



# Ag Innovation News

Jul-Sep 2019, Vol. 28, No.3

The newspaper of the Agricultural Utilization Research Institute



30  
YEARS

of innovation

Pages 6-7



Black Garlic is New Superfood  
Pages 4-5



MDA Supports MN Businesses  
Pages 8-9



Showcase Moves North  
Page 10



New Uses Forum Recap  
Page 11



PHOTO BY ROLF HAGBERG



# Happy Anniversary to AURI

BY SHANNON SCHLECHT  
AURI EXECUTIVE DIRECTOR

“

AURI WAS CREATED

AND TASKED WITH

FINDING NEW

OPPORTUNITIES,

REVENUE STREAMS

AND USES FOR

MINNESOTA'S

COMMODITIES

”

This edition of the Ag Innovation News marks a milestone for AURI and time to celebrate! Thirty years ago, the Minnesota Legislature showed a great deal of wisdom and foresight in creating an organization to support the state's economy by developing new uses and added value for commodities. Simply put, they created the Agricultural Utilization Research Institute.

Created at a time when the nation's ag economy was struggling and the state's farmers were fighting for survival, AURI was tasked with finding new opportunities and uses for Minnesota's commodities. From day one, that's exactly what we did—working with farmers, producers and processors to find new ways to utilize their commodities in the market, and even develop valuable uses for byproduct and waste streams.

However, the ag economy is cyclical, and as it improved and the stresses on farmers became less, AURI had to evolve in order to continue supporting the state. Rather than being a reactive organization, working with clients who reached out first, AURI began researching the industry, and looking for gaps in knowledge to determine where it could make the greatest impact. This was a model AURI pursued for many years and continues through today. While the landscape and economy have changed, AURI's mission has never changed. What's more the dedication of this unique organization has never wavered. Seeing that makes me truly proud of all that AURI has become over the past 30 years and I can't wait to see what the future holds. I also want to express a big thank you to all of the past directors and staff that have contributed to the mission and positive impact to Minnesota's agricultural economy.

As you will see in this edition's feature on AURI's anniversary, the organization entered the world in a tumultuous time, innovated, evolved and, above all, remained market driven in order to serve Minnesota's agricultural sector. Please join me in wishing a happy anniversary to everyone at AURI!



BY AURI

This quarter, Ag Innovation News highlights one of its newest board members, Federico Tripodi. He is AURI's first-ever Director-at-Large and has extensive experience in agricultural, food and health R&D and product development during his two-decade career in the ag tech and seed industry. In this interview, Mr. Tripodi shares his thoughts on AURI, its board of directors and what he sees in the future for both.

AIN

**Was there a specific reason you wished to join the AURI Board of Directors?**

FT

Agriculture is changing at an accelerated pace with consumers driving much of it. At the same time, collaborative ecosystems and supply chains are crucial to what is coming in agriculture. I wanted to join the AURI board of directors because I believe AURI's mission to foster value-added economic development provides a platform to continue supporting these changes in the region and can make Minnesota a leader in value added agriculture.

AIN

**How did you first learn of AURI?**

FT

Having worked in value-added agriculture in the Midwest for 15 years, I learned about AURI when I first moved to Minnesota to work in the space. What we have here, with AURI, is unique and the organization has a tremendous opportunity to influence beyond the state's borders in a way that will be synergistic and help accomplish our mission in Minnesota.

AIN

**Do you have experience with value-added agriculture? If yes, please describe.**

FT

I have led R&D projects, established supply chains, led business development, manufacturing, sales, teams and companies that were 100 percent focused on value added solutions in agriculture. I have had the privilege to collaborate not only on the agricultural productivity side but also on food, supplements, bio-materials and biofuels.

AIN

**What do you want to achieve as a new board member?**

FT

Over the next three years I would like to see more recognition for the upper Midwest having a best-in-class ecosystem for value-added agriculture and can be a strong alternative to the traditional supply chains and east coast/west coast innovation hubs.

AIN

**Have you worked with AURI in the past?**

FT

No, but I attended some AURI sponsored events and was very impressed with the cross section of participants and thought leaders across the whole food and ag value chain.

AIN

**What are your goals as a new board member?**

FT

At the board we are all about furthering AURI's mission of creating economic development. Personally, as an entrepreneur, I want to help the organization increase its impact beyond its current programs and approach. There are a lot of exciting things happening in agriculture and food, and AURI is poised to lead collaboratively.

AIN

**What do you most look forward to in this new position?**

FT

I look forward to supporting AURI's Executive Director, Shannon Schlecht, and the rest of the staff in accomplishing some lofty goals that will certainly make a difference in our region.

# B L A C K

BY DAN LEMKE

While renowned for its pungent aroma, powerful taste and even the mythical, legendary power to ward off vampires, garlic is enjoying a bit of a resurgence around the world. Demand is growing and enhanced by the growth of black garlic. This relatively new product is gaining a foothold in the United States because of its unique gourmet flavor and health-promoting properties.

Cultivation of garlic as a food and medicinal ingredient is centuries old. Garlic contains allicin, an antioxidant that has indications of healthful qualities, including reduced inflammation. Allicin forms by an enzymatic process when chopping or crushing garlic, but allicin is unstable and only available to the human body for a short time after it is crushed.

Production of black garlic, meanwhile, happens by processing raw garlic under high heat and humidity. The process can take weeks or even months. Fermenting raw garlic gives it a soft, chewy texture and smoky flavor that tastes very little like raw garlic.

Black garlic first gained popularity in Asia more than a decade ago. It's valued as a food ingredient as well as natural health advocates.

The process for producing black garlic converts the allicin in garlic into S allyl cysteine (SAC), which the human body can use more readily than allicin. According to the Journal of Food and Drug Analysis, research has shown black garlic to have positive antioxidant effects. There are even claims black garlic can help with lowering blood pressure, anxiety and aid in weight loss.

---

DEMAND IS  
GROWING FOR  
ITS UNIQUE  
GOURMET FLAVOR

## Growing Garlic Interest

Minnesota boasts a surprising number of garlic farmers, although not all are pursuing black garlic. The Regional Sustainable Development Partnerships and Sustainable Farming Association wrote a joint Minnesota Department of Agriculture Specialty Crop block grant in 2017 to investigate how to increase production and market access for Minnesota-grown garlic. That work included sending a statewide survey to quantify the number of garlic producers in the state, their acreage and total production.

When survey responses were combined with farmers in the Minnesota Grown database who indicated they grow garlic, a total of more than 80 growers were identified. From this survey and data collection, acreage per enterprise ranged from approximately 0.25 acre to 5 acres. The majority of the reporting growers indicated they produce on 0.25 or less acres.

A second survey, conducted earlier this year, reassessed the growers, but those results are not yet available.



# GARLIC

## It's a Process

Brothers Mike and Milton Riebel of the Design Shop in Mankato became interested in black garlic while working with a neighbor who grows USDA certified organic garlic. The Riebels have over 30 years of expertise in industrial biotechnology development.

"We're always value-added thinking," Mike Riebel says.

Because it's a raw product, garlic has a limited shelf life. Further processing raw garlic expands that life and creates new market opportunities. This led the Riebels to explore processing alternatives, which resulted in the discovery of a process for making kimchi from South Korea.

"I was intrigued by the process, but the problem was it took three to four months to complete," Mike Riebel says. "We looked at a different way to process that increased the performance and gave the black garlic a better taste."

The Riebels experimented and developed their own process for creating black garlic with improved flavor, a faster processing time and higher levels of several key nutraceutical properties including polyphenols and SAC. The resulting proprietary process succeeded in speeding the black garlic process while improving the nutritional profile.

"Garlic is a super food," Milton Riebel says. "This process amps those qualities up big time."

Mike Riebel says whether for food or nutraceutical use, their process for making black garlic is superior to what is currently in use.

"We can make black garlic in a matter of weeks, but we hope to accelerate that to a week," Mike Riebel explains.

Along the way, the Riebels enlisted the help of AURI staff and the Marshall laboratory. AURI Food and Nutrition Scientist Ben Swanson worked to evaluate the black garlic and test for polyphenol levels.

"When I first met with them, they handed me this black, gummy-bear looking thing and told me to pop it in my mouth," Swanson recalls. "I thought they were crazy, but it tasted amazing. It was smoky and a little sweet. It tasted completely different than what I expected from garlic."

Mike Riebel says he truly appreciates the support AURI provided while testing their proof of concept.

"We worked with AURI, tested the polyphenols and they guided us through the chemistry, so we better understood where we could go with it," Mike Riebel says.

GARLIC IS A  
SUPER FOOD

## Scratching the Surface

Milton Riebel says black garlic is well known on the east and west coasts, but it's just beginning to come into the Midwest. Black garlic did get a moment in the spotlight when the Iron Chef television cooking show featured it.

"Black garlic has been around, but not really in the mainstream," Swanson explains. "It is trending with old word processing and taste. Black garlic could fit in nicely with the natural food trend as it offers some benefits."

Swanson says the black garlic could have potential for use in dietary supplements, food ingredients including pizza toppings because of its smoky, semi-sweet taste. Powdered black garlic could be used in beef sticks or other processed meats because "it appears to have some anti-microbial activity to it."



While garlic isn't grown widely in the state, it is produced in Minnesota. If more opportunities arise, and more growers get involved, Swanson says the black garlic market has potential.

## In the Market

The Design Shop's process for developing black garlic is already in commercial use. Mike Riebel says they worked with Vision Home Products to produce Kasota Prairie Foods black garlic supplements which are available through large retailers including Amazon, Target and Wal-Mart.

Using their specialized fermentation process and integrating a freeze drying and grinding process they also developed, The Design Shop was able to produce a 100 percent pure black garlic powder. Mike Riebel says their process allows Vision Home Products to offer supplements that are free from husks, stems and fillers.

Kasota, Minnesota, farmer Dan Treinen operates Bent River Organics. Among the crops he grows is hardneck garlic, which needs to freeze so planting occurs in the fall.

Treinen has about 5,000 hardneck garlic plants in the ground on his Blue Earth County organic farm. Treinen also raises potatoes and jalapeno peppers which he markets at the Mankato farmers market and at the Garlic Festival in Hutchinson. Bent River Organics also markets black garlic in four area stores.

"About 50 percent of the garlic I sell is black garlic," Treinen says.

Production challenges last year reduced his garlic planting size and limited the supply of seed plants available from other growers. That's limiting the amount of black garlic he's able to market.

"We have to have the production to be able to push the marketing and that hasn't been easy," Treinen admits.

Still, Treinen recognizes there is tremendous opportunity in black garlic

"Black garlic has huge potential to grow. It's still a product that a lot of people don't know a lot about," Treinen says. "People are starting to see it on television cooking shows. People are using it to make desserts or in their meals, so when I go visit stores, they all want to carry it, but I don't have enough to really push the marketing."

## Sprouting Potential

The black garlic market is still developing. The Riebel's already see more opportunity for the unique product to make its way into more food and nutraceutical applications.

"Especially as a powder," Milton Riebel says, "because it's easier to integrate into other products. We're very interested in coming up with additional uses."

Mike Riebel believes there are multiple potential application and product development opportunities for the processed black garlic.

"It would be a natural fit with cheese or meats," Mike Riebel says. "We've worked with food companies testing black garlic as a preservative. We've looked at freeze drying it to add as flavoring. With its antimicrobial qualities it could be mixed with cheese for both functionality and flavor."

Black garlic could be just the beginning. Based on how test market works out, Mike Riebel says the Design Shop is interested in working with other crops like camelina, chokecherry or other plants high in polyphenols.

"There are a lot of specialty crops that could be processed for nutraceutical ingredients," Mike Riebel adds.

THIS PROCESS  
AMPS THOSE  
QUALITIES UP  
BIG TIME

Created by legislation in 1987 as part of the Greater Minnesota Corporation, AURI began operating as a stand-alone entity in 1989 with the mission of improving the economy of rural Minnesota through value-added opportunities for the state's agricultural commodities.

AURI is a non-profit corporation that also maintains a strong and critical partnership with the Minnesota legislature. The state has been a key collaborative partner during the 30-year journey. Over its 30 years, AURI has maintained offices and laboratories in rural Minnesota, including Crookston, Marshall, and Waseca. It also operated prior to 2003 in Morris and does have a small presence in the metro.

To mark its 30th anniversary, some of AURI's longest-serving employees offer their insights into the organization's evolution and offer a glimpse into the future.

BY DAN LEMKE

# 30 years

## COMMITMENT TO AGRICULTURE

“The mid-1980s were a devastating time for Roger Moe, who was instrumental in the creation of AURI. Minnesota needed to find a way to add value to agriculture.”

“I had heard of AURI, so I started researching the organization and thought what they did was very interesting. I wanted to stay in agriculture, so that was a draw for me,” Philipp says.

While AURI offers unique services and facilities to Minnesota businesses, Philipp says part of the organization's strength lies in its ability to draw upon the resources necessary to achieve success.

“AURI continues to be relevant. We are in demand as much now as ever. We're constantly being approached to collaborate,” Philipp says.

Philipp says AURI's network connections have grown over the years. She's heard from stakeholders about how fun it is to watch AURI take ideas to another level.

“We've grown to become a stronger organization. I think we've learned from the past. We strive to continually get better at what we do, and we put our heart and soul into it,” Philipp says.

Philipp adds that AURI has evolved over its three decades of operation to become more strategic while watching for opportunities to make a broader, deeper impact.

“First and foremost, we want to do good for Minnesota and the rural economy. We also want to be good stewards of our state funds to foster long-term economic benefit,” Philipp adds.

When AURI leaves a positive mark on a project and the clients and partners reflect that, Philipp considers that a successful effort, “especially when they say, ‘I can't believe all of the things you do as a small organization.’ Earning that respect from our collaborators is what drives my passion.”

**Becky Philipp**  
Project Manager

*Becky joined AURI in 2000 as executive assistant and human resources staff.*

“I was highly intrigued by the value-added mission,” Sparby says. “I grew up on a family farm that was lost in the farm crisis of the 1980s, so agriculture is near and dear to my heart.”

Sparby became the general manager of AURI's Morris office and now serves as a senior project strategist. Sparby says the biggest changes he's seen in the organization during his more than two decades at AURI is the service delivery structure.

“Project development and technical services were two separate units then and they didn't always connect,” Sparby recalls. “We've evolved to the point where it's an extreme team approach. Project and technical staff bring to bear both projects and initiatives. Our process now is highly systematic and collaborative. We've become more efficient and effective in delivering on our mission.”

Sparby says an important factor for AURI's present and future success is listening. AURI initiated a stakeholder analysis program nearly 20 years ago. AURI staff sits down with partners and stakeholders to discover what opportunities and market barriers they see in their agriculture sector. Those activities frequently lead to public domain research that helped to identify market opportunities

“We went from being reactionary to almost being predictive,” Sparby says.

