



Ag Innovation News

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Looking Forward at AURI

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I APPRECIATE THE SUPPORT OF OUR READERS TO OUR ORGANIZATION AND ENCOURAGE YOU TO ENGAGE WITH AURI AS WE EMBARK ON THIS STRATEGIC JOURNEY TO EXPAND OUR OUTCOMES AND IMPACTS. TOGETHER, WE CAN MAKE MINNESOTA AND THE REGION THE MOST INNOVATIVE AND IMPACTFUL STATE/REGION IN THE COUNTRY.

”

July 1, 2023 not only marked the beginning of AURI's fiscal year, it also marked the launch of AURI's new strategic plan. Over the past year, AURI's Board of Directors and Strategic Leadership Team collaborated to revitalize AURI's vision, mission, values and priorities. AURI will implement this new strategic plan over the next three years, and I'm excited to share our new mission, vision and values.

MISSION STATEMENT

“Accelerate the expansion of the agricultural economy by empowering expanded uses and markets of agriculturally derived products.”

This statement reflects AURI's long-standing focus of driving new products and processes to expand uses and markets. AURI will enable businesses, producers and entrepreneurs of all sizes to grow sales, create jobs, support capital investment and increase profitability.

VISION

“We are relentless in our focus to generate impact for the Minnesota agricultural economy. We collaborate globally, act regionally and are known as an economic catalyst. This will enable us to deliver \$500 million in economic activity for Minnesota by 2026.”

This vision articulates one destination for AURI's work— scaling its impact for Minnesota's economy and the agriculture industry.

VALUES

Values reflect AURI's approach to achieving its vision. Safety is always of utmost importance to our organization and is integral to the following four values that will guide decision making and procedures to achieve our desired impact.

Collaborative

Bringing unique views and capabilities, internally and externally, and collectively generating open and transparent relationships to synergistically create greater outcomes.

Committed

The resilience and passion to safely deliver results that advance our mission and vision.

Ingenuity

An innovative, resourceful and enthusiastic approach, internally and externally, with stakeholders to overcome innovation obstacles and accelerate impactful opportunities.

Integrity

A professional, trustworthy and transparent approach in everything we do.

AURI will focus on driving tangible impacts, just as it has for the past 34 years, to create new market opportunities through catalyzing collaborations, fostering new industry opportunities, as well as assisting with new product development and improved processes. Minnesota has a diversity of crop and livestock production across the state and region and AURI looks forward to advancing innovative approaches to new opportunity areas. We look forward to working with you as together we strive to turn ideas to reality and achieve our vision in 2026.

I'm confident that AURI's knowledgeable and hardworking staff, in conjunction with support from its dedicated Board of Directors, and its many collaborators across the food and agriculture ecosystem will help us achieve our Fiscal Year 2026 vision.



This quarter, Ag Innovation News highlights one of AURI's newest board members, Joe Serbus. Joe is a farmer in south-central Minnesota and serves on the board of the Minnesota Soybean Research & Promotion Council. In this edition of AIN's Board Q&A, he shares his perspective as a new board member and his thoughts on the future of Minnesota's ag ecosystem.



Please tell our readers a little about your background

JS: I'm Joe Serbus and I'm proud to represent the Minnesota Soybean Research & Promotion Council [MSR&PC] on the AURI Board of Directors. I've been farming for 40 years in Renville County and grow soybeans, corn and sweetcorn on my third-generation operation. My wife Doreen and I live in rural Bird Island and have been married for more than 35 years. Our three children, Trevor, Kelsey and Joseph are all giving back to rural Minnesota through their full-time jobs, as well as by helping on our family farm.



How did you first hear about AURI?

JS: I first became aware of AURI through my affiliation with MSR&PC, which I joined in 2016. The Council and AURI collaborate on several soybean checkoff supported projects.



What motivated you to join the AURI Board of Directors?

JS: When past Chairman and Council Director Rob Obermoller termed out on the AURI board, I decided to run for the open position because I'm passionate about the soybean checkoff program and finding new uses for our crops.



What do you hope to accomplish during your time on the Board?

