Taking the plunge

Volunteers bring neighborly approach to the fight against aquatic invaders

4-H reaches underserved youth
Master Gardeners inspire student-led bakery
Veterans connect through beekeeping
Pig wellness, assured

Consumers care that livestock are treated well on the farm. Pork producers and transporters assure the well-being of pigs through Pork Quality Assurance Plus and Transport Quality Assurance Certification training. Recommendations are research-based, and farm visits are part of the evaluation.

The results? Minnesota hog farms meet and exceed expectations of the national pork industry, and consumers enjoy that tasty bacon with confidence.

176 certified Pork Quality Assurance Plus advisors improved the well-being of over 11 million pigs.

Diane DeWitte, Mankato-based Extension educator, specializes in swine. Along with educator Sarah Schieck and Extension animal scientists, she brings research-based programming to pork producers across Minnesota.
From the Dean
Building opportunity together

Teaching—in my case, as a professor of weed science—is a fulfilling way to pass on what I have learned to the next generation. I taught and conducted research long before becoming the dean of University of Minnesota Extension, and I continue to do so at every opportunity.

I hope my students will go on to serve their communities, solving problems through a mix of what they learn from me and my research and what they discover anew. Together, we will build the new knowledge needed to address new challenges.

As dean of Extension, I see Minnesotans coming together through our programs to build new knowledge every day. Working, learning and serving together through University and community partnerships makes us stronger.

It builds hope for the future.

In this issue, you’ll read stories about Minnesotans working together to creatively address challenges and grow opportunities. Big and exciting changes are happening in all corners of Minnesota.

From Big Fork to Big Stone, from Kasson to Mahnomen and Crookston, from north Minneapolis to Silver Bay and beyond… it is an honor to learn and serve Minnesota with you.

Beverly Durgan
Dean, University of Minnesota Extension

Healthy crops always face enemies, whether they’re weeds, insects or fungal disease. A new or unknown enemy can quickly create a crisis for farmers.

“Minnesota’s resilience in facing crop threats is linked to groundwork laid by Extension and partners long before potential arrival of unwelcome pests,” says Jeff Gunsolus, Extension agronomist and crops program leader.

Palmer amaranth, a particularly aggressive weed that resists herbicides, is a good example.

Palmer amaranth can wipe out yields of up to 78 percent in soybeans and 91 percent in corn. That puts farmers at risk, and creates potential for havoc in Minnesota’s economy, in which the combined value of those crops was $22 billion in 2017.

Coordination among Extension and farmers, crop consultants and government agencies contributed to early identification in 2016 of Palmer amaranth. Extension and the Minnesota Department of Agriculture worked together to craft procedures that resulted in quick containment of the weed.

The same foundations served farmers facing problems related to dicamba, an herbicide applied to certain types of soybeans. Ongoing concern over dicamba’s spread to soybeans that cannot tolerate it brought together Extension and a variety of stakeholders in 2017. Their efforts will continue as strategies for dealing with dicamba-related problems are considered.
Cecilia Riedman and Stephen Long guide their boat along the shore of Turtle Lake in Itasca County and point to a small island of rock and pine. “Recognize that?” Long asks visitors. “A Hamm’s beer commercial was filmed there in the 1960s.” The visitors can’t help but chant the jingle, “From the Land of Sky Blue Waters.”

Turtle Lake is iconic Minnesota, but things have changed since the 1960s.

“It used to be that our lake association was mostly concerned with planning the Fourth of July Festival and the fishing contest,” Riedman says. “Now we’re also thinking about how to engage the 230 people in our association to prevent aquatic invasive species (AIS) from invading our lake.”

Becoming AIS Detectors
Riedman and Long want to keep their lake healthy and free of zebra mussels and other invaders that crowd out native species, but they also care beyond their own waters. So they applied, together, to volunteer as AIS Detectors.

The program, which launched in 2017, is led by University of Minnesota Extension and the Minnesota Aquatic Invasive Species Research Center (MAISRC), in coordination with the Minnesota Department of Natural Resources (DNR). Reidman and Long are trained to identify and report suspicious findings, and to help boaters understand how to prevent the spread of unwanted plants, fish and invertebrates.

Long is retired from his career in air traffic control. Riedman, once a marine biologist, switched to a career in the corporate world for years before retiring and was looking for an opportunity to be a citizen scientist. “It’s also a chance to do something together that we both feel passionate about,” she says.

