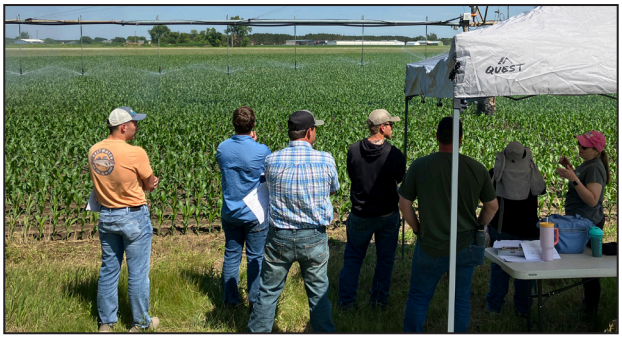
Irrigation workshop immerses NRCS, SWCD staff in new tech



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A contribution agreement between BWSR (Clean Water Funds) and NRCS (Farm Bill) funds the Technical Training and Certification Program. The collaboration involves the Minnesota Association of Soil & Water Conservation Districts and the Minnesota Association of Conservation District Employees.

STAPLES — With a focus on new and emerging technology, this summer's Irrigation Regional Conservation Partnership Program (RCPP) Technical Training Workshop at Central Lakes College (CLC) deepened conservation professionals' understanding of options available to producers.

About 40 Natural Resources Conservation Service (NRCS) and soil and water conservation district (SWCD) staff attended the two-day training. An education component of the $3.5 million RCPP grant NRCS awarded to the Minnesota Department of Agriculture (MDA) in 2021, this was the third year the workshop was offered.

The intent: Equip staff to work with irrigators who receive precision irrigation cost-share through the RCPP. An $11.2 million RCPP renewal announced this summer will support another round of upgrades meant to increase irrigation water-use efficiency, and improve groundwater and surface water quality. Details are expected to be announced late this fall once project partner agreements are in place.

The workshop set NRCS and SWCD technicians on the path to obtaining Job Approval Authority (JAA). Technicians with JAA can certify practices. RCPP-supported practices require certification before the landowner can receive federal cost-share payments. Having more JAA-certified technicians makes more technical assistance available to producers, and speeds the reimbursement process.

Minnesota NRCS website: **www.mn.nrcs.usda.gov**

Industry experts, educators and producers delivered the training and answered questions. The Minnesota Board of Water and Soil Resources' (BWSR) Technical Training and Certification Program (TTCP) helped coordinate the workshop.

Day 1 introduced information required to certify pumping plants, sprinkler systems and irrigation water management.

"Irrigation is complicated. There's a lot that goes into it," said Sherburne SWCD agricultural conservationist Miranda Wagner. A workshop steering committee member, she was also among the presenters at a station centered on certifying sprinkler systems for payment.

From left: *Uniformity testing was among the topics covered during a two-day irrigation workshop this summer at Central Lakes College in Staples. University of Minnesota-Extension irrigation specialist Vasu Sharma taught several sessions, including one focused on soil-moisture sensors and platforms. The workshop, in its third year, focused on new and emerging technology. The goal: Prepare NRCS and SWCD staff members to work with producers seeking upgrades through the Regional Conservation Partnership Program.*

Photo Credits: Amanda Deans, BWSR

"Even having a baseline education on the different components of what an operator is doing every day with irrigation — all the things that need to be considered when watering — I think is an asset to the field office so that when an operator comes in, and we're talking about programming or even just technical assistance, we can give better guidance," Wagner said.

"Having that general idea of what's required for those practices also helps us work better with operators who are signing up. To me, it's the worst-case scenario if someone comes in and (you sign them up for a program), but you can't tell them what the deliverables are going to be," she said.

