

THE BENEFITS OF SHELF LIFE TESTING: HOW CDR CAN HELP PROVIDE VALUABLE INSIGHTS INTO DAIRY PRODUCTS

Shelf life studies are used across the food and beverage industry to test whether or not a product and its packaging, can meet a desired shelf life duration.

Quality shelf life studies focus on how long the initial quality of a food product will last, rather than answer the question "is the food safe to store at unrefrigerated conditions?" That question of shelf stability can be answered by a similar type of test called a **challenge study**. This article will discuss both types of testing and how they answer different questions.

There are many reasons why a company may be interested in shelf life studies. It could be they want to test a new product, or maybe there has been a change to an existing product – maybe now it is manufactured at a different plant, or maybe there has been a change in the formulation, packaging, or process. In some cases, a customer may be questioning a product's shelf life and it needs to be tested. Shelf life studies can also help reduce food waste by helping manufacturers make sure their products meet the expected expiration or "best by dates."

No matter the circumstance, shelf life studies can provide a range of benefits and insights into a product. It is important to understand what options exist in regard to shelf life testing and the focus and benefits of the different categories of shelf life studies. This article provides a short overview of some of the main categories of shelf life studies and describes how CDR's sensory services can help with shelf life testing.

Founded in **1986**, the Center for Dairy Research is dedicated to supporting the U.S. dairy industry through innovative research, technical support, training and education. CDR and its staff are grateful for the generous support and partnership of the dairy industry over the past 40 years.

**Please join us this year
as we celebrate the CDR's
40th anniversary!**



Challenge Studies and Shelf Stability (Not available at CDR)

In challenge studies, a product is inoculated with a pathogen like clostridium botulinum, e. coli or listeria. The product is then held for a period of time and monitored to see if the pathogen survives or grows in the product. Challenge studies are typically conducted ➡



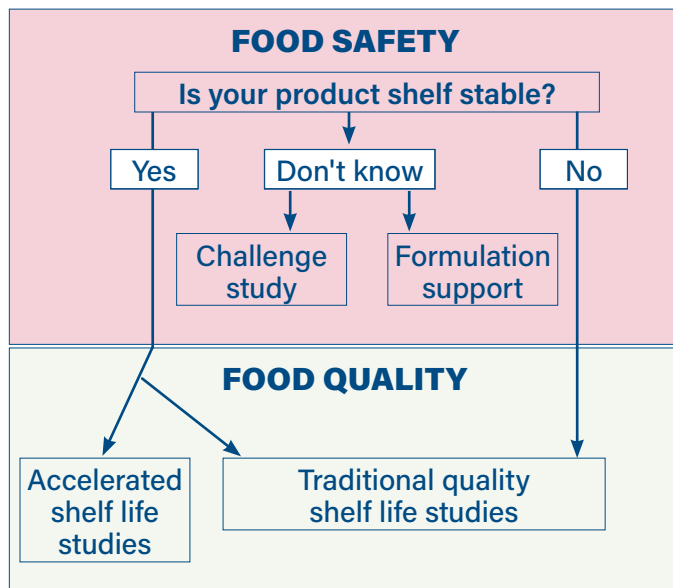
Brandon Prochaska, CDR, examining samples.



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on shelf stable products. CDR doesn't conduct challenge studies. This service is available at UW-Madison's Food Research Institute (FRI). FRI can also assist in formulating a shelf stable product (<https://fri.wisc.edu/>).



Traditional Quality Shelf Life Studies (Available at CDR)

CDR's specialty is quality shelf life testing also known as spoilage testing. These shelf life studies are focused on the quality of the product – texture, taste, visual appearance, etc. "These studies are monitoring the product to see how it is looking or tasting," said CDR Sensory Coordinator Brandon Prochaska. "Or maybe the product develops a certain texture that people do not find palatable or acceptable for that product. For example, if you had fluid milk that's coagulated and you told someone it's yogurt they might be okay with eating it, but if it's supposed to be fluid milk then it's past its shelf life. It's not unsafe, it's just not what people expect or want for that product."

Quality shelf life tests can also help determine a product's mode of failure. Sometimes the mode of failure is known if it's a well-established product. For instance, the mode of failure for cheese is usually mold growth. Or, for butter, it's typically oxidation (flavor degradation). Quality shelf life studies can help determine the mode of failure for new products.

"If I have a novel product, like a pineapple flavored Cottage Cheese-based dip, I don't know if it's going to mold, get too soft, or get too chunky – I don't know what's going to happen," Prochaska explains. "So that can be one objective of a shelf life study – to understand what the mode of failure is."

Understanding the mode of failure allows clients to adjust the product and/or packaging to meet the desired shelf life. Prochaska said that sometimes clients come into a shelf life study with no expectations – they simply want to see what happens to their product over an extended period of time. "Other times they have a very specific goal in mind and we see if that's feasible, and determine how we could change the formulation or packaging to meet it" Prochaska said.

Shelf life can also be stated in terms of freshness after opening, where a product may have a long shelf life before it's opened but a relatively short shelf life after opening. This aspect can be investigated as part of a shelf life study too.

Accelerated Shelf Life Studies (Available at CDR)

In accelerated shelf life studies, products are held above typical ambient temperature ranges to see how the product and packaging holds up under more stressful conditions. Accelerated shelf life studies can help determine/confirm best by dates in a much shorter amount of time compared to traditional study methods. However, accelerated shelf life studies are typically only conducted on shelf stable products. If a product is not shelf stable (requires refrigeration), then accelerated studies aren't an option. This is because the accelerated conditions change the mode of failure, which invalidates the underlying premise of the study.

Benefits of Working with CDR

Choosing CDR as your partner to conduct traditional or accelerated shelf life studies comes with a variety of benefits.

CDR expertise - Clients can utilize additional technical help from CDR staff. For example, if a shelf life study finds that a product is not meeting the desired shelf life, CDR staff can help identify how to extend that product's shelf life.

"What's causing me to fail and how do I extend that out? Do I add some preservative? Do I heat treat it some more? Do I use more robust packaging? There are lot of different ways you can get there," Prochaska said.

CDR staff can help evaluate a product and determine logical next steps to achieve the desired shelf life.

Objective data - Prochaska said that the biggest benefit to clients using CDR quality shelf life studies is that the data is third party, objective data. ➡

“A client might have the expertise to do a shelf life study themselves, but if they have a customer that they’re trying to convince they’ve got a good product, it’s beneficial to show them data from CDR,” Prochaska said.

Increase efficiency - CDR sensory services/shelf life testing can be beneficial to companies that don’t have an in-house, dedicated sensory department. Or, maybe a company does have a sensory department but doesn’t have the current capacity to run shelf life testing. The process is time consuming involving sample organization, labeling, conducting the study, storing product samples, rotating the samples, documenting and monitoring the samples, and, finally, producing an in-depth report on the results.

Customized studies - Prochaska said he works with each client to understand their product and what they want to learn about their product through shelf life testing.

For example, if a refrigerated product is being studied, some samples can be placed in a cooler and held at 40°F but other samples can also be held at elevated temperatures, like 45°F or 50°F to mimic retail abuse and see how the product holds up. “We can design the study to be as risk averse as you want,” Prochaska said.

“Each study is unique and we can kind of leverage my expertise and design you a study that is ideal and suited for your particular product and situation,” Prochaska said. “It’s not a cookie cutter kind of approach.”

Microbial or analytical testing - After and/or during shelf life testing, a client may want to better understand their product through microbial or analytical testing. CDR offers a range of tests and services through its analytical and microbial labs.



CDR panelists evaluate samples.

CDR Trained Panelists - The shelf life studies also benefit from CDR’s trained sensory panelists that are available year round. These panelists not only provide objective data and results of the product they can also turn results around in a timely manner.

“We use a method that doesn’t take much orientation to the product,” Prochaska said. “We don’t have to do a full descriptive test. We compare the product to what it’s supposed to be and evaluate how far is it off from that. That makes the tests a little simpler and it also makes it more cost effective than descriptive tests.”