The duo’s skills, time and energy are much appreciated. “With over 13 million acres of surface water in Minnesota, officials can’t examine all of it,” says Megan Weber, Extension aquatic invasive species educator. “We need as many eyes on the water as possible, and that’s where AIS Detectors come in.”

“We’re looking forward to engaging even more local citizens—people at all levels—in the coming season,” adds Heidi Wolf, DNR invasive species unit supervisor. “We need their help.”
**Good chemistry: Scientific advances meet new capacity for action**

The launch of the AIS Detectors program has been timely for Dan Larkin, an assistant professor and Extension specialist who studies the ecology and management of aquatic invasive plants.

“Between my ties to Extension and MAISRC, I can share cutting-edge research and give people hope,” he says. But with 1,100 lakes, and 240 resorts, lodges and campgrounds to reach with information, he’s found a lifeline in the volunteers.

It’s also helpful when the people delivering the message are in the same boat, proverbially speaking.

“People can tune out the message sometimes,” he says. “But when an AIS Detector comes, especially if they’re from the same chain of lakes, it’s like a family member is talking to you.”

The AIS Detectors program launched with a grant from the Environment and Natural Resources Trust Fund, administered by the Legislative-Citizen Committee on Minnesota Resources. Visit [z.umn.edu/ais-detector](z.umn.edu/ais-detector) to learn more.

---

**Could I become an AIS Detector?**

Join the fight by completing 16 hours of online and in-person training. Once certified, AIS Detectors serve these four functions while they continue learning through advanced training opportunities:

1. **Citizen science**: Help scientists by conducting new detection surveys for starry stonewort, for example.
2. **Education/outreach**: Be an ambassador for the University, speaking at lake association meetings or staffing event booths.
3. **Stewardship**: Build equipment for research and monitoring, such as zebra mussel samplers and aquatic plant rakes, or help pull invasive plants.
4. **Program support**: Help enter data for researchers, coordinate a volunteer event, or prepare materials for AIS education.

---

**Mark Johnson, AIS Detector from Meeker County, connected with Minnesota State Fair visitors as a part of the education and outreach function of the volunteer program.**

---

**Reaching out with research**

Bill Grantjes, Itasca County AIS coordinator, most values Riedman and Long and other AIS Detectors for the educational outreach component of their volunteer service. Itasca County alone is almost as big as Delaware and Rhode Island put together.

“Between my ties to Extension and MAISRC, I can share cutting-edge research and give people hope,” he says. But with 1,100 lakes, and 240 resorts, lodges and campgrounds to reach with information, he’s found a lifeline in the volunteers.

It’s also helpful when the people delivering the message are in the same boat, proverbially speaking.

“People can tune out the message sometimes,” he says. “But when an AIS Detector comes, especially if they’re from the same chain of lakes, it’s like a family member is talking to you.”

The AIS Detectors program launched with a grant from the Environment and Natural Resources Trust Fund, administered by the Legislative-Citizen Committee on Minnesota Resources. Visit [z.umn.edu/ais-detector](z.umn.edu/ais-detector) to learn more.
Thirty-five percent of Minnesota’s 1 million young people lack the meaningful out-of-school activities that are essential to their success.

Sitting on the living room floor, building a block tower with her 2-year-old brother, 16-year-old Alondra is grateful for the life she’s living in Kasson, Minn. Just a year ago, as a new immigrant from Mexico, Alondra spent most of her after-school time watching her younger siblings. Although she was making friends in school, she still felt lonely and wished for more.

Alondra’s mom and a University of Minnesota Extension educator named Gabby encouraged her to join the DC Pumas, a Spanish-speaking 4-H club in Dodge County. She was hesitant and shy at first. Over time, through learning experiences with other youth and caring adults, Alondra has blossomed. She discovered her ability to mentor others and make wise choices.

“I am more confident in myself because of 4-H. I talk and share my ideas with people my age and adults too. Now when I work on projects, I trust my judgment and do the best I can.”

Making healthy choices and discovering her influence

Surrounded by the sweet and earthy aroma of vegetables in her community garden, Precious’ self-worth and vision for the future are cultivated by adults who care about her. Precious is an 11-year-old from Mahnomen, Minn. She is part of 4-H in partnership with the White Earth Tribal Community College. Her club meets twice a month to learn about gardening and cooking. They focus on both traditional Ojibwe foods and modern trends like kale chips.
On pace to grow opportunities

David and Valerie Halverson Pace strongly value cross-cultural understanding. David’s 4-H career focused on teen leadership and international exchange programs, helping youth to see themselves in the context of the world around them. He was inducted into the National 4-H Hall of Fame in 2006.

Valerie’s career at IBM made thinking and acting globally a daily experience. She was a 4-H’er and is a lifelong Girl Scout.

The Paces recognize the critical need for all Minnesota youth to build multicultural and inclusive relationships. They have created an estate plan that includes significant funding to develop and expand innovative 4-H learning opportunities for youth and adults to realize the benefits of diversity of thought and experience.

You can learn about including Extension programs in your will and estate planning by contacting Extension’s development office at 612-624-7971.

Training workers across youth-serving organizations

Extension equips caring adults to meet the needs of all Minnesota youth. Last year, Extension educators and specialists trained 792 volunteer and professional youth workers from organizations like Girl Scouts of River Valleys and Big Brothers Big Sisters of the Greater Twin Cities.

“I find myself re-energized after each Extension training session with incredible new resources to use in mentoring youth,” says Jeanna Vazquez, a coordinator with Big Brothers Big Sisters of the Greater Twin Cities who participated in Extension’s Social Emotional Learning series. “The series engaged our staff in reflective opportunities as we mapped out our programs. Social and emotional learning for youth is an individual journey that is closely linked to culture.”

A vision to be leaders

Both Precious and Alondra visited the Minnesota State Fair to share their 4-H learning with judges and the public. They also spent time with Minnesota 4-H State Ambassadors, who encouraged them to keep growing and finding ways to be leaders.

“They told me I could apply to be a State Ambassador too,” says Alondra. “I could meet kids from all over Minnesota and share my ideas with people who are different from me. I really want to get more involved.”

“A leader is a person who is in front, who stands out and does the right thing,” says Precious. “They show kindness, respect and wisdom.” She paused, an expression of surprised realization on her face. “I guess I am a leader.”

― Alondra

“The first time I saw kale chips I thought they looked nasty,” says Precious. “But my mentor, Becca, showed us how to make them. They don’t actually taste that bad. It’s cool that we can grow and cook food that’s healthy and good.”

Becca Dallinger’s steady mentorship as a 4-H club leader is helping Precious discover she can be both courageous and a problem-solver.

“She is patient, kind and articulate,” says Becca. “Precious and a fellow 4-H’er recently gave a cooking presentation to board members of the Regional Sustainable Development Partnerships. Precious actually taught all those adults. She’s just starting to see her influence.”

Jessica Pierson Russo, Extension educator, is a leader in expanding access to out-of-school enrichment programs for youth from underrepresented communities. “These programs provide the flexibility in structure necessary to adapt to the changing needs of young people,” she says. “In 4-H, youth gain important skills like leadership and perseverance. Creating a safe and loving environment where all youth have the freedom to explore is critical.”

“I could meet kids from all over Minnesota and share my ideas with people who are different from me.”

― Alondra
Green tomatoes take the cake

Master Gardener volunteers and Extension partners inspire kids in north Minneapolis to start a healthy desserts business.

High school junior Jasmine Salter, co-production chair at Green Garden Bakery, has introduced hundreds of people to the pleasure of veggie-based desserts: lemon zucchini muffins, jalapeno chocolate-chip cookies and beet brownies.

It was a cinnamon cake made with green tomatoes that started it all.

Salter and her friends—with the guidance of University of Minnesota Extension Master Gardener volunteers Del Hampton and Mary Cichon—were a couple of years into working the garden they had started in the Heritage Park neighborhood of north Minneapolis.

“Mary gave us the recipe,” says Salter. “I couldn’t believe there were tomatoes in it—you don’t know they’re there.” The students had been through years of nutrition and gardening classes with Extension. Alecia Leonard and Elana Dahlberg at the nonprofit Urban Strategies, a partner in the neighborhood, suggested they develop their business minds as well as their cooking skills and green thumbs.

“The first thing we thought of was the green tomato cake,” says Leensa Ahmed, also a high school junior and the bakery’s chief financial officer. “We made $1,500 selling them at a festival and used the money to help our friend who had been in a car accident.”

A youth-led business is born

The next year, more kids joined the effort. The Green Garden Bakery now uses commercial kitchen space, baking and selling a variety of veggie-filled treats at the Minneapolis Farmers Market, online and in some local markets. They’ve continued to give back, voting on community needs to support.

These young entrepreneurs appreciate Extension’s Hennepin County Master Gardeners for encouraging them in their food-based business. “We can email them. We can call them. I know they’ll respond,” says Salter. “Whether there’s a weed taking over the beds, or we need to know when to pick something or what else we can grow, Mary will teach me the concepts and Del will motivate me to do it well.”

Feeding a need

Heritage Park is a low-income neighborhood that has been defined as a food desert with food security a priority issue. Hampton, a retired financial worker and competitive dahlia grower, isn’t big on the “food desert” term, though. “Desert is a geographical term, but it’s not a geographical issue. It’s economic,” he says. “We overcome it in three ways: mindset, skill, will.”

When Salter and Ahmed and their friends move on, they will help younger kids take the reins. Two hundred youth are involved at some level, from the youngest just beginning to learn basic gardening skills from the Master Gardeners to the most highly invested young people on the bakery’s 13-member executive board.

“A storefront is in the works,” says Salter. “If we don’t make it by the time we go to college, the kids after us are going to take it far.”

Visit z.umn.edu/GGBstorycorps to listen to Master Gardeners and youth in conversation on StoryCorps.
Bee Veterans

Beekeeping brings community and connectedness to those who have served.

As a disabled Navy veteran living in northern Minnesota, Scott Isaacman was looking for ways to get out more often. Following his experience in the military, he says he was becoming a “hermit in the woods.”

Sometime last year, during a visit to his local VA clinic, Isaacman saw a flyer for the Bee Veterans program. A partnership between University of Minnesota Bee Lab’s Bee Squad and the Metropolitan Airports Commission, the program offers free beekeeping workshops for veterans.

Despite his aversion to anything that buzzes, Isaacman decided to give it a try. Every other week this past summer, he drove to the Bee Veterans apiary at Minneapolis-St. Paul International Airport. He joined a group of eight veterans led by Rebecca Masterman, University of Minnesota Extension educator, to learn everything from working the hives to harvesting honey.

“Classes are based on what the bees need at the time,” says Masterman. “We’ve seen great excitement and we’ve trained some amazing beekeepers.”

Isaacman has become one of them. He’s even started supporting native bees on his own land in Lake County near Tettegouche State Park. “The program changed my whole attitude about bees and insects,” he says. “It’s a completely different world, filled with different types of behavior and communication. And it was a non-threatening way to get out of the house and do something with some people.”

Sharing the peace through philanthropy

Bee Veterans was founded in honor of the late veteran and beekeeper Michael Roche, who provided initial funding for the program.

“Mike marveled at the work ethic and unity of the bees and loved caring for them,” says his widow, Diane Roche. “He volunteered to support the program in the hope that other service men and women could experience the same sense of peace and connectedness.”

Bee Veterans offers a shining example of the Bee Squad’s mobilizing power. Extension educators are working together with veterans, scientists, youth, artists and the public to promote the conservation, health and diversity of bee pollinators.

“The Bee Squad has become something bigger than just beekeeping,” says Masterman. “We’re supporting all of the bees out there, and we’re doing it through the power of engaging our community as a whole.”

Join the Bee Squad community

Founded in 2011 by Marla Spivak, Extension entomologist, MacArthur Fellow and Distinguished McKnight Professor, the Bee Squad was designed to guide both the public and beekeepers in their efforts to support the bee population.

Along with Bee Veterans, the Bee Squad offers a variety of ways to get involved:

- Educational beekeeping programs for new and experienced beekeepers
- Bee Arts, for artists exploring themes of pollinators and the environment
- Hive to Bottle, for people who enjoy honeybees and honey but don’t want to manage a colony
- Pollinator Ambassadors, training high school students
It was 2015 and the owners of Big Stone Garlic were unable to get their product into a wholesale market. They had to choose—let it rot or give away all the garlic they couldn’t sell.

Growers know it goes this way all too often. Local food demand is up, but the system isn’t working for them. “We see cheap and old garlic for sale in some small town stores, and it is nowhere near the quality of Minnesota-grown garlic,” says Les Olson, joint owner of Big Stone Garlic, one of the largest garlic producers in Minnesota.

Olson is a steward of the land, fulfilling his passion for family, community and sustainability in farming. Like many growers, he also works off the farm to make ends meet.

To help small- and medium-sized farmers gain access to markets, University of Minnesota Extension Regional Sustainable Development Partnerships (RSDP) is working with the University’s departments of horticultural science and applied economics to create and test a new distribution model. It’s called Farm to Rural Grocery to Wholesale, but is better known as the Backhaul Project.

The Backhaul Project connects farmers like Olson to wholesale markets through the back rooms of rural grocery stores. “When distributors make deliveries to Minnesota’s 300 grocery stores in towns with populations of less than 2,500, they could collect local farm products and bring them back on otherwise empty trucks to the warehouse for regular distribution,” says Molly Zins, executive director of RSDP’s central region.

