMPs at the Fulton County research site and other BMPs that should be researched**. One member was interested in in-field the placement of Nitrogen, Phosphorus, and Potassium in side-dressing practices, and **whether these different approaches in placement effect nutrient run-off**, additionally identifying that there was not a lot of supporting data on this topic. This member also added that the accumulation of data in any format is valuable, making the following statement: "**I don't think I need to actually see [the data], but if you can tell me 'this is the percent of loss with y-drops versus incorporation with a knife'... that is valuable.**" Another participant agreed with that response, adding that **more practical information about BMPs for applying**, as well as more specific research about P runoff, would be useful information. In response, MWRD researchers were able to share some examples of P-research taking place at the Fulton County site, including a three-year study that examined reusing runoff irrigation as a source of P.

The audience was also asked to consider **any additional information that should be gathered to boost support** of the Fulton county research program. One farmer was particularly interested in any **possible correlations between crop rotation** (e.g. corn-corn, corn-soybeans, etc.) **and availability of nutrients**, specifically asking MWRD researchers if there was any relationship between the type of crop rotation and nutrient loss or nutrient efficiency at the Fulton County site. The MWRD research team clarified that they utilized a corn-soybean rotation at the research site and that there appeared to be differences from year-to-year in terms of nutrient loss and efficiency, but that dedicated research on this topic had not been conducted yet.

Another audience member added that economic data should also be gathered from research, including the **economic benefits to the farmer as well as the economic benefits to the environment** so that farmers may be able to better weigh their options. MWRD researchers highlighted some of the specific research that is considering economics of various conservation practices. One researcher also shared the connections between "cost-effectiveness" and the NLRs, sharing in more detail,

"As far as the list of practices the strategy would have on their list to be recommended for implementation, they actually also look at the cost involved... It takes quite a lot of fine tweaking to actually get that information, but that is very important and I think that this is something we should actually be focusing on to [generate] that type of information so that we could give more credibility for them to be included as a recommended practice in the strategy."

A third key point was raised about economics by the MWRD researchers – a significant amount of current research is not only investigating new agricultural technologies, but also **how new technologies may be more cost effective, productive, and grow farm incomes**. MWRD also noted that they have been investigating some of the socioeconomic variables associated with the varying practices in order to better understand the costs and benefits of conservation practices, as well as hopefully engage farmers in such research more efficiently.

Before transitioning to the second substantive section of the focus group, IFB staff provided more **specific recommendations for the MWRD team** to consider at the Fulton county research site. First, IFB encouraged the researchers to think about **in-field conservation practices that could be further explored at the site** and how that research could be shared with farmers, many of whom may not be interested in implementing these practices on their own farms without sufficient evidence of benefits. In addition, IFB suggested **future research on the impact of rotational grazing and how livestock farmers could be involved** in different aspects of research taking place at the Fulton county site. Finally, IFB staff recommended that the researchers not only consider the water quality improvements associated with conservation practices, but also the **potential soil health improvements, including organic matter and carbon sequestration**. MWRD researchers agreed that soil health is incredibly important and added that soil health directly impacts the ability of soil to hold on to N and P.

B. Sharing Information with Farmers

Overview: The second section of the focus group covered topics related to distributing information with farmers and other members of the agricultural community. Primary points of discussion included:

- Format of information shared with farmers.
 - Including ag. retailers and other ag. business in communications about research.
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The conversation about soil health naturally led to a productive conversation about the possibilities of “getting research into [farmer’s] hands” and **how the results of research, specifically research at the Fulton county site, should be shared**. The audience was first asked to consider whether organizations like MWRD and IFB should consider creating materials meant to be shared widely, or whether there are potential benefits to create specific educational materials for specific audiences. One farmer added that it is **not only important to consider what information is shared, but also the format in which it is presented**.

Though previous conversations touched on the importance of sharing information widely to provide continued support of the research and demonstration program, IFB staff identified that the agricultural community tends to share the bulk of their information in a text (i.e. readable) format. IFB staff was curious whether **mobile-friendly or video content could be a more efficient way to share information with farmers**, or whether there was any easier way they consumed research and other types of information. A younger farmer in the audience identified that his preferred method of receiving new information is by listening to **podcasts**, indicating that he liked being able to “**listen as [I] go,**” but also recognized that **older farmers seem to prefer print resources like newsletters**. For those that were interested in podcasts, they also felt it was important to figure out ways to make interesting content out of otherwise boring conversations. Another audience member expressed that he often receives **texts with links to news updates and other publications**, and then decides if it is worth his time to read or listen to the full piece. A main takeaway from the farmer audience was that they **preferred podcasts, newsletters, and other forms of media that were short and concise**.

As well as calling attention to differences among farmers, audience members again expressed that **engaging the retail and ag. business communities is vitally important**, indicating that retailers are often a key source where a lot of farmers receive their information. One audience member pointed out that it was helpful to think about the retail community as a point where information is disseminated, noting that they can sometimes be a hinderance because they are possibly more concerned with selling a product. The group agreed that **getting accurate science and other research out to retailers would be a critical consideration in making sure information continues to be available for farmers**.