In-Depth Reporting - Throughout the course of a quality shelf life study at CDR, Prochaska and his team document the product along the way. Prochaska can provide progress reports during the study before the final report and provide updates or details on findings from the panel, or photographs of issues (i.e., mold growth, broken seals, etc.). The final report includes results from the panel, Prochaska’s interpretation of the findings, and photographs and documentation of issues encountered during the course of the study.

Equipment Capabilities - CDR utilizes climate chambers to conduct shelf life studies under customized conditions. Unlike a cooler where temperatures can fluctuate, CDR’s climate chambers dial into exact temperatures. In addition, the climate chambers can also be set to specific humidities. The chambers can be fitted with lights to see how product holds up to prolonged light exposure to mimic retail abuse.

For more information on CDR shelf life services, contact Brandon Prochaska at bprochaska@cdr.wisc.edu 📧

Technical Reviewer: Brandon Prochaska, CDR



Shelf life studies test whether or not a product can meet a desired shelf life duration.

SCALE UP YOUR TECHNOLOGY WITH CDR'S ABID GRANT PROGRAM

A new grant program at the Center for Dairy Research (CDR) is looking for entrepreneurs, scientists, and established companies with innovative technologies to convert dairy co-products, like permeate and acid whey, into higher value products like bioplastics, organic acids, and food ingredients. CDR's Accelerate Biotechnological Innovations in Dairy (ABID) grant program has the equipment, expertise and business development funding to help develop and scale up these innovative technologies utilizing dairy byproducts.

As part of the ABID grant program, CDR is providing access to its pilot plant for selected applicants and the development of the technologies to upcycle dairy byproducts.

CDR has installed a 400L bioreactor, which will play a key role in helping to develop and scale up the bio-fermentation technology necessary to convert dairy co-products into higher value green chemicals. The bioreactor features a stainless-steel, sterilize-in-place (SIP) design with advanced Allen Bradley® PLC automation to provide precise control over temperature, pH, aeration, and agitation—parameters essential for process reproducibility and scale-up. This system can help bridge bench-scale discovery and commercial production, supporting diverse applications such as, lactic acid bacteria fermentation and enzyme production, prebiotic and postbiotic synthesis from dairy substrates, biotransformation of lactose-rich waste into functional ingredients, and process optimization for food, nutraceutical, and biopolymer applications.

CDR has an experienced team of applications scientists that can provide specialized technical support in bioprocess design, microbial fermentation optimization, and scale-up modeling. Their expertise helps facilitate technology transfer, and ensure compliance with industry and regulatory standards. Additionally, collaborative training and educational programs strengthen workforce development and enhance technical proficiency in dairy-based bioprocessing.

To accelerate innovation and commercialization within the dairy and bioprocessing sectors, CDR provides strategic access to business development funding through the ABID grant program and associated state initiatives. These funding mechanisms are designed to bridge academic research and industrial application,

supporting early-stage technology validation, pilot-scale trials, and market translation.

CDR collaborates with startups (both national and international), processors, and academic institutions (both national and international) to de-risk innovation and expand the state's bioeconomy footprint. Through this program, qualifying entities gain:

- ★ **Funding support:** Competitive funding opportunities to offset research and development costs, enabling faster progression from concept to prototype.
- ★ **Collaborative partnerships:** Access to CDR's interdisciplinary expertise in purification of dairy waste streams, dairy co-product valorization, fermentation, purification, and applications in dairy products.
- ★ **Technical and regulatory guidance:** Support in process optimization, scale-up feasibility, and compliance with biosafety standards.
- ★ **Commercialization pathways:** Connections with industry partners, investors, and manufacturing networks to facilitate pilot-to-market transitions.

Learn more about this opportunity at <https://abid.wisc.edu/grant-programs/build-to-scale/> 🌟



CDR staff getting trained on the operation of the new bioreactor.

CDR'S JOHN JAEGLI HONORED WITH BABCOCK AWARD

John Jaeggi, coordinator of the Wisconsin Master Cheesemaker® Program and a member of the Senior Management Team at the Center for Dairy Research (CDR), has been awarded the Babcock Award by the Wisconsin Cheese Makers Association (WCMA).



The WCMA Babcock Award, named for Stephen Babcock, the famed agricultural chemist and University of Wisconsin professor, recognizes the contributions of those in education or affiliate organizations partnering with cheesemakers in the pursuit of dairy industry innovation and excellence. Jaeggi is being honored with the 2026 Babcock Award along with

Dr. Phillip S. Tong who is Professor Emeritus at Cal Poly State University and is currently a consultant for the food and dairy sector.

John is a third-generation Wisconsin licensed cheesemaker who began his cheesemaking career over 50 years ago with the family cheese business in Green County, Wisconsin.

He joined the CDR at the University of Wisconsin-Madison in 1991 as the Center's research cheesemaker and coordinated the Cheese Industry and Applications Group for over 30 years. Today, John coordinates the Wisconsin Master Cheesemaker® Program, which he was integral in launching in 1994.

LEARN TO JUDGE CHEESE: CDR OFFERING NEWLY UPDATED SHORT COURSE

The Center for Dairy Research (CDR) is helping dairy industry professionals take the next step to serve as judges at cheese contests. The CDR is offering a revamped Cheese Judging Short Course, taking place March 6 at Babcock Hall on the UW-Madison campus.

This hands-on course is designed to help attendees increase their confidence and focus their sensory and grading abilities to be an effective contest judge and understand the criteria against which cheeses are judged. Successful completion of the CDR Cheese Grading & Evaluation Workshop, and/or experience as a cheese grader or sensory evaluator, is recommended prior to taking this course.

John is actively involved with cheese manufacturers, assisting the industry with product development, troubleshooting, research activities, short course training, and cheese judging for many contests. He has experience in all natural and processed cheeses and has helped develop numerous contest grand champions.

He has been awarded the WCMA Aschebrock Award, the CALS Academic Staff Excellence in Research Award, the CALS Academic Staff Excellence in Service Award, and was honored by the International Cheese Guild. John has served as an expert judge 16 times for U.S. and World Championship Cheese Contests. In 2025, John was elevated to the role of "Red Hat" Assistant Chief Judge to WCMA's signature contests.

John will be recognized at the 2026 WCMA Recognition Awards at CheeseExpo, April 16 in Milwaukee, Wisconsin. Other CDR staff members who have earned the Babcock Award include Norm Olson, John Lucey, Mark Johnson, Dean Sommer, and Marianne Smukowski.

2026 WCMA Recognition Awards

Life Member Award: Doug Simon

Luminary Award: Greg Anderson and Linda Lee

Cheese Industry Champion Award: Daryl Larson and Phil & Mary Lindemann

Distinguished Service Award: Leo Bohanon and Craig Campbell

Vanguard Award: Richard Guggisberg and Tom Rouleau

Babcock Award: John Jaeggi and Dr. Phil Tong 🌟

The course includes an optional session on March 5 (the day before the course) at the Monona Terrace for an onsite experience at the 2026 World Championship Cheese Contest.

Course instructors include CDR Sensory Coordinator Brandon Prochaska, CDR cheese graders and judges, and industry partners. Going forward, the course is tentatively scheduled to be offered every other year. For registration and more details, visit <https://cdr.wisc.edu/new-cheese-judging>

The CDR Cheese Grading & Evaluation Short Course is also around the corner, taking place March 17-19 at Babcock Hall. This course includes lectures, demonstrations, and lots of hands-on activities with graders from the industry. For more information, visit <https://cdr.wisc.edu/new-cheese-grading>

FOOD SAFETY FOCUS ON RADIOLOGICAL HAZARDS

Technical Contributor: Alex O'Brien, CDR

There are three main buckets of hazards when it comes to food safety: chemical, physical and biological. Radiological hazards, a type of chemical hazard, were an addition to the Food Safety Modernization Act (FSMA) regulations in 2011. This small detail sometimes can feel like a “got you” during any audit/inspection of your food safety plan. As food processors, radiological hazards may not always be at the top of our minds. This may be because it doesn’t happen often, but, it is our duty as manufacturers to identify possible hazards in our process and to eliminate or reduce them to an acceptable level.

Radiological hazards in food recently came to the forefront with a “radioactive shrimp” recall in the U.S. (*more on this later*). This incident is a reminder that while radiological hazards are a rare occurrence, they certainly are not an impossibility.

So, what does guarding against radiological hazards look like in a food safety plan? If you look at the Food and Drug Administration (FDA) document, “Draft Guidance for Industry – Hazard Analysis and Risk Based Preventive Controls for Human Food,” (1) there aren’t any particular ingredients that are labeled as high risk for radiological hazards. It is also the general consensus of food safety experts that radiological hazards are not a routine hazard in the food supply.

Radiological hazards can happen when people are exposed to tiny radioactive materials called radionuclides. Radionuclides are types of atoms that are unstable, which means they slowly break down and give energy. This is called “radioactive decay.” (2) These radionuclides release high energy particles such as Alpha particles (α), Beta particles (β), Gamma rays (γ), and X-rays (see Diagram A). Radionuclides can be naturally occurring or man-made (typically nuclear reaction byproducts). Here is a list from the Environmental Protection Agency of some radionuclides:

- | | |
|---------------------|-----------------|
| ★ Americium-241 | ★ Radon |
| ★ Cesium-137 | ★ Strontium-90 |
| ★ Cobalt-60 | ★ Technetium-99 |
| ★ Iodine (131, 129) | ★ Thorium |
| ★ Plutonium | ★ Tritium |
| ★ Radium | ★ Uranium |

So, where does risk of exposure to radionuclides come from? There are two main instances where radiological hazards in foods can occur:

1. In areas after a nuclear plant accident where accidental radioactive release occurs through natural disaster or poor industrial practices.
2. Radionuclides hazards in contaminated water.

An example that encompasses all of the above risks is the Fukushima nuclear reactor incident.

On March 11, 2011, a magnitude 9.0 earthquake—one of the largest ever recorded—occurred 80 miles off the coast of Japan. The earthquake created a series of tsunamis, the largest estimated to be over 100 feet, that swept ashore. In addition to the tragic toll of dead, injured, and displaced people, the earthquake and tsunamis badly damaged the Fukushima Daiichi nuclear power plant, eventually causing four of the six reactors there to release radiation into the atmosphere and ocean (3).

The catastrophe of these reactors releasing radionuclides into the environment resulted in potential food supply chain contamination.

Nuclear reactor disasters, like the one that occurred in Fukushima, can cause a number of potential risks for the food supply, including:

1. Atmospheric deposition on crops and soil - The fallout can drift and land on soil. Plants, such as leafy vegetables, can uptake radiological contaminants.
2. Water contamination - The contaminants enter the water being used in food processing and water that fish live in. Biological magnification can happen when predatory fish eat contaminated prey.
3. Livestock exposure through feed and water - Cows consume a large amount of feed, leafy greens, and water. If the fallout of a nuclear disaster contaminates water and grass with radionuclides, the cow will consume these materials and lead to the contamination of her milk.
4. Radioactive materials contaminating raw material for other processes - Raw material for steel or other products that may be repurposed/processed/reprocessed and lead to more subsequent fallout (4).

Noted earlier, another unfortunate example of the potential risk for radiological contamination is the recent “radioactive shrimp” recall. The contaminated shrimp ➡

originated from a shipment from Indonesia that had been contaminated with the radioactive isotope Cesium-137 (a byproduct of nuclear fission). In this instance, the source of contamination wasn't from a nuclear power plant, it was from a nearby industrial factory that was smelting metal that likely contained cesium chloride.

According to an article in Food Safety Magazine (5), "It is likely that the cesium was incorporated into the firm's waste stream and then processed, releasing Cs-137 particles into the air, which may have spread to nearby shrimp packaging facility... located approximately two kilometers away." In addition, cloves from Indonesia were also contaminated with cs-137. The plant processing the cloves is in a different part of Indonesia than where the shrimp were processed and the source of contamination for the cloves hasn't yet been confirmed. However, Indonesian officials discovered that shipping containers were contaminated with cs-137.

In the U.S., well water can be another area of concern. Radionuclide contamination can occur through contamination of well water that contains radioactive isotopes or elements. Some areas in the U.S. have radioactive isotopes that naturally occur in the earth such as radium-226, radium-228, and uranium present in their untreated well water. There are various mitigation measures that are available, including reverse osmosis, ion exchange, lime softening, and alum treatment (6).

The Current Good Manufacturing Practices (CGMPs) require that water that contacts food, food contact surfaces, or food-packaging materials be safe and of adequate sanitary quality (see 21 CFR 117.37(a)). Verifying local testing from the city for any radionuclide contaminants is important to check at least once per year. Print the report and place it with your food safety plan and HACCP validation.

One helpful resource for monitoring air and drinking water for radiation is RadNet (epa.gov/radnet). It is a nationwide monitoring system run by the Environmental Protection Agency.

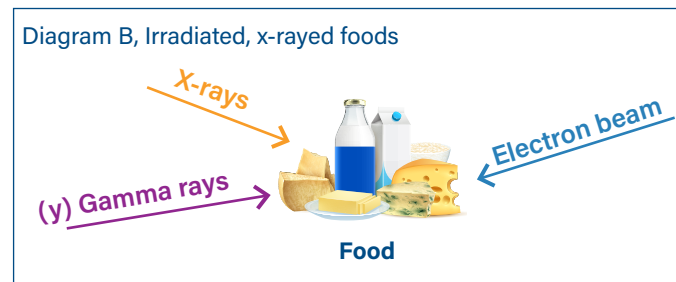
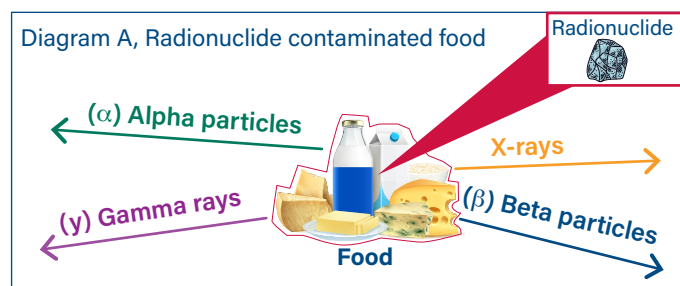
You should note in your hazard analysis that you evaluated the proximity of your location to nuclear power plants. This is especially important if your location is within a 50-mile radius of a nuclear power plant. There is an active radiological monitoring system at epa.gov/radnet. You can take a look at <https://enviro.epa.gov/envirofacts/radnet/search> to evaluate the nuclear power plant near you. Depending on the area, you can search the level of air contamination, water testing results, and sometimes milk testing results.

One other important point in this discussion is that food and food ingredients become contaminated when radionuclides or radioactive isotopes get into the food, not when exposed to radiation (See diagram A). Irradiation, or exposure to radiation, is used to reduce the risk of biological hazards in food and ingredients like spices and seasonings (see Diagram B). A radiological hazard is when the radioactive isotope is present in the food. So don't worry, irradiated spices or seasonings aren't a radiological hazard rather they are reducing the possibility of microbe contamination. The foreign material detector using X-rays is also not creating a radiological problem, but instead, it is helping you identify metal and other materials that are not supposed to be in your product. Key message: It's when **radionuclides** are present in the product that it becomes a radiological hazard. 🌟

Sources:

1. Food and Drug Administration. "Draft Guidance for Industry – Hazard Analysis and Risk Based Preventive Controls for Human Food." <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/draft-guidance-industry-hazard-analysis-and-risk-based-preventive-controls-human-food>
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DBIA AWARDS \$4.6M IN GRANTS TO MIDWEST DAIRY PROCESSORS

The Dairy Business Innovation Alliance (DBIA), a partnership between the Center for Dairy Research (CDR) and the Wisconsin Cheese Makers Association (WCMA), has selected 42 small and medium-sized dairy businesses across the Midwest to receive approximately \$4.6 million in grants through the Dairy Business Innovation Alliance (DBIA). Seven companies are receiving DBIA's Dairy Industry Impact grants, and 35 businesses have been awarded Dairy Business Builder grants. Overall, DBIA received 98 applications for over \$10 million in requested funds.

"These projects are a testament to the innovative spirit of the Midwest's dairy farmers and processors, and their dedication to pursue solutions that elevate not only their businesses, but the industry as a whole," said WCMA Executive Director John Umhoefer.

"This program continues to help dairy processors and farmsteads innovate and grow their businesses. These funds also help to improve their resilience and support important opportunities like exports and sustainability," said CDR Director John Lucey.



The Dairy Industry Impact grant program is targeted to help dairy businesses develop an idea or tackle a challenge with the potential to advance the dairy industry. In this offering, DBIA solicited projects related to exporting and sustainability. Seven companies have been selected and will receive a total of approximately \$600,000 in reimbursable grants.



**Dairy Business
Innovation Alliance**

The Dairy Industry Impact grant recipients are:

Burnett Dairy Cooperative of Grantsburg, WI
Cereal Byproducts Company of Mount Prospect, IL
Lamers Dairy of Appleton, WI
Moulin Rouge, LLC of Chippewa Falls, WI
Organic Valley – CROPP Cooperative of La Farge, WI
Redhead Creamery, LLC of Brooten, MN
Semifreddo LLC of Grand Rapids, MI

The Dairy Business Builder grant program is targeted at small-to-medium size farmers or processors that are diversifying on-farm activity, creating value-added products, enhancing dairy by-products, or creating or expanding export programs. In total, 35 dairy businesses will be receiving grants worth more than \$4 million.

The Dairy Business Builder grant recipients are:

Amazing Ice Cream LLC, DBA Third Coast Frozen Distillery of Port Washington, WI
Annie G's Dairy of Ann Arbor, MI
Baetje Farms of Bloomsdale, MO
Bekkum Family Farms LLC, DBA Nordic Creamery of Westby, WI
Bold Spoon Creamery of Park Hills, MO
Capriole, Inc. of Greenville, IN
Chocolate Shoppe Ice Cream Company, Inc. of Madison, WI
Crave Brothers Farmstead Cheese of Waterloo, WI
Fellwock Family Creamery of Monet, MO
Foremost Farms USA of Middleton, WI
Grison Creamery LLC of Ava, MO
H&H Creamery LLC of Bruce, SD
Harmony Cheese LLC of Edgar, WI
Henning Cheese of Kiel, WI
Hidden Springs Creamery LLC of Westby, WI
Holland's Family Cheese LLC of Thorp, WI
ICD Holdings LLC, DBA Clementine's Ice Cream of St. Louis, MO
JB's Barnyard of Evansville, IN
Lonely Loon LLC, DBA Superior Creamery of Grand Marais, MN
Mayer Farms Beef LLC of Slinger, WI
Moundview Dairy of Platteville, WI
Oxheart Farm LLC of Hager City, WI
Pine River Dairy of Manitowoc, WI
Prairie Ag Concepts, DBA Prairie Fruits Farm and Creamery of Champaign, IL
Rokeyroad Creamery LLC of Sabetha, Kansas
Seiler Dairy Creamery of Valley Center, KS
Shatto Farms, Inc. of Osborn, MO
Smith Brothers Creamery of McConnelsville, OH
Sweet Temptations of Spring Lake, MI ➡

Tulip Tree Creamery of Indianapolis, IN
Udder Buddies LLC of Lonsdale, MN
Uplands Cheese of Dodgeville, WI
Westby Cooperative Creamery of Westby, WI
Weyauwega Star Dairy, Inc. of Weyauwega, WI
Widmer's Cheese Cellars of Theresa, WI

DBIA's grant programs advance the organization's mission to support small and mid-size dairy processors across its 11-state service area of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin.

The DBIA is supported by funding from the U.S. Department of Agriculture and was created in the 2018 federal Farm Bill. Since then, DBIA has awarded over \$24 million across more than 296 grants to Midwestern dairy farms and businesses. The program also offers technical assistance to dairy farmers and processors in participating states. For more information, visit dbia.wisc.edu 🌻

DBIA Receives New Funding – On January 21, the U.S. Department of Agriculture announced an award of over \$11 million in new federal funding for the Dairy Business Innovation (DBI) Initiatives. DBIA is eligible to receive \$3.45 million to support product research and development, technical assistance, education, and direct grants to dairy farmers and businesses across Illinois, Iowa, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin.

“This funding recognizes the success of our work to help processors and farmers adapt, innovate, and grow in challenging times,” said WCMA Executive Director John Umhoefer. “Through DBIA, we’ve delivered more than \$24 million in grants to dairy businesses across the Midwest, and this new award allows us to continue supporting small and mid-sized processors as they strengthen markets for milk and build long-term resilience.”

Next DBIA Grant Cycle – The next round of DBIA Dairy Business Builder Grants opens Monday, February 23. Targeted at small-to-medium size farmers or processors, projects should diversify on-farm activity, create value-added products, or enhance dairy by-products or export programs. Awards of up to \$150,000 in reimbursable grants will be made. The application will close on Wednesday, April 22, and applicants will be notified in June. For more information, visit dbia.wisc.edu/ 🌻

ADSA 2026 ANNUAL MEETING COMING TO WISCONSIN

The American Dairy Scientist Association (ADSA) will be holding their annual scientific meeting June 21-24 at the Baird Center in Milwaukee, Wisconsin. The ADSA Annual Meeting is the main event for dairy science in the United States pairing the production and manufacturing side of the industry. This scientific conference explores the latest research, shares innovative practices, and advances dairy and food science technology. CDR's Research Group, led by Dr. Rani Govindasamy-Lucey and Dr. John Lucey's graduate students will be presenting current research on numerous milk, cheese, cultured products, and whey. Graduate students, not only from Wisconsin but from around the U.S., will be sharing updates on emerging research and industry-relevant innovations.



Through educational symposia, oral presentations, posters, applied scientific sessions, and social events the annual ADSA meeting brings together the broad and diverse dairy science community from dairy foods to production, including dairy industry professionals, researchers, academics, and students. This is an excellent opportunity for your companies to meet young scientists and potential future hires right here in Wisconsin.

For more information visit, <https://www.adsa.org/>. 🌻

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4. FoodSafety.Institute. *Fukushima Nuclear Disaster: Impact on Food Safety* (2011). <https://foodsafety.institute/food-toxicology-public-health/fukushima-nuclear-disaster-food-safety-impact/>

5. Food Safety Magazine. “Indonesian Officials Find Cause of Cs-137 Contamination Behind Radioactive Shrimp.” October 6, 2025, <https://www.food-safety.com/articles/10757-indonesian-officials-find-cause-of-cs-137-contamination-behind-radioactive-shrimp>

6. United States Environmental Protection Agency. *TENORM: Drinking Water Treatment Residuals*. <https://www.epa.gov/radiation/tenorm-drinking-water-treatment-residuals>

JOIN CDR AT CHEESE EXPO 2026

Join the Center for Dairy Research (CDR) and the Wisconsin Cheese Makers Association (WCMA) for CheeseExpo, taking place April 14-16 at the Baird Center in Milwaukee, Wisconsin.

CheeseExpo brings together over 4,000 leaders, suppliers, and professionals from across the cheese, butter, whey and cultured dairy products processing industry. It's the only event that combines in-depth educational sessions, high-value networking, exciting celebrations honoring industry excellence, and a massive exhibit floor showcasing the latest innovations.

Here is a look at the CDR technical sessions where staff will share expertise and research. For more information and registration visit cheeseexpo.org.

Wednesday, April 15

Cutting Edge Cheese Research, 9:15-11:15 AM

Gain insight into the current cheese research with scientists and graduate students at the Center for Dairy Research. You'll hear about proper eye development in Swiss made from concentrated milk, the use of waterless cookers, cheese made from A1 and A2 milk, and novel approaches to make expanded cheese snacks.

Moderator: Dean Sommer, Cheese Technologist, CDