



CORN PLANTED INTO COVER CROPS
PHOTO CREDIT: EDWIN REMSBERG AND USDA-SARE

MAY 2025 NEWSLETTER

AGROECOLOGY + INNOVATION MATTERS

The Capacity Building Initiative promotes bottom-up agroecology, fostering sustainable innovation at the local level, and sharing progress through Agroecology + Innovation Matters (AIM) initiative communications.



AIMING FORWARD

UPDATES FROM AIM

Summer is just around the corner, and that means full steam ahead for events and the planting season—if you haven't already finished planting, that is!

AIM has also been busy! At the end of April, AIM attended the DoIT's Second Annual CareerSpark STEAM Expo. This event was hosted by the Illinois Department of Innovation and Technology (DoIT) in collaboration with Junior Achievement and the Learning Technology Center



Conservation Planner Nicholas Werries (Sangamon Co. SWCD), AIM Soil Health Outreach Associate Hannah Tomlin, and Conservation Planner Courtney Lercher (Scott Co. SWCD) at the DoIT CareerSpark STEAM Expo.

of Illinois, where they hosted more than 1,400 8th grade students and over 60 exhibitors. Central Illinois School districts and professionals came together and explored the career possibilities in Illinois with an emphasis on those pertaining to science, technology, engineering, art, and mathematics fields.

Attendees of the CareerSpark STEAM Expo that stopped by the AIM were able to speak with two of AIM's Conservation Planners, Nicholas Werries who is based at the Sangamon County Soil and Water Conservation District and Courtney Lercher who is based at the Scott County Soil and Water Conservation District, as well as AIM's Soil Health Outreach Associate Hannah Tomlin.



Tabletop rainfall simulator.

Attendees were also able to interaction with a table top rainfall simulator with two soil samples, one from a field that used a cereal rye cover crop and one from a conventionally tilled field. This rainfall simulator demonstrates how cover crops help with water infiltration and reduce runoff during rainfall events.

If you are interested in creating a similar tabletop rainfall simulator, please contact AIM Soil Health Outreach Associate Hannah Tomlin at hannah.tomlin@illinois.gov.



CONSERVATION PLANNER SPOTLIGHT

UPDATES FROM AIM



Level III Conservation Planner
Chris Emerson, Montgomery
County Soil and Water
Conservation District.

There are things that I can remember and know, and things they remember and know, so together we usually have enough knowledge to take care of something... I think tribal knowledge is what we used to call it."

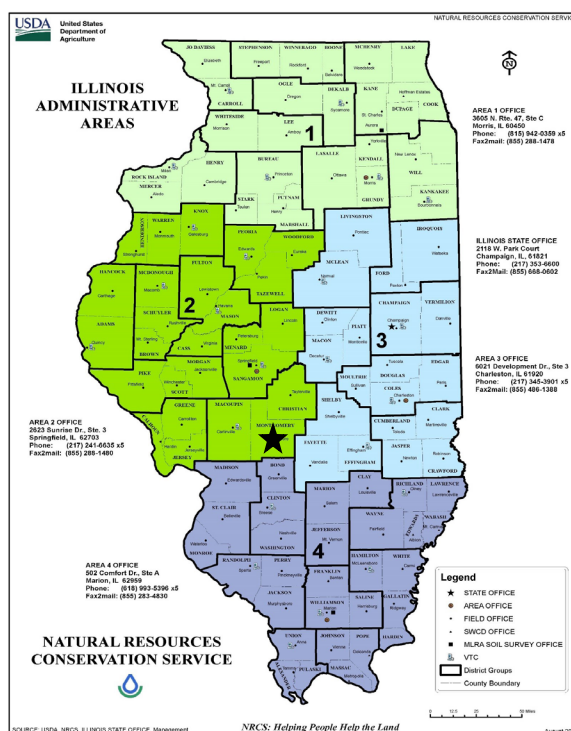
His bigger collaborative projects have been working on structural designs with NRCS. For example, he designed 20 water and sediment control basins (WASCOBs) in a waterway on one track in Macoupin County. Describing this project, he said, "Going out there, I needed to see all of the cutting and erosion, trying to figure out where we are going to put some basins, and then surveying it, getting all then numbers and then trying to make the basins work, which is a lot of tinkering with cutting or different tile sizes and this and that, but a lot of math."

According to Chris, the NRCS conservation practices that he utilizes the most are WASCOBs (code 638) and grassed waterways (code 412). When asked about how producers are responding to his work, he said, "Pretty positively. They want us to come out there and look at things or if they can't figure out what a species is, sometimes they ask us that. They know there's invasives, and hopefully we know [what they are], and usually we do."

In April, Montgomery County Conservation Planner Chris Emerson achieved Level 3 Certification, becoming the fourth member of our program to do so. Prior to becoming a Conservation Planner, Chris worked as a data analyst in the mortgage industry. Once he was hired by the Capacity Building Initiative in March of 2023, he was trained by his wife, a soil conservationist working in the same office. She knew that he was growing tired of his desk job and wanted something hands-on, so she shared information about the program with him when it began.

Although he grew up in Hannibal, Missouri, Chris has lived in Springfield for most of his life. He studied architecture and welding at Lincoln Land Community College. Describing when his interest in conservation began, he said, "Back in high school, in chemistry and physics classes when they talked about equilibrium and matter is neither created nor destroyed... I was interested back then... and on Earth Day, discussing how you have all this water, but only so much of it is usable, and there's more need for clean water, but we can only produce so much."

He frequently works on CRP status reviews with Pheasants Forever Farm Bill Biologist Emilee Hale. When asked about the benefits of collaborating with other organizations, he said, "I can only remember so much, so it helps to have other minds there to identify species and just work together, you know.



Montgomery County, noted with a black star.



Chris Emerson in the field.

District Conservationist Aaron Engstrom, who has been working with NRCS for over 24 years, said conservation cover (code 327), no till (code 329), and cover crop (code 340) are other common practices for their producers. Along with CRP work, Aaron said that Chris has worked on a little bit of everything, stating, “He’s helped us do nutrient management plans through our EQIP and CSP programs, and he’s helped us do engineering survey and design. He’s achieved his certified planner levels one, two and three. He’s also received some engineering job approval with our area engineer, Austin Ramirez.”

Describing Chris, he added, “He’s a great employee... well-educated, polite, works well with everybody, is not afraid to get his hands dirty, very knowledgeable with how our office functions and the tools that we use to get our job done.” Aaron also described the positive working relationships amongst staff in their office. He said, “We all want to work together. We’re happy to teach and learn from each other.”

When asked about his favorite part of the job, Chris said, “Going out, doing a status review and seeing that someone is actually taking care of it and not just there for the check and it’s full of weeds... you know, when I go to a pollinator and it’s full of flowers and grasses and it looks good, I like that.” He also enjoys that he can take courses and further his education on a variety of environmental topics as part of this job, as there are so many different aspects of conservation to learn about. He said, “I’m still learning every day, so I’m just going to keep learning and be patient.”





THE ILLINOIS STAR REPORT

SAVING TOMORROW'S AGRICULTURE RESOURCES

By Natalie Kerr, Illinois STAR Coordinator natalie@STARconservation.org

In response to farmer and advisor feedback, the Illinois STAR Science Committee has created a new, separate field form specifically for wheat and double-cropped wheat for crop year 2025. The existing form, now known as the “non-wheat” field form, continues to cover corn, soybeans, hay, pasture, and other small grains with minor updates. There were two main reasons for separating the field forms: recognition of wheat’s soil health benefits and acknowledgment of specific nutrient management strategies of wheat growers. The changes reflect STAR’s commitment to designing tools that are science-based, adapted to local conditions, and make sense for producers’ operations.

NEW RECOGNITION OF WHEAT’S SOIL HEALTH BENEFITS

Wheat is not classified as a cover crop, but it does provide a continuous living root, which is a key soil health principle. Incorporating a winter hardy crop like wheat into a corn/soy rotation offers several benefits including, but not limited to, improved soil structure, increased organic matter, greater diversity of soil biology, and reduced nutrient loss.

The new wheat and double-cropped wheat form awards growers 7 points for the continual living root benefit provided by a current wheat crop.

NEW NUTRIENT MANAGEMENT QUESTIONS AND SCORING

Both field forms differentiate between fall and spring/summer nutrient management practices. The fall nutrient management section (post-harvest through February) recognizes that application of nitrogen when the soil is below 50°F decreases the risk of nutrient loss and that the application of nitrogen or phosphorus on frozen or snow-covered ground leads to increased nutrient runoff. The spring/summer nutrient management section (March 1st through summer, leading up to harvest) encourages nitrogen application close to crop uptake timing to minimize loss and recommends incorporating broadcast manure or biosolids.

A new response option “no nitrogen was applied in this time frame” was added to both nutrient management sections on both forms and rewards producers with 5 pts in the fall, and an additional 5 in the spring if no prior fall application. MAP or DAP applications, depending on application timing, are rewarded with up to 4 points.

Specific to the wheat and double cropped wheat form, nutrient management questions were made more relevant to farmers across the state by better addressing the timing and rate of nitrogen application throughout the growing season. One new response option was added to the fall section, and two to the spring.

The fall option reads “total nitrogen applied for wheat before Dec 1 did not exceed 40 lbs/acre” (1 point). The spring options differentiate between single topdress application after ground thaw (2 points) and split topdress application after ground thaw (4 points).

UPDATED NITROGEN RATE GUIDANCE

As in past years, both field forms have an additional nutrient activities section that asks about total nitrogen rates applied to corn (for the wheat form, this applies to corn grown in a double-cropped wheat system). The “total nitrogen program” for a crop should include residual soil nitrogen, nitrogen made available from organic matter mineralization, and nitrogen applied from all sources in the Crop Year. Adjustments were made to nitrogen rate responses for corn, emphasizing optimal economic and environmental outcomes.

The rate categories for corn following a different crop are: 180 lbs or less nitrogen per acre (4 points), 181-205 lbs nitrogen per acre (2 points), or greater than 205 lbs nitrogen per acre (0 points).

The rates for corn-on-corn are: 200 lbs or less nitrogen per acre (4 points), 200-220 lbs nitrogen per acre (2 points), or greater than 220 lbs nitrogen per acre (0 points).

RESOURCES FOR BETTER NUTRIENT MANAGEMENT

Nutrient management is important both for improving downstream water quality and for reducing input costs.

The 4R Principles (Right Source, Right Rate, Right Time, and Right Place) are very useful for making nutrient decisions. More details can be found here: <https://nutrientstewardship.org/4rs/>.

The “Corn N-Rate Calculator” that is part of the NRCS 590 Nutrient Management standards and specifications is another helpful tool that incorporates economic considerations. It uses current corn and nitrogen prices to calculate the Maximum Return to Nitrogen (MRTN) and can be found here: <https://www.cornratecalc.org/>.

Additionally, using Variable Rate Technology (VRT) is economical and environmentally friendly, allowing for the placement of fertilizer where it is needed. However, application rates when using VRT should not exceed the recommendations found in the University of Illinois Agronomy Handbook: <https://extension.illinois.edu/global/agronomy-handbook>.



FEATURED PRODUCER ELAINA FALES

TESHUVA FIELDS FLOWER FARM FOCUSES ON BUILDING HEALTHY SOIL AND COMMUNITY

By Hannah Tomlin, Soil Health Outreach Associate

Six years ago, as Elaina Fales was moving to Crystal Lake with her husband, he had the idea of starting a flower farm. He grew up loving to garden with his parents, and received a degree in environmental science, which led to their focus on regenerative farming practices. Since they were not sure how to get started, their friend offered to let them to borrow his front yard to experiment for the first year. Although she had never spent much time gardening, Elaina quickly fell in love with it. She said, “It was the year that covid had begun, so nothing was open, but I had florists reaching out to me because I would just talk about it to people, and I did some cold calls you would say... calling some people and some florists, and they were eager... I mean, they were eager to just get farm products.”

After breaking even that first year, they decided to purchase one acre in Crystal Lake, which is where they are still located. They use sustainable practices like minimal tillage. She said, “By doing that, I am noticing that my crops are ten times better, and I’m not seeing as many pests, I’m not seeing as much bug pressure. Do I still get aphids and thrips? Yes, I still get those, but it’s not how it would be if I was tilling every season.” They are hoping to eventually expand and own five more acres of land and grow a wider variety of annuals, keeping most of their perennials on the acre they currently own.

After deciding she wanted to pursue this as a career, she immersed herself in research. She discovered that ranunculus were in demand by catching up with florists and learning that these flowers were a top priority for weddings and other special events, partially due to their ability to last 10 to 14 days in a vase. The main varieties of flowers they grow vary based on the season, but ranunculus and anemone are their current focus. In the middle of the growing season, they have a lot of zinnias, sunflowers, cosmos, delphinium, foxglove, and scabiosa. In the fall, dahlias are their primary flower. According to Elaina, their most valuable crops are ranunculus and dahlias, which generate the highest income.

Currently most of their product goes straight to florists, including Twisted Stem in Crystal



Lake, Florist and Hound in Wauconda, Farmdog Flowers in Batavia, and a mix of florists in Chicago. Last year they also participated in two farmers markets in addition to having two farmstands- one on site and one by a main road in Crystal Lake. She said, “I usually have it set up Monday through Wednesday, where I will have like fifteen bouquets set out. It’s just to get some stuff off the field, and then I usually will stock it for the

Teshuva Fields Flower Farm.



weekend just in case people can't make it out to the farmers market."