AURI offers unique programs and facilities. Equally important are AURI's networks for connecting resources.

“The number one value we provide is our networks and the ability to work with universities, government, and industry of all sizes across pretty much any value chain. I can't think of many industries in which we don't have contacts,” Sparby states.

With 30 years in the rearview mirror, Sparby says the future holds plenty of need for AURI assistance.

“Ideas are always going to be there,” Sparby says. “Trends happen and helping companies to react to those trends will always be our sweet spot.”

**Michael Sparby**

Senior Project Strategist

*Michael came to AURI in 1996 after working for the Minnesota Attorney General's office and interning at the World Trade Corporation where he tracked the legislation creating AURI.*

# of Heart and Soul

## RE AND RURAL MINNESOTA STILL DRIVES AURI

agriculture with extremely low commodity values,” said former Senator [Name] of AURI. “Agriculture needed to find new uses for its production and [Name] to productivity and help farmers—this led to the creation of AURI.”



“When I first joined AURI, I had never thought of working in agriculture,” Gjersvik admits. “I had no ag background, but the organization looked intriguing. The more I’ve been around people with good, exciting ideas, the less I ever wanted to leave.”

Gjersvik says working for a small organization with a big role to play in making a difference in the landscape of Minnesota and keeping rural areas vital made a personal difference for her.

Through the years, Gjersvik says AURI has remained market driven. The organization’s mission to foster long-term economic benefit to Minnesota has not wavered, although delivering on that mission has changed with the times and needs.

“Early on, we were reactive, working with one company at a time. As we’ve evolved, we recognized we could make a greater impact if we looked at an entire industry and did research into what’s holding the industry back,” Gjersvik explains. “We take that information and get it into the hands of people who can use it through our innovation networks. We’re always evolving to deliver the greatest impact that we can.”

Having been a part of AURI for nearly its entire existence, Gjersvik has seen how organizational changes have helped maintain relevance.

“We’ve added and eliminated different programs over the years based on historical or potential impact,” Gjersvik contends.

“We look for programs and projects with the greatest impact potential and then apply the resources to move them forward. Also, clients have told us how AURI assistance adds credibility to their efforts,” Gjersvik explains. “Our reputation is that of an enabler. That’s a terrific reflection of how AURI is seen.”

### Lisa Gjersvik

Senior Director of Strategy Management

*Lisa joined the AURI staff in Waseca in 1989, just months after the organization incorporated.*

There’s hardly an agricultural product or ag-based coproduct that Alan Doering hasn’t tested or manipulated. His role as scientist at AURI’s coproducts lab in Waseca means he’s worked with animal manures, crops and agricultural processing coproducts of all types to create value-added uses.

Doering joined AURI in 2000, providing technical services in the coproduct utilization lab. He’s now a senior scientist for coproducts.

“I’ve always had a passion for ag. That’s where my heart is. In this position with AURI, working to add value to agriculture gives me true satisfaction,” Doering says. “To see a client’s or company’s idea reach commercialization is what motivates me.”

Doering says a key to AURI’s success lies in the hands-on approach the organization takes.

“We get to know the clients. We work closely with them and have a great investment in their success,” Doering contends.

The cyclical nature of the agriculture economy means AURI emphasizes being nimble while never forgetting the role the organization plays.

“We remain focused on working with Minnesota commodities and products that are or can be grown in Minnesota so that Minnesota benefits,” Doering says.

Minnesota businesses and the state’s economy have benefited from AURI. Doering points to R&D efforts for creating products such as chemical surfactants (Preference and Destiny), Pet Care Systems’ Swheat Scoop cat litter, assisting Minnesota’s biodiesel industry and if you talk with him, he’ll list countless others as examples of AURI’s contributions to the agricultural industry.

“We’ve been around, so now we get clients referred to us because processing groups are aware of us and what we’re doing,” Doering says. “People understand better who we are and what we do.”

With that industry recognition and a constantly changing agriculture economy, Doering believes there will be many more needs for AURI services far beyond AURI’s 30th year.

“People will always need help with product development and how we help will advance with them,” Doering says. “There will always be need whether its in food, coproducts, renewable energy or biobased materials.”

### Alan Doering

Senior Scientist-Coproducts

*Alan joined AURI in 2000, providing technical services in the coproduct utilization lab.*



# Minnesota Department of Agriculture Expands Markets and Offers Support to Food and Beverage Companies



BY AURI

Any small business owner will tell you one of the most important keys to success is the ability to publicly promote their goods and offer samples to potential consumers. This is especially true for entrepreneurs and producers in the food and beverage space. Successful products within these sectors rely heavily on consumers trying the product to decide if they like it or prefer it over a competing product before making a purchase.

This can be a difficult and expensive endeavor for small businesses—most stores and events that offer tastings charge a fee. Participating in opportunities of these kinds on a regular basis can deplete a marketing budget quickly. This can be an overwhelming situation for a food or beverage company making its first attempts at commercialization.