JS: During my term, I hope to help continue building relationships between MSR&PC, Minnesota farmers and AURI. A big part of the collaboration will involve the Ag Innovation Campus [AIC] in Crookston, Minn., a soybean crush and research

facility that is slated to begin production this year. AURI will have both office and laboratory space at the AIC and I'm excited to see this endeavor come to fruition to continue adding value to Minnesota soybeans and our farmers. The AIC is a potential game-changer for our region, and ensuring AURI has an impactful presence at the facility will be a core priority of mine.



What is your leadership philosophy?

JS: Before AURI, I served two terms as MSR&PC Chair. Being inclusive and welcoming new ideas are tenants of my leadership philosophy. I believe in a team approach, one that values the input of both directors and staff. No organization can succeed in a vacuum, and the Council's success during my term as chair shows that only good things can happen when we're all pulling in the same direction.



What role do you expect AURI to play in the future of Minnesota's value-added agriculture?

JS: As a farmer, I hope AURI continues to seek grower input and have a forward-thinking vision through its research. The future is bright in Minnesota agriculture and AURI can—and does—play a vital role in shining a light on all the important research and innovation that's conducted throughout our state.



AURI'S Food Team Has Added Expertise to Meet Client Demand in a Rapidly Changing Landscape



The Food Team at the Agricultural Utilization Research Institute (AURI) is evolving to meet the needs of clients through proactive investment in the technology, capabilities and resources that new and emerging companies need to be successful. Its team of scientists and business consultants is committed to transforming Minnesota's rich agriculture products into sustainable food businesses by providing access to consumer and food science expertise and infrastructure.

It has been a time of rapid change in the food and beverage industry in Minnesota and the upper Midwest. The COVID-19 pandemic, for example, created several specific challenges and opportunities for new and emerging food businesses. In response, AURI added specialists and equipment to help clients every day.

To start, the organization secured state-of-the-art lab equipment to analyze sugar and protein content. AURI also partnered with Southwest Minnesota State University on a food product evaluation sensory lab that students and food businesses can use to obtain feedback in the development of new products. Additionally, AURI is utilizing both state and federal grant dollars to expand its meat sciences capabilities to better serve small to medium sized meat processors in the state.

"It is quite remarkable how we have evolved. Fifteen years ago, AURI was where clients came if they needed assistance with a nutrition label, product development and troubleshooting," said Jason Robinson, the Food Team's business development

director. "Today on staff we have two food scientists with master's degrees, two meat scientists with master's degrees, one food engineer and a project manager bringing more than six decades of industry experience to our clients. We expanded our presence both across Minnesota and the food ecosystem to become a stronger partner to our service providers and clients."

When working with a new or existing client, AURI's Food Team starts with a conversation. From those discussions, AURI can better define the problem the client is trying to solve and identify the obstacles to overcome. The team can then use its experience and expertise to craft the best plan going forward.

It is not unusual, however, for a business to approach AURI with specific ideas on the problem it is trying to solve only to find out through further conversation and analysis that different issues exist that are more crucial for success.

Lolly Occhino, AURI's senior food scientist, cites an example of a client seeking licensure to sell products in a grocery store. After discussions with AURI staff, clients often conclude that there are other avenues to grow their business, such as selling products directly to consumers or partnering with a restaurant, which do not require licensing that better align with their business goals. Refining clients' "Go to Market" strategy is a vital service the AURI Food Team provides, she said.

The team is also deliberate in how it invests its time and resources. There is a concerted effort to provide services that can help several

clients and potential clients across the state, versus expending services on a “one-to-one basis. By working with clients to right-size their projects, AURI can effectively serve the largest number of entrepreneurs and businesses across Minnesota.

“This approach allows us to be smarter about how we deliver services,” Occhino said. “We are able to provide the answers and knowledge that clients need, not what they think they need.” One way the team maximizes its impact is by researching and publishing a series of guides that address problems and questions that emerging food businesses frequently encounter. In recent years, AURI produced reports on nutrition facts panels, food product shelf-life, digital marketing and E-commerce, packaging, clean labels and pricing and go-to-market strategies. These reports are intended for early-stage food entrepreneurs looking to take the next step in starting or growing a business. The public reports contain information and resources that form baseline knowledge to help a business on its path to development. After perusing the content, entrepreneurs can contact AURI about specific questions within these topic areas as the Food Team encompasses a vast network from which to make referrals and connections.



[View the reports online at AURI.org/research-reports.](https://auri.org/research-reports)

In addition to tackling common problems, the Food Team also works to solve specific issues. AURI has added significant expertise and equipment to better serve local meat processors. The meat processing industry was hard hit by the COVID-19 pandemic. AURI took action to help businesses respond, innovate and thrive. Its meat specialists advise on technical assistance issues and guide clients through state and federal inspection and licensing.

In 2022, Laura Bachmeier was hired as business development director of meat, while Clay Newton was brought in as a meat innovation specialist. AURI also added new technology and equipment to its laboratory at Southwest Minnesota State University (SMSU) in Marshall, Minn. AURI installed a bowl chopper, a specialized tool that processors use to make value-added products like jerky, summer sausage, hot dogs and bratwurst. Bowl choppers like the one at AURI’s lab in Marshall are rare. Processors can visit the lab and use the equipment to develop products. They can also receive training on the bowl chopper to make a better-informed decision before investing in their own equipment.

Furthermore, AURI is working with the U.S. Department of Agriculture (USDA) to facilitate multiple grant programs. The grants can be spent on product formulation, new equipment and more.


“We have engaged more than 50 clients with the USDA grants, which is a phenomenal growth in our meat science efforts,” said Newton. “There is a big strain on these businesses right now and being proactive in our support makes AURI a much more valuable partner.”

Expanding the services and expertise available to meat processors is the latest development in AURI’s ongoing partnership with SMSU. In 2019, AURI and SMSU opened a Food Product

Evaluation and Sensory Lab on campus, equipped with state-of-the-art technology and infrastructure to help AURI’s clients better assess the sensory characteristics of food products. It also serves as an educational tool for SMSU’s Culinology students. Lab users conduct product experience and basic discrimination testing for market readiness and receive qualitative consumer and product attribute optimization feedback. The lab has a testing room with nine sensory isolated evaluation booths, a prep room to facilitate on-site preparation and a conference room that provides a focus group setting. Furthermore, data collection equipment allows users to record, input and conduct statistical analysis to adjust products to better reflect consumer preferences.

The team also expanded services and strengthened connections in Minnesota’s cottage foods industry. According to the Minnesota Department of Agriculture, since 2020, the number of licensed home-based, small food registered cottage food businesses in the state has grown from roughly 4,800 to more than 7,000 today. AURI has helped many upstart, scale up and launch new products.

AURI does significant work connecting these entrepreneurs to a network of commercial kitchens and copackers in Minnesota to manufacture their products. It also works with businesses on product formulation issues, nutritional labels, food safety, refining messaging and crafting value propositions.




“We work to help clients define who their audience is and the need they fill in the market with their product,” Robinson said. Once you understand who your consumer is and the problem your product solves, we zero in on getting it to market.”

AURI’s Food Team will continue to anticipate trends and changes in the market and make strategic decisions that best serve the region’s food and beverage businesses. Whether it’s adding new equipment, talent and facilities, creating informational guides or forming new and deeper industry partnerships, AURI is focused on serving its clients and the food and agriculture economy.

“As we hear about the knowledge gaps and needs in the marketplace, those conversations help us build our services and capabilities,” Robinson said. “With each client we work with, we start by listening to their ideas, establishing their needs and goals and understanding the challenges they face. Once we have that foundation, we put our team’s collective knowledge and expertise to use to develop the best plan to move forward.”

Investing in Future Innovation



It's difficult to keep up with changing times, much less be cutting edge, when some of the tools necessary to be innovative are outdated.

The Agricultural Utilization Research Institute (AURI) was founded by the state of Minnesota in the 1980s to help develop new and innovative uses for the state's diverse agricultural products. The state's investment in AURI established a unique resource for providing producers, entrepreneurs and existing entities with technical and industry support to help their ventures succeed. Some of the tools AURI uses to help hundreds of Minnesota businesses and entrepreneurs add value to Minnesota ag products have been in place since the organization was formed.

"AURI is a 30 plus-year-old organization and having modern scientific equipment is vital to fulfill our mission," said AURI Executive Director Shannon Schlecht. "Each year, AURI allocates a portion of its regular budget to capital investments, including laboratory equipment for vital needs to service Minnesota businesses and drive impact for the agricultural economy. However, some equipment needs are higher in cost and are difficult to work into an annual budget."

"We still had some equipment in our laboratories that was coming out of the 1990s and we were struggling to find parts when it needed repair," added Dan Skogen, recently retired AURI director of government relations.

Seeking Support

In addition to its annual appropriation from the State of Minnesota, AURI brought a special request to the legislature during the 2023 session. The request was for one-time funds to upgrade equipment at the AURI facilities in Marshall, Waseca and Crookson. The equipment was aging while demand for practical and analytical information from AURI clients was increasing. The request also included equipment to enhance capabilities in newer areas such as biogas production.

Skogen said both the Minnesota House and Senate agriculture committees held hearings about AURI's request.

"We were heard in both committees," Skogen said, "and both were very supportive."

The legislature was supportive of the additional investment request. While lawmakers didn't fund AURI's total request, the Legislature did provide one-time funding to upgrade AURI facilities with

supplemental one-time funds of \$1.8 million.

Schlecht says AURI works very hard to show the organization's positive impact to the state's economy and agriculture industry and that the organization is driving impact and opportunity across both Greater Minnesota and in the metro area. He says legislators and stakeholders agreed about the value AURI provides across multiple fronts, which helped the organization realize the legislature's support.

"The state has been an invaluable partner to AURI since its inception in the 1980s," Schlecht explained. "AURI is required to maintain facilities as part of our founding statute, so this support is vital to helping us fulfill the state's goals for AURI and to achieve our mission of conducting onsite and applied research, promoting the establishment of new products and product uses and the expansion of existing markets for the state's agricultural commodities and products."

Ahead of the Curve

Senior Director of Business Development and Commercialization Jennifer Wagner-Lahr said the additional investment by the State into AURI will help the organization retool to meet the growing needs of the food and agriculture industry.

"We see a lot of interest in things like nutrient recovery, a lot of interest in even more detailed analyses from our chemistry lab, and we can't provide those services without having an investment in new pieces of equipment," Wagner-Lahr said. "AURI always views itself as providing complementary services from both the business development perspective as well as the technical perspective."

Wagner-Lahr said that as AURI's business development team worked with clients across the state, it became evident that the need for technical assistance in many areas was increasing. The only way to fulfill the needs was to upgrade or expand the technical capacity offered by the organization.

"We're slowly advancing our capability to keep up with the times and to bridge the gap between academic research and commercial implementation," said AURI Senior Director of Science and Technology Dr. Luca Zullo.

Zullo said AURI creates a link between benchtop research and commercialization by focusing on applied research.

"We were lacking sufficient capability to continue doing that," Zullo explained. "Areas like mass spectroscopy and so on are becoming increasingly important outside of the research lab to support commercial development. As sophisticated technology becomes more mainstream, we need to be a bit ahead of the curve."

Growing Areas of Interest

Wagner-Lahr said that additional characterization of food products is among the areas of growing need.

"We're getting a lot of interest from food clients who really need to understand the nutrients in their products, whether they can make food health nexus claims is an area that's really picking up steam with consumers," Wagner-Lahr said. "We'll be able to conduct additional analyses and provide information for industry entities to use in that regard."

Wagner-Lahr said food-health is an example of how AURI is working to change with the times to provide relevant information to businesses and entrepreneurs. She said some of the information companies want, AURI couldn't previously provide. And in some cases, AURI staff is working with entirely new crops.

"A lot has changed in 30 years," Wagner-Lahr said, "and our labs need to reflect what's happening in the real world."

Biogas

Biogas production is another area of opportunity for Minnesota. The Minnesota Natural Gas Innovation Act established a regulatory framework enabling Minnesota's natural gas utilities to provide customers with access to renewable energy resources and innovative technologies while reducing the state's greenhouse gas emissions. Renewable gas is produced by recycling biogas from organic materials such as agricultural manure, wastewater and commercial food waste. A study by the American Biogas Council found that Minnesota has the potential to be the eighth largest producer of renewable natural gas in the country.

Wagner-Lahr said a lot of developers are having conversations with dairy farmers and food processors that are generating waste that could go into anaerobic digestion systems.

"If Minnesota has the potential to be the eighth largest biogas producer in the country, we want to make sure that these projects are successful whether you're talking about the suppliers of the waste product, farmers or food processors, the developers who want to invest in these facilities, or the local governments that are approving them," Wagner-Lahr explained. "We want these projects to be successful. We can help shepherd projects along because we don't want them to be failures."

Strong Signal

Schlecht said the State's support signals that AURI continues to be relevant to both rural and metro constituents by working with a wide range of business entities, stakeholder organizations and other partners in a collaborative and impactful manner. He said the returns AURI delivered in helping drive new sales, spurring capital investment and creating/retaining jobs show great leverage to the dollars invested in the organization.

"We are a unique asset to driving value-added impacts and I believe more and more decision makers are realizing the role we play to support innovation and impactful outcomes," Schlecht said. "For AURI to stay relevant in driving innovations forward, it needs modern capabilities to support businesses and innovators. A few opportunity areas are arising where AURI did not have the equipment necessary to deliver the impact needed, and I believe this investment in AURI will drive even greater investment in new opportunity areas that could deliver even more impact to the state and agriculture industry."

"This investment keeps us relevant and keeps us moving at the speed of business," Skogen said. "It adds some muscle to the work that AURI can do with entrepreneurs who are looking for a quick turnaround as well as an inexpensive way to get answers they need. Any investment the legislature makes in AURI is an investment that benefits the state's agricultural industry and its entrepreneurial innovators."

Building the Leadership Pipeline *in Agriculture*

For more than two decades, the Minnesota Agriculture & Rural Leadership (MARL) program has built a talent pipeline for the state's rural communities and driven innovation and adaptation in Minnesota's agriculture economy.

The mission of MARL is to develop the skills of Minnesota's agricultural and rural leaders to maximize their impact and effectiveness in local, state, national and international arenas. This is accomplished through a series of educational sessions held throughout the state, an international trip and networking and knowledge sharing among participants. To date, more than 350 people have graduated from the two-year program. Many current and former staff and board members of the Agricultural Utilization Research Institute (AURI) are among the alumni (see sidebar on page 9).

Individuals from all walks of life and from all corners of the state are encouraged to apply for the MARL program. The only qualification to be considered is that applicants work in the agriculture ecosystem.

There are countless benefits to the MARL program, both for individuals and the state's agriculture industry, said Brad Schloesser, MARL's executive director.

"The program is grounded in learning. Whether that be at one of the formal sessions hosted across the state, through exposure to a different culture on the international trip or through casual conversations between cohorts, MARL provides many different opportunities for individuals to engage and learn more about the entire ecosystem," Schloesser said. "They [MARL participants] then take that knowledge back to their home communities and put it into action. They have an increased awareness of the challenges, resources and people across Minnesota and are better equipped to drive change and growth."

Schloesser said the program benefits from the broad network of participants that come from different sectors of agriculture and from across the state. The diversity of thought and background makes for a stronger learning experience for all, he said. The program is designed to highlight a variety of ways that materials produced on a farm can add value along the agriculture chain.

Carolyn Olson is an organic farmer from Lyon County (Minn.) and a graduate of MARL. She is also the vice president of the Minnesota Farm Bureau and a board director for AURI. What drew her to the program was a chance to take the next step in her professional development.

"I was experiencing some imposter syndrome and I didn't feel like I was qualified for some of the leadership positions I was interested in pursuing," Olson said.

The lessons from MARL proved invaluable and still bear fruit today, she said. The section of the curriculum on emotional intelligence was a highlight for Olson. The "deep dives" on different sectors of the state's agriculture economy that she was unfamiliar with— like forestry and grass growing— were also beneficial.

"I was nervous about the emotional intelligence assessment, but it helped me realize the experiences in my life have helped me be the person I am today," said Olson. "I also knew going in that I was an extrovert but learning more about my personality style helped me to understand why I do some of the things I do. I learned how I can be a better listener when talking with introverts so when the conversation is over, everyone feels like they were heard."

The lessons learned in the MARL program helped her become a better version of herself.

"Sometimes *in order to grow* you need to face your flaws and not be embarrassed," she said.

Lisa Gjersvik is the senior director of strategy at AURI and a MARL graduate. She said the programming exposes participants to many different parts of Minnesota and segments of agriculture. Gjersvik's class visited northeast Minnesota to learn more about timber and logging and iron ore mining. They also toured the Hormel facility in Austin, Minn.

"There were unique aspects of those industries and those regions that were new to me and very interesting. It was illuminating," she said. "You get a sense of the challenges and issues that different areas of the state are facing that you may not otherwise understand without visiting with those who work and live there."

Labor shortages were a common theme that emerged from every site visit, Gjersvik said. Ag producers in all corners of the state were struggling to recruit enough workers with the right skills. As a result, many farms and businesses turned to innovation to find solutions to fill the gaps. She cited a piece of equipment at the Forsbergs facility in Thief River Falls, Minn. The company makes separators for ag producers.

"We saw a demonstration of a shaker table that separates peanuts from rocks and soil. It was a very impressive piece of equipment designed to solve a specific problem. I was impressed by the outside-the-box thinking that created it," she said.

Nan Larson manages the AURI Connects program and is a MARL graduate. She said the strength of the program is that it brings facilitators, advocates and decision-makers across the value chain together to have meaningful discussions about important topics. She said she grew both her confidence and her leadership skills during the two-year program.

Her time in MARL helped her realize “that everyone has their strengths, and that you don’t need to change yours to meet the norm of what a leader should look like. Just because I bring different skills to the table, doesn’t make my approach wrong.”

The program helped Larson better relate to people by tailoring her interactions to match her audience. Recognizing that everyone has a different communication style is an important trait for leaders.

Each MARL class visits Washington, D.C. to meet with legislators and policy makers from Minnesota. The group talks with Minnesota’s delegation in the U.S. Congress about issues specific to their region and Minnesota. One issue that emerged recently is mental health in rural Minnesota. Many people who work in agriculture struggle with mental health issues and there is often a lack of mental health providers and resources in rural areas. Bringing awareness and reducing the stigma around seeking care and addressing the gap in treatment options in rural Minnesota remain priorities, Schloesser said.

“We are a grassroots organization. By visiting the people that represent us in Congress we make those connections and share what is happening at home and discuss the issues we see in agriculture in Minnesota,” Schloesser said.

The touchstone of each MARL class is a two-week trip abroad. Previous classes visited Europe, South America, Central America, Asia and other parts of the globe to learn about the business of agriculture outside of Minnesota. These trips are an invaluable part of the learning experience.

“When you travel to a different part of the world you experience a different language, a different time zone, different foods and different traditions and culture. All of these factors can make a person feel uncomfortable. But what I found is that when we are uncomfortable, we listen more, we see more and we relate more to the people around us. It is a transformation,” Schloesser said.

MARL classes have toured avocado farms, olive farms, dairy farms, rose farms, pineapple farms and coffee plantations.

“We were at a 500-acre pineapple farm in Ecuador and spoke to the operators about growing and harvesting. On one hand it was like nothing we have here in Minnesota, but the agronomics necessary were not all that dissimilar from what is needed to grow soybeans,” Schloesser said. “The people we meet on these international trips are very similar to Minnesota’s ag producers. They want to make a living that can provide for their families and leave the earth a little better place than when they arrived.”

Gjersvik said her confidence increased significantly throughout the course of the program and continued after graduation. “What the MARL program did for me was provide a broad context for the issues facing our industry and our communities and then provide connections with people working on the same issues and questions,” she said. “In our industry we need to refresh the talent pipeline of leaders to remain viable and to help our communities thrive.”

Olson enthusiastically recommends the program to anyone considering applying. She said the experience sparked her curiosity in the broader ecosystem.

“We are all connected through agriculture, but we all have our own unique stories. I think that is fascinating,” Olson said. “What I tell people is that MARL will make you the best version of yourself. You can be a leader in your community and share your knowledge with others. MARL will help you see where your gifts lie and where you can make the largest difference.”



Agricultural Utilization Research Institute’s Staff & Board MARL Participants:

Jason Robinson
Business Development
Director-Food
(Current Class)

Nan Larson
AURI Connects Manager
(Class X)

Carolyn Olson
AURI Board of Directors
(Class X)

Lisa Gjersvik
Senior Director of Strategy
Management
(Class IX)

Adam Stratton
Senior Director of Finance
(Class IX)

AURI Explores Value-Add Ag Opportunities with BioMADE



The Agricultural Utilization Research Institute (AURI) strives to accelerate economic impact by empowering expanded uses and markets of value-added agriculturally derived products. For more than 30 years, AURI has accomplished this work by collaborating on a global and local level to deliver economic impact for the state of Minnesota. AURI prides itself on the ingenuity of its staff and collaborators, showcasing a commitment to innovative and resourceful projects and initiatives.