Elaina is very tied into her local community, frequently partnering with neighbors on projects, and considers her farm crew to be like family. She has two crew members who have been working on the farm since its inception. Because one of them is deaf, she requires everyone who works on the farm to learn sign language. Her two sons, ages three and a half and one and a half, are out on the farm every day as well, and they also enjoy being outdoors. Elaina said, "I know that's really hard in farming... keeping people. I've never had an issue with that. I've always had an issue with keeping interns because the work is hard, but I've never had an issue with keeping my crew. We're just really tight-knit." These relationships were helpful when they chose the "community build" option for constructing their NRCS-funded high tunnel from Nifty Hoops, who sent three representatives to guide ten people in putting it up on their farm.

Former Conservation Planner Aidan Woltman assisted with Elaina's high tunnel application. He said, "Working with Elaina at Teshuva Fields has always been a breeze. When Wes

Krug, the soil conservationist for McHenry and Lake County, and I went out to her site in the spring of 2023, she showed us how her cut flowers grow more effectively and with more vigor when wind pressure is reduced. With that logic in mind, as well as the belief that a high tunnel system would also extend her grow season allowing for her to grow more flowers throughout the year, assisting her with cost-share and advice for a new high tunnel system was a no-brainer. Since then, the practice has been so beneficial for her operation that she has reached back out to the NRCS for another high tunnel system which we are currently working to get set up." Elaina said, "I feel like it was really seamless. Hence why I'm going to a second one, because that was so seamless."

Having additional tunnels will help her with crop rotation, preventing diseases from building in the soil. She explained, "With ranunculus, you must rotate the crop every so often or it will actually disease the soil, so you can only do it for so many years of keeping it in that same spot. So, the point is to get a few tunnels to be able to constantly rotate the crops. The same thing with tulips. So, I have tulips outside of the tunnel, but I want to put them in the tunnel to get a quicker start on the season, but you can't plant them in the same spot every single year or you will get a thing called tulip fire in the soil, where it will kill off your whole crop... And so, the point would be to rotate a lot of the crops back and forth... You know, in the other tunnel I can have lisianthus started in March, so I'm not having to wait until the ranunculus are done in May to plant the lisianthus." She's also applying for a low tunnel from NRCS. She said, "The low tunnel is to get an earlier start on my cold hardy stuff like snap dragons and cosmos, kind of get a quicker start on them in the field."



Teshuva Fields is hosting plant sales on May 9th-10th and 16th-17th from 10 am- 4 pm at 3506 Walk up Road in Crystal Lake. For those interested in learning more about Teshuva Fields, or to place a special request or order, please visit their website.

CONSERVATION IN THE CLASSROOM

PREPARING THE NEXT GENERATION

We need to inspire, educate, and provide more opportunities for the next generation to enter the agroecology workforce. From elementary school to college, we need to foster interest in natural resources, teach the importance of conservation, and provide young people with the requisite tools and pathways to pursue further education or professional opportunities in related education, trade, science, etc. fields.

The goal of **Conservation in the Classroom** in the AIM Illinois newsletters is to provide classroom and community engagement resources regarding featured conservation agriculture topics. We “aim” to support educators in discussing these vitally important topics and fostering excitement for the future of agroecology with their students.



This month’s lesson plan is **VIRTUAL NATIVE PLANT SCAVENGER HUNT**. In this lesson, students will explore the role of native plants in Illinois conservation by researching species that support soil, water, and wildlife health. Using online sources, students will complete a virtual scavenger hunt that builds their plant identification skills and deepens their understanding of biodiversity, ecosystems, and sustainable land management.

[Lesson Plan Hyperdoc](#)





AGROECOLOGY + INNOVATION MATTERS

The AIM project was initiated through a state/federal leveraged funded Capacity Building Initiative between the Illinois Department of Agriculture and the USDA Natural Resource Conservation Services (NRCS). Our 40 Conservation Planners and Coordinators aim to enhance soil health, reduce nutrient loss, maintain clean waters, and bolster the advancement of best conservation practices by collaborating with NRCS field offices, soil and water conservation districts, producers, and landowners across the state.

Our team strives to communicate best practices stories and provide educational resources for our community. AIM empowers producers and landowners to explore agroecology and innovative infield and edge of field practices like cover crops, conservation tillage, vegetated buffers, grassed waterways, prairie strips, and constructed wetlands.

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TESHUVA FIELDS FLOWER FARM.