But there is help available for Minnesota companies thanks to some programs and opportunities offered by the Minnesota Department of Agriculture (MDA), which works with Minnesota food and beverage companies to increase the use of Minnesota agricultural ingredients, create and protect jobs, and promote economic development in Minnesota's agriculture and food sectors.

## New Market Development

The New Market Development Program assists Minnesota food and beverage companies in exploring new markets and expanding their market reach. The program helps entrepreneurs and small food companies with business development advice and a variety of resources. More importantly, the New Market Development program helps companies gain a competitive advantage in regional, national, and international markets.

“Building a food or beverage company is far from easy,” said Brian Erickson of the Minnesota Department of Agriculture. “For Minnesota founders who are able to build a local product following, often at farmers’ markets or through a food hub, the AGRI New Markets Program is a “next-step” tool that can help them explore new channels and markets.”

According to MDA, in FY18 there were 124 food and beverage companies headquartered in Minnesota participating in the New Market Development program via Minnesota Pavilions at a trade event or benefitting from cost sharing provided by the Tradeshows and Demonstration Support Program (TSP). As a result of taking part in the program, the companies projected more than \$9 million in new sales.

## Minnesota Pavilions

MDA hosted Minnesota Pavilions at seven food and beverage trade events in FY18 using AGRI funds. Examples include Winter Fancy Food Show (San Francisco), Natural Products Expo West (Anaheim), National Restaurant Association/American Food Fair Pavilion (Chicago), Sweets & Snacks Expo (Chicago), and at the Summer Fancy Food Show (New York City). Additionally, MDA hosted pavilions at a number of internationally regarded tradeshows, like Anuga in Germany and Gulfood in Dubai. Approximately \$161,000 in AGRI funds supported these event pavilions.

This financial support meant MDA offered 58 booths at a reduced cost to Minnesota food companies under its Minnesota Pavilion umbrella as well as help with the management needs for these spaces in FY18. Preliminary data from these companies show they anticipate increasing their 6-to-12-month sales by \$6.4 million as a result of the connections made during the shows. In addition, they have also been able to create hundreds of new relationships with distributors and create more than 2,000 new business contacts.

Pavilion space is allocated on a first-come, first-served basis, with returning participants receiving priority placement. The events where Minnesota Pavilions exhibit are often very popular and some



The New Market Development Program assists Minnesota food and beverage companies in exploring new markets and expanding their market reach.



MDA invested approximately \$235,000 in FY18 to support more than 100 small Minnesota-based food and beverage companies.



The Tradeshows Support Program shares some of the costs of executing in-store demos, which drive sales by introducing products to new markets.

fill up as early as 12 months ahead, so it's important to apply well in advance of any tradeshows you wish to attend. To apply for pavilion space, complete and submit the one-page application form (available on MDA's website) as well as a 25 percent down payment to reserve your space.

## Tradeshow Support Program

The Tradeshow Support Program (TSP) helps small- to-medium-sized companies exhibit at wholesale food events where there is not a Minnesota Pavilion. The program shares some of the costs of executing in-store demos, allowing companies to drive sales by introducing products to new markets and stores. Specifically, the program reimburses up to 50 percent of business-to-business tradeshow costs, including mileage and labor for in-store demos, booth space rental, shipping marketing material to tradeshows, and new signage at wholesale food shows. Applicable events are tradeshows attended by wholesalers, grocers, retailers, distributors and brokers.

MDA invested approximately \$235,000 in FY18 to support more than 100 small Minnesota-based food and beverage companies. As a result of their participation in this program, the companies collectively reported a number of extremely positive results. From the TSP, the companies project \$4.4 million in sales in FY19, more than 3,000 new stores added to distribution networks, and more than 100 new distributor relationships initiated.

"The support we received through the Dept of Ag's TSP program allowed our marketing reach to stretch so much further," said Britt Jungerberg, co-founder of Darling Pickle Dips. "We were able to significantly increase our in-store sampling events, which is crucial for driving trials and growing sales for a small company like ours. Without this support we wouldn't have covered nearly as much ground or created so many new customers. This is a tremendously valuable program for food start-ups."

*If this program looks like it could be helpful to your business and you decide to participate, you can apply by downloading and signing the TSP Application, available on the MDA website, and email it to the noted staff member.*

Preliminary data from these companies show they anticipate increasing their 6-to-12-month sales by \$6.4 million as a result of the connections made during the shows.



## Industry Tradeshows

This program reimburses up to 50% of many business-to-business (B2B) tradeshow costs. These are shows commonly attended by wholesalers, grocers, retailers, distributors, brokers, etc.

### Eligible expenses

Booth rental (not available if you are buying discounted space in a Minnesota Pavilion).

Booth development/improvement costs: booth shipping, drayage (on-site handling), cleaning service, equipment rental, educational sessions, event-sanctioned buyer meeting costs, product showcases, badge scanner rental, and organizational membership fees (if required to exhibit).