One area in which AURI is exploring value-added agriculture opportunities is the use of agricultural feedstocks in bioindustrial manufacturing. This system uses microbes such as bacteria, yeast and algae to develop new materials and produce sustainable alternatives to existing petroleum-based materials. A major entity advancing work in this space is BioMADE, a public-private partnership driving the transformative bioindustrial manufacturing movement in the United States.

BioMADE

Officially launched in April 2021, BioMADE's mission is to enable domestic bioindustrial manufacturing at all scales, develop technologies to enhance U.S. bioindustrial competitiveness, de-risk investment in relevant infrastructure and expand the biomanufacturing workforce to realize the economic premise of industrial biotechnology.

It accomplishes this work by catalyzing collaboration and innovation to reduce barriers to scale-up and commercialization, accelerates technologies to create novel, disruptive business models and re-develops existing biotechnology to enhance competitiveness on a national scale.

By bridging the gap between lab-scale research and at-scale manufacturing, BioMADE builds an on-ramp to accelerate commercialization of biotechnology inventions originating from American research and development efforts. BioMADE leverages a network of the best capabilities available nationwide to drive products to market and build a community that shares the benefits of these transformative solutions. BioMADE's national network is comprised of over 220 members spanning industry, academia and non-profit organizations, including AURI.

Value-Added Agriculture

BioMADE's technical and research development priorities are on the leading edge of innovation and generating impact in the value-added agriculture space. Because bioindustrial manufacturing typically uses readily available agricultural feedstocks, American farmers will benefit from the new markets created by BioMADE technologies, and communities around the country will benefit from the manufacturing jobs creating the associated products.

"We look forward to partnering with BioMADE to position Minnesota's agriculture industry, farmers, entrepreneurs, small businesses and agribusinesses at the forefront of innovation so they can be positively impacted by value-added agriculture," said AURI Executive Director Shannon Schlecht.

The collaboration between AURI and BioMADE comes on the heels of a large-scale initiative called Minnesota Forward, approved by the Minnesota legislature in 2023.

Expanding Nationally

Following the support of up to \$100 million from Governor Walz and the Minnesota Legislature, BioMADE announced that it will invest in state-of-the-art bioindustrial manufacturing infrastructure in Minnesota. The forthcoming biomanufacturing infrastructure investments in Minnesota will be the first in a national network of critically needed pilot-scale biomanufacturing innovation facilities that will transform American manufacturing for the 21st century.

This project will launch Minnesota as a leader in bioindustrial manufacturing and beyond. Governor Walz stated the positive impacts of this venture go beyond farming and rural communities, benefiting everyone by creating new domestic products, strengthening supply chains and helping reach ambitious climate goals. *Continued on back panel >*



Throughout its 34-year history, the Agricultural Utilization Research Institute (AURI) has worked with hundreds of food and beverage entrepreneurs, providing consulting and technical services to bring products to market. One such collaboration was with Sunil Kumar, founder of The Amazing Chickpea.

Sunil's journey into the commercial food business started off in his role as dad. Twelve years ago, Sunil's oldest daughter Enya hosted a slumber party at their home and wanted to share a few of her favorite snacks, including PBJ (peanut butter and jelly) sandwiches. It turned out, one of Enya's friends suffered from a nut allergy. Sunil realized the limited options for great-tasting and allergy-free snacks and decided to produce an alternative to peanut butter spreads, utilizing chickpeas, a food he grew up eating in India. Chickpeas are protein rich legumes with a nutty flavor and contain several vitamins and minerals.

A HELPING HAND FROM AURI

After a move from Virginia to Minnesota, Sunil reached out to contacts at the University of Minnesota who then recommended AURI. Harold Stanislawski, business and industry development director, set up the initial project and Lolly Occhino, senior scientist, food, visited Sunil's production facility to understand his formula and process. She provided technical guidance on ingredient selection and small-scale processing options to ensure the spreads would have uniform consistency and flavor.

"When I first started working with Sunil, I recognized his passion and dedication to developing the best possible chickpea spreads to bring to market," said Occhino.

Founded in 2016, The Amazing Chickpea offers delicious, allergy-free and healthy spreads in a variety of textures and flavors.