C. Increasing Engagement in Agriculture and Beyond

Overview: The final section of the workshop focused on sharing ways to increase collaborations and direct engagement with members of the agricultural community. Special attention was also paid to brainstorming ways to engage members of other sectors, particularly in ways that could lead to lasting, cross-sector partnerships. Main takeaways from this section included:

- Developing partnerships that make sense for farmers.
 - Involving cross-sector stakeholders, especially to increase chances of receiving adequate funding for large-scale projects.
 - Providing specific recommendations of where to share news of the MWRD/IFB partnership.
 - Increasing communications and engagement between farmers and consumers.
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In addition to asking the audience about how they prefer to receive information from scientists in particular, the MWRD research group was also interested in **understanding ways to encourage engagement and collaboration among stakeholders and other potential collaborators**. When specifically asked how the program can encourage more direct involvement from farmers, one audience member was quick to identify that **collaborations that are easy and time efficient for the farmer** are important considerations. He further explained that “easy” collaborations are ones where there is **good communication between the research and the farmer, and where expectations for timing and deadlines are clearly indicated and reasonably flexible** (e.g. can be adjusted to account for factors such as weather). IFB staff also revisited the value of the Fulton county research site, noting that it may be more beneficial to think of ways to get the farming community interested in that project as a whole before examining ways to directly collaborate with individual farmers.

The importance of developing collaborations was broadly discussed in terms of the possibilities of meeting the goals of the NLRS more efficiently by **increasing cross-sector partnerships**. MWRD researchers also identified gaps in federal funding to support on-farm collaborative research as well as gaps in understanding which funding opportunities were most sought out by farmers, a set of key concerns for MWRD when evaluating potential partnerships. IFB staff shared additional examples of collaborative work they spearhead across Illinois, specifically identifying how they are able to pull multiple stakeholders together to support applications for Illinois EPA 319 and USDA Regional Conservation Partnership Program (RCPP) grants in priority watersheds, in addition to supporting individual researchers.

The audience was also asked to consider **potential opportunities to engage other groups**, such as municipalities or Soil and Water Conservation Districts (SWCD). One suggestion was to **involve more wildlife groups** that share common membership with the agricultural community, noting that **practices such as saturated buffers have been used elsewhere to provide added sportsmen opportunities**. Another added that while he felt involving SWCDs in such programming was important, **their work (and the work of other agency offices) varies greatly across the state** and was unsure how to account for those differences from office-to-office.

As well as thinking about specific groups to partner with, the farmer audience was also asked about **where they preferred to learn about these collaborations** and any possible connections with subsequent farmer engagement. One farmer identified the **Farm Progress Show and other farm shows as potential opportunities to increase engagement** between the research site and the farming community. Others agreed with this idea, further suggesting the possibility for **more corporate sponsorship or collaboration to increase farmer engagement** with the research program. An MWRD researcher also added input about the importance of connecting the research back to farms, explaining that bringing farmers out to a field to see the actual conservation practices is very important.

IFB staff raised additional points related directly to the ag industry, specifically asking the audience to share their take on the **connections between individual companies, the supply chain, and farmers in Illinois**. One audience member agreed that connecting with food and beverage companies (i.e. industry) is a very important way to also connect to consumers, explaining that **Illinois farmers in particular are often removed from the consumer audience**. This member also touched on the importance of educating consumers on the conservation efforts farmers are already employing, noting the importance of the consumer in “connecting the whole story” about how specific agricultural practices matter. IFB staff added to this by identifying the potential to have outreach and potential engagement opportunities that cycle back to consumers and the general public, further adding **“that the real strength of this collaboration is that you have the whole spectrum [i.e. researchers, farmers, and consumers] there.”** IFB staff and the MWRD research team were also able to expand on their own communications strategies to share details about this partnership with all of their members and other stakeholders, agreeing with the responses that all collaborators involved can always be doing more to share this partnership with the public.

IV. Next Steps

The partners involved in this project look forward to continuing to explore ways to strengthen their collaboration, with the goal of bringing farmers and the MWRD Research Team together at the Fulton County research and demonstration site in 2021. Though the group ran out of time cover every point in the agenda, the following items represent important next steps for the group to explore, based on the feedback from this focus group:

- Continuing to raise farmer and ag. industry awareness of the MWRD/IFB partnership through a variety of communications platforms.
- Developing research partnerships and other forms of collaboration that benefit farmers and researchers.
- Conducting research and sharing results in ways that help answer farmer questions about conservation BMPs.
- Exploring additional opportunities for MWRD to serve as a key connection between consumers and the agricultural community.

V. Special Thanks

Meeting the goals of the NLRS is not just one singular sector's responsibility, it relies on working together across sectors, and we are excited to see where this partnership ends up in the future.

Without the support of the IFB Board of Directors, collaborations like this one would not possible – we would like to thank them for continuing to support projects that allow us to develop and maintain relationships with scientists and their research.

We would also like to thank the MWRD research team, as well as MWRD commissioners, Frank Avilla, Cameron Davis, and staff from Debra Shore's office who all joined us remotely for our focus group.

In addition, a special thank you goes out to Fulton CFB for adjusting to the virtual format for this event and connecting Fulton county farmers to the effort.

Finally, we would like to thank the nearly 20 farmers who joined us remotely for this focus group. Their feedback is invaluable and we look forward to continuing to provide them with opportunities to connect with researchers across Illinois.