### Ineligible expenses

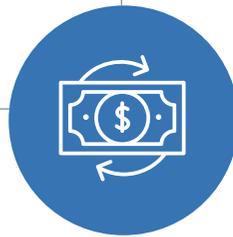
Travel and lodging.

Booth supplies such as plates, napkins, and toothpicks.

Your own product for sampling.

Sales sheets, business cards, and other printed literature.

Any items or services that are also reimbursed in whole or in part by another state or federal entity, for example the Food Export Association of the Midwest or the State Trade and Export Promotion (STEP) program.



## Reimbursement Amounts

If the product you're promoting is made in Minnesota, you're eligible to claim up to \$4,000 per state fiscal year for any combination of tradeshows, demos, and mentorships. If your product is manufactured outside of Minnesota, the limit is \$2,000/year. Awards at MDA-sponsored events do not apply to annual limits.

MDA reimburse claims on a first-come, first-served basis until funds are exhausted. We reserve the right to deny claims from entities not in good standing with the State, or who do not comply with the program requirements.



## In-Store Retail Product Sampling and Demonstrations

To qualify for reimbursement, sampling must be done in a retail location that sells your product(s). This can include grocery stores, gift boutiques, or other retailers. It may not include your own retail store or sampling at farmers markets, festivals, or other public events.

### Eligible expenses

Labor for an employee, owner, or contracted help, at a flat rate of \$10/hour.

Mileage at \$0.50/mile, with a per-demo maximum of \$200.

### Ineligible expenses

Lodging.

Booth supplies such as plates, napkins, and toothpicks.

Your own product for sampling.

Sales sheets, business cards, and other printed literature.



## Walk the Floor Mentorship

This new program provides a one-time \$500 travel match for leaders of companies founded in Minnesota to attend a national tradeshow and learn from current exhibitors. Mentees will be matched with a host company in the Minnesota Pavilion to learn about tradeshow preparation and execution. There will also be time to walk around the tradeshow, assess competitive products, and attend educational sessions and other tradeshow-related events.

*NOTE: You must have a signed mentorship agreement prior to the show. Contact Brian Erickson for more information.*

### Eligible Expenses

Airfare and lodging.

Show badge.

Business education sessions or other tradeshow-related events.

### Eligible Events

Any Minnesota Pavilion event.



# North Bound: Ag Innovation Showcase moves to Minnesota for 2019 event

This year, the Showcase will underscore its commitment to the extraordinary developments in healthy living through food by offering a Farmers' Market and Global Café, which will feature nutritious, delicious and functional food.

Conferences and events focusing on innovation and bleeding edge thinking are all the rage these days. Just look online and you will find every major business or investment group is leading a forum that brings together the greatest minds of the world to address challenges across the food, ag, science or business sectors. But, it's important to note, before there was a Forbes Opportunity Zones Summit or a World Agritech Innovation Forum, there was the Ag Innovation Showcase, a premier event focusing on exploring important developments and trends in food and agriculture, across the entire value chain, hosted by the Larta Institute.

"The event was born out a conversation with the Donald Danforth Plant Science center in St. Louis, said Rohit Shukla, CEO and Founder of Larta Institute. "They were interested in a collaboration to bring segments of the industry together for a relatively intimate event that would be both educational and demonstrative in terms of projects that are occurring right now that are tracing certain trends, as well as serve as a networking opportunity across the entire spectrum of ag."

For more than a decade, this progenitor event has showcased scores of significant companies focused on food, agricultural biotechnology, plant nutrition and inputs, bioenergy and farm management, while also debuting important innovations in "waste to value" products and services. It also introduced discussion and exploration of the growing convergence between food and health through pioneering presentations, curated special content sessions, talk shows, and plenary sessions. The end result is the Showcase now attracts a worldwide audience and has a major impact on the growth of the sector.

## Moving North

Since its inception, the Showcase has called St. Louis its home, but the 2019 event, scheduled for September 9-11, will move to a new home at the Guthrie in Minneapolis, Minnesota. It makes a lot of sense for an event so devoted to food and ag when you consider the role Minnesota plays in those sectors. Minnesota hosts one of the largest concentrations of agricultural companies and one of the largest networks of food coops in the country. It also is home to world-class institutions like the Mayo Clinic, which is conducting groundbreaking research into the gut microbiome and is a pioneer in life and health sciences. What's more, Minnesota has a budding and vibrant entrepreneurial ecosystem, comprising innovators across the value chain of food and ag, large and small companies, including smallholder farmers in specialty crops, world-class educational institutions, and a commitment to food and health. "Ag Innovation Showcase is drawn to Minneapolis because of its emergence as an innovation hub," said Bandhana Katoch, Director, Agriculture Practice for Larta Institute. "Our team is prepared to use The Showcase as a catalyst to heighten Minnesota's global presence as a leader in food security, sustainability, and ag tech."

"With Larta Institute's Ag Innovation Showcase moving into Minnesota, it made a lot of sense for AURI to partner with the hosts and help bring some of Minnesota's best value-added discussions and innovations to the table," said Shannon Schlecht, AURI's executive director. "I think this will be a great move for everyone involved because it provides new opportunities to showcase Minnesota's innovation ecosystem as well as the unique assets that make it an important player in the food-health-agriculture convergence."