MEETING A GROWING DEMAND

Sunil originally sold the spreads at the Linden Hills and Northeast Farmers Markets in Minneapolis where he was often approached by parents seeking an alternative to peanut butter in sandwiches for their children's school lunch boxes. It was then that Sunil understood the incredible need for a flavorful and allergy-free spread, and demand for his products grew. Today, The Amazing Chickpea spreads are used in schools in more than twenty-five states, including California, Texas and several in the Midwest.

PRODUCT INNOVATION

When thinking about new products, Sunil relies heavily on feedback from his most dedicated customers— parents and school administrators. One such new product was developed from a conversation with a school district in California that started using the chickpea spread on tortilla rollups. This year, Sunil launched two rollups, chocolate chickpea and apple cinnamon. He also launched a line of chickpea baking mixes for cookies, brownies and muffins.

And Sunil's story came full circle with the official launch of CBJ (chickpea butter and jelly) sandwiches. "She [Lolly] has been just great. All I can say is that it has been a great experience," Sunil said. "My special thanks to AURI and its amazing staff."

WHERE ARE THEY NOW AND WHAT'S NEXT?

The Amazing Chickpea has grown from a staff of one to a staff of nearly a dozen. From a new products standpoint, Sunil and his team actively engage with his core customers and consumers to identify opportunities. A couple of new products in research and development include chickpea-based granola bars and waffle cookie sandwiches. To assist in the growth of product development, this year, The Amazing Chickpea moved into a larger production space allowing Sunil to add more capability and increase production to meet demand. As a Go To

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Lisa Martinez, managing editor
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Address correspondence or subscription requests to:

12298 350th Ave,
Waseca, MN 56093

218-281-7600
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CONTACT US

Crookston
510 County Road 71 Suite 120
Crookston, MN 56716

St. Paul
Andrew Boss Laboratory of Meat Science
1354 Eckles Ave, Room 136G
St. Paul, MN 55108

Marshall
1501 State Street
Marshall, MN 56258

Waseca
12298 350th Ave,
Waseca, MN 56093

The bipartisan support from the state of Minnesota builds on federal investment and domestic biomanufacturing priorities established by Congress and the Biden administration.

“Biotechnology presents a new frontier for Minnesotans, an opportunity to build on our proud agricultural past and our characteristic optimism,” said Senator Aric Putnam [AURI Board member]. “This partnership between BioMADE, private industry, education, Federal and State governments will create new technology and new jobs and will also pave the way for a more green, sustainable future. This is a game-changer for Minnesota.”

Although there are countless American companies working on bioindustrial manufacturing innovations every day, the current lack of domestic infrastructure required to transition from the laboratory to commercial production results in American companies doing scale-up work overseas. BioMADE’s multi-year effort to create a national network of domestic, pilot-scale infrastructure, and launch of the facility in Minnesota, will fundamentally transform American manufacturing and re-shore manufacturing jobs.

AURI continues to explore unique views and capabilities, while building innovative and collaborative partnerships to generate greater outcomes for Minnesota’s ag producers and industry.

Schlecht said BioMADE provides another great opportunity to convert biomass and agriculturally derived feedstocks into higher value products. It is a space AURI has worked in for 34 years in Minnesota and the organization has seen an exceptional return to Minnesota’s economy and agricultural industry.

“This major investment accelerates this value-added opportunity and its potential to make Minnesota an epicenter for new innovations in the bioindustrial sector,” Schlecht said.


Market strategy, Sunil is focused on K-12 schools, university cafeterias, summer camps and other food service channels.

Going forward, he hopes to expand into different sales channels, including supermarkets, retail and club stores, hospital cafeterias and potentially senior care homes. And support from the AURI team continues today as The Amazing Chickpea grows and expands, offering guidance to Sunil as more products are tested and introduced to the marketplace.

“The Amazing Chickpea is a wonderful story of Minnesota home-grown success,” said Jason Robinson, AURI business development director-food. “AURI is proud to have played a small part in the company’s growth, brainstorming new product ideas and troubleshooting its product development challenges. We’re excited to continue our relationship into the next phase of growth.”

The Amazing Chickpea products can be found in retail stores across the United States and Canada and can also be purchased online at TheAmazingChickpea.com and Amazon.com.

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