Revitalizing rural grocery stores
Although rural grocery stores are at the heart of communities, many are closing their doors due to a shrinking customer base, competition from chain stores, and aging buildings and equipment. One aim of the Backhaul Project is to improve the viability of small town grocery stores. RSDP survey results indicated that grocers perceive fresh produce as profitable.

Bonnie Carlson owns Bonnie’s Hometown Grocery, an anchor business on Main Street in Clinton, Minn., population 450. Carlson is willing to use her store as a test site for the Backhaul Project. “I can contribute to this idea by making sure that the plan works for the small town grocery stores as well as the farmers and wholesalers,” she says.

Instead of being the passive end-point of a global food distribution system, entrepreneurs like Carlson could be the starting point of a regional system that gets locally grown foods out beyond their own towns.

“Once tested, this model has the potential for expanding beyond garlic, with replication in rural towns throughout the country,” says Zins.
Minneapolis is a leader in spring wheat, and last year’s wheat harvest shattered previous records. More than half of the state’s wheat acres are planted with varieties developed at the University of Minnesota.

Prices and quality count in the wheat business, but so do relationships. “Somewhere in the world, wheat is being harvested every month of the year,” says David Torgerson, executive director of the Minnesota Association of Wheat Growers and the Minnesota Wheat Research and Promotion Council. “Building personal relationships helps sustain long-term trading partnerships.”

Moroccan and Tunisian agricultural leaders visited Minnesota in 2017 via the USDA Cochran Fellowship Program. University of Minnesota Extension’s John Vreyens, Jochum Wiersma and Edward Usset organized a tour so the visitors could learn about Minnesota’s wheat industry.

“A special relationship between the University of Minnesota and Morocco going back to the 1970s has long involved agricultural development, and we can expand on this connection for mutual benefit,” says Vreyens, Extension director of global initiatives. Many Moroccan scientists who studied at the University of Minnesota lead and teach today at Moroccan institutes of agricultural higher education and research.

Vreyens also led a trip to Morocco from the University of Minnesota Crookston, which is in the region that grows 80 percent of the state’s wheat. One goal was to explore new opportunities to share expertise in global food security.

“You could probably drop Moroccan farmers into a rural Minnesota coffee shop and they would fit in perfectly other than the language they’d be speaking,” says Rob Proulx, an agronomy lecturer at University of Minnesota Crookston who went on the trip. “Our goals are the same, the science is the same, and we are all battling diseases in wheat. My students can benefit from becoming a part of this special connection, whether through electronic means or travel.”

RentWise

Knowledge is power for housing stability.

Nearly 30 percent of Minnesota residents—more than 600,000 households—live in rental units. As rental costs rise, many are paying more than they can afford.

Subsidized housing for low-income people in particular has long waiting lists, and some areas lack all kinds of housing. The situation poses challenges for those who haven’t rented before or who have had less than positive past renting experiences.

“It’s critical for families to have consistent and stable housing, which contributes to continuous employment and school success,” says Mary Jo Katras, University of Minnesota Extension educator in family resiliency.

“But being a successful renter in the current housing environment requires certain knowledge and skills beyond what people typically learn in school.”

RentWise is a free workshop, developed by Extension and delivered by community partners, that helps people become successful renters. The class covers money management, tenant rights, caring for a rental, establishing positive relationships with property managers and neighbors, and using community resources to find affordable housing. Workshops are available in Spanish and English.

Top tips for renters

• Know what you can afford
• Check out the unit and neighborhood before moving in
• Understand the lease and implications of not complying
Minnesota tourism feels shifts in the wind

From lakes to bike trails, and snowshoeing to paddle boarding, Minnesota has long treasured its outdoor spaces and pastimes. Today, you’ll find a mix of long-standing and new ways to enjoy nature in the state.

But while much remains the same, there is also change in that fresh Minnesota air.

The Tourism Center consults with industry and communities to identify opportunities. “We deliver the research that communities need and want right now,” says Xinyi Qian, University of Minnesota Extension tourism specialist.

The Tourism Center is watching:

- **The sharing economy.** Ridesharing and rentals will need to constructively coexist with the traditional travel industry.
- **Habits and preferences.** As cultures and generations change, so does the way people vacation. Trends include shorter trips and multigenerational travel.
- **Agritourism.** There’s more interest than ever in tasting local foods and sipping Minnesota wine and craft beer. These experiences connect visitors with producers and products from across Minnesota.