## 2019 Event

Attendees can expect an event of the highest quality. First, they can expect a series of discussions that expand and update the understanding and exploration of Agriculture 3.0 in light of challenges to the bioeconomy. Additionally, participants will explore links between biodiversity loss, climate change and ecosystem threats posed by and to the agriculture sector.

While returning guests will easily recognize the format of the plenary sessions, keynote conversations, special content sessions, and company showcase, this year's Showcase has some new additions to coincide with its new home. "This year we are building individual day sub-themes towards the bigger theme of "Power of Convergence: Food, Energy, and Health," said Katoch. In addition, this year's Showcase will underscore its commitment to the extraordinary developments in healthy living through food by offering a Farmers' Market and Global Café, which will feature nutritious, delicious and functional food.

This year's Showcase is sure to be a highlight for everyone involved! To stay up-to-date on speakers, additions to the agenda, or to register for the unique innovation event by visiting the Ag Innovation Showcase's website at [agshowcase.com](http://agshowcase.com)

## SHOWCASE AGENDA

Day 1

### Our Role in Regenerating Planet Earth: One Species at a time

The first day of the showcase will set the stage by hosting a keynote conversation between stakeholders engaged in the recent U.N. backed report *2019 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment*. The discussion will be followed by exploring the trends and challenges in and to plant and animal nutrition.

Day 2

### Using Power of Convergence for Resource Optimization and Efficient Use of Natural and Other Resources

The second day of the Showcase begins with keynote remarks by Teddy Bekele, Chief Technology Officer of Land O'Lakes, discussing the power of convergence and its role in agriculture, the impact on food security, biodiversity and ecological issues.

Day 3

### Healthy Food for Changing Planet

The third day will wrap-up the concepts discussed on Day 1 and Day 2 by engaging the audience in discussions related to evolving food systems and their impact on planet earth and beyond.



# Innovative Solutions and Entrepreneurial Empowerment Lead New Uses Forum

BY AURI

The Agricultural Utilization Research Institute (AURI) hosted its third annual New Uses Forum on March 27 and 28 with the event centering around accelerating agricultural innovation and investment. The forum gathered knowledgeable voices and experts from throughout the food and agriculture industries to share their knowledge and experiences in order to foster meaningful discussion among attendees. Speakers, panels, break-out sessions and more brought forth new insights and facilitated exploration of innovative ideas and economic solutions to benefit the agricultural industry.

A new dedicated model for problem solving was introduced at this year's event: an open innovation reverse pitch. During the session food and agriculture companies shared some of their industry challenges, and then listened while attendees proposed solutions and offered feedback. Topics of discussion included: creating plant-based pepperoni and cheese for pizza application; new uses for dairy byproducts; reduced conversion cost of liquid milk to dried milk powder; accelerated moisture equilibration in dry dough systems; and stored product pest detection. Participants were encouraged to identify potential innovations and novel solutions to the problems presented.

*New Uses Forum (continued on pg 12)*

## ELSEWHERE IN AG INNOVATIONS

BY AURI *Editor's note: As a service to our readers, we provide news about the work of others in ag utilization. Often, research done elsewhere complements AURI's work.*



### The Important Role of Cover Crops

An article in the most recent edition of the journal *Weed Science* shows that cover crops can play an important role in slowing the development of herbicide resistant weeds.

Researchers conducted field experiments in Pennsylvania to explore how cover cropping tactics influenced the management of horseweed in no-till grain crops. Seven cover-cropping treatments were used over two subsequent growing seasons.

There were several significant findings. In comparison to fallow control plots, cover crop treatments reduced horseweed density at the time of a pre-plant, burndown herbicide application by 52% in the first year and 86% in the next. This reduced the herbicide "workload" and lowered the selection pressure for resistant weeds. Cereal rye alone or in combination with forage radish was found to provide the most consistent horseweed suppression.

Importantly, winter hardy cover crops also reduced horseweed size inequality -- meaning fewer large horseweed plants were found at the time of herbicide application. Researchers say this reduces the chance of a size-dependent fitness advantage for horseweed biotypes that develop herbicide resistance.

"Our hope is that understanding the complementary relationship between cover crops and herbicides can lead to new weed control strategies that slow the development of herbicide resistance," says John M. Wallace, Ph.D., of Pennsylvania State University.

Science Daily



### Low Glycemic Index sweetener derived from lactose gets boost from yeast

Tagatose is a sweetener that exhibits almost identical tastes and textures of sucrose, or table sugar. However, tagatose has many fewer calories than sucrose -- about 40% of sucrose. In addition, it does not increase blood glucose levels as much as sucrose or fructose. The glycemic index of tagatose is 3, which is much lower than that of sucrose, 68 and fructose, 24. Therefore the risk of developing type 2 diabetes and other diseases by rapid and repeating glucose increases in blood.