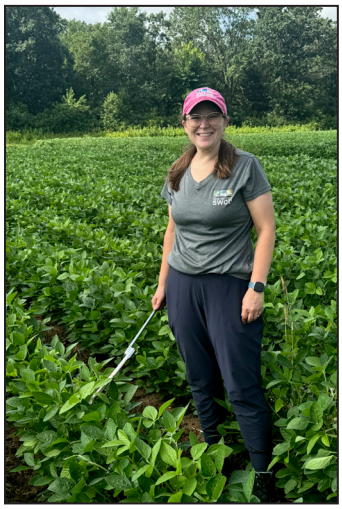
The Day 2 focus — an in-depth look at new technology — came at the request of past years' attendees.

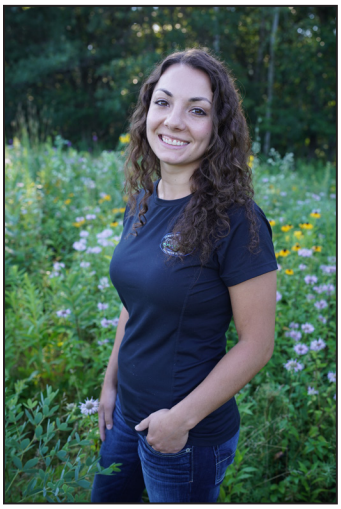
It included demonstrations and discussions about variable-rate technologies, soil-moisture tracking methods, and whole-farm management software that incorporates irrigation data.

"You do have companies (that) are more than willing to talk about the new technology and what's in the market, but of course they do tend to focus on their own products," said Jeppe Kjaersgaard, an MDA research scientist who manages the RCPP grant.

"Having someone either from the (SWCD) or from NRCS that can talk a little more broadly about the different types of products in the marketplace … is really important so that irrigators can make informed decisions about investments in new technology," he said.

> **"When you are talking to an irrigator, you have to be able to talk shop."**
>
> —Jeppe Kjaersgaard, Minnesota Department of Agriculture research scientist





Left: *"To me, it's the worst-case scenario if someone comes in and (you sign them up for a program), but you can't tell them what the deliverables are going to be," said Miranda Wagner, a Sherburne SWCD agricultural conservationist who helped to organize the workshop and was among the presenters.*
Right: *"The technology is growing so fast, and the producer interest seems to be kind of growing along with it," said Kelly Berg, a Stearns Conservation District conservation planner who attended the workshop for the third year.* **Contributed Photos**

Kelly Berg attended all three workshops. A conservation planner with the Stearns Conservation District, she works with producers on best management practices, alerts them to funding opportunities, and offers technical assistance. Berg said she was particularly interested in the differences between soil-moisture probes and their compatibility with different brands of irrigators.

"The technology is growing so fast, and the producer interest seems to be kind of growing along with it," Berg said.

Kjaersgaard said the in-depth sessions focused on technology that has emerged within the past couple of years — things early adopters are starting to use.

Vasu Sharma, a University of Minnesota-Extension irrigation specialist and assistant professor in the Department of Soil, Water and Climate, taught several sessions, including one focused on soil-moisture sensors and platforms. Her aim: Give technicians a complete understanding of that technology, and how to interpret the data it produces.

"If you have that instantaneous measurement, how (do you) make sense of what that (means for) irrigation?" Sharma said. "Then we also looked at the graphs. If you have advanced technology — if you have a sensor that sends you data online and you can see it graphically — how to interpret that and how to make decisions based on that graphical data set."

Some of the technology — such as cameras mounted on irrigators to immediately detect pest damage by showing changes in foliage color — is still in the trial stages.

"This (technology) is pretty intense, but it's also finding that economic point where it's applicable on smaller farms," Wagner said. "But (upgrades) can be simpler, like attaching flow meters … as a tool for operators to know how their pump is functioning, how their system is functioning, and being more efficient with water and energy use."

Technicians can help producers determine the best options for their system.

While the workshop prepared technicians for those conversations — and propelled them closer to receiving JAA — Berg noted another advantage.

"If you're there at that workshop, it's because you're working on similar things. … It's so nice to be able to talk to other planners or technicians that are kind of in the same boat as you, and bounce ideas off of each other," Berg said. "It's a really good networking and learning opportunity."

BWSR staff members write and produce Snapshots, a monthly newsletter highlighting the work of the agency and its partners.