Despite the benefits, tagatose has a high manufacturing cost that has kept it from wide commercial use. The manufacturing method involves a multi-step enzymatic process that turns galactose into tagatose. Unfortunately, the enzyme reaction is so inefficient that only 30 percent of galactose is converted into tagatose, forcing manufacturers to use an expensive process to remove the tagatose from the galactose mixture.

Using the internal machinery of yeast cells as tiny tagatose factories, much like how ethanol manufacturers use yeast to produce fuel from corn. Researchers engineered a strain of yeast that produces tagatose from lactose by making two genetic tweaks. First, taking out a gene that lets the yeast use galactose as cellular fuel during lactose metabolism. Second, they add two genes, converting the galactose into tagatose.

Science Daily

## ABOUT AG INNOVATION NEWS

Erik Evans, managing editor  
Rolf Hagberg, photography  
Design by, pounce.com

Electronic pdf copies of current and previous *Ag Innovation News* issues are available on the website: [auri.org](http://auri.org).

Address correspondence or subscription requests to:

*Ag Innovation News*  
PO Box 251  
Waseca MN 56093  
218-281-7600  
[news@auri.org](mailto:news@auri.org)

## BOARD OF DIRECTORS

**Ron Obermoller, Chair**  
Minnesota Soybean Research & Promotion Council

**Jerry Hasnedl, Vice Chair**  
Minnesota Farmers Union

**Larry Johnson, Secretary/  
Treasurer**  
Agribusiness

**Sen. Rich Draheim**  
Minnesota Senate

**Rep. Jeanne Poppe**  
Minnesota House of Representatives

**John Schafer**  
Minnesota Beef Council

**Jon Veldhouse**  
Cargill

**Carolyn Olson**  
Minnesota Farm Bureau

**Ken Asp**  
Minnesota Wheat Research & Promotion Council

**Federico Tripodi**  
At-Large Board Member

## CONTACT US

**Crookston**  
510 County Road 71 Suite 120  
Crookston, MN 56716

**St. Paul**  
64 McNeal Hall  
1985 Buford Avenue  
St. Paul, MN 55108

**Marshall**  
1501 State Street  
Marshall, MN 56258

**Waseca**  
PO Box 251  
Waseca, MN 56093

## Panel discussions at New Uses Forum 2019:

The Entrepreneur Panel featured Thomas Stoddard, Grower Relationship Manager at Calyxt. He shared his experience getting involved early as a student with Calyxt a company committed to improving the nutritional quality of plants through cutting-edge breeding techniques. The panel also included Stine Aasland, the Queen of Nordic Waffles, who talked about the importance of freshness of her products and responding to cultural and customer demands to new products.

The Resources to Support MN Food Ecosystem Panel outlined paths to commercialization through working with Minnesota organizations. Brian Erickson, of the Minnesota Department of Agriculture, shared the New Market Program created to provide a competitive advantage to businesses that enlist their sciences and the use of Minnesota agricultural ingredients. Emily Paul, Director of Programs at the Good Acre talked about the importance of supporting local ecosystems, the acceptance of smaller brands, and the diversification of consumer behavior.

At the Renewable energy and Bio-industrial Innovation Panel business owners shared their knowledge of renewables and the efforts to bring biofuels and renewable alternatives to market. David Kolsrud, farmer and co-founder of the Funding Farm talked about the importance of investing in growth and cooperating with organizations like AURI. "Farmers are good at solving problems, AURI is good at solving equations. Together we make good things happen," Kolsrud said.

The Hemp Now Panel explored the utilization of hemp within an industry of rapid change. In 2018, the number of hemp growers across the state has increased from 43 to 205. Todd Mathewson of Just Biofiber shared the company's Modular building block system for fast and flexible construction. "The blocks are weather-resistant and reduce building energy requirements like heating and cooling," Mathewson said.

Margaret Wiatrowski, the Industrial Hemp Program Coordinator at the Minnesota Department of Agriculture reminded attendees that hemp is still considered a controlled substance by the federal government and has just recently been recognized as an agricultural commodity overseen by USDA.

Tom Vilsack, former USDA Secretary of Agriculture, delivered a keynote address the forum's second day, sharing his vision for opportunity in small town America and the importance of preserving rural farming and the future of global agriculture. Seventy-two percent of the food Americans eat is produced by only 250,000 farm families. Vilsack presented the need for an updated regulatory system in a commodity market that allows small players to compete in a local regional food system.

"Rural agriculture and Rural America are not the same thing. If we continue an extraction-based economy that transfers from city to suburb, we will have to reconsider the system," Vilsack said.

The New Uses Forum combined a diverse range of experts, interesting topics and numerous networking opportunities. Nearly 400 people participated in this year's event. AURI and its partners are proud of the successes, large and small, at this year's forum and are looking forward to future events.



Non-profit  
Organization  
U.S. Postage  
**PAID**  
Permit No. 14  
Detroit Lakes,  
MN 56501

 **AG INNOVATION NEWS**  
The newspaper of the Agricultural Utilization Research Institute

510 County Road 71  
Suite 120  
Crookston, MN 56716

Change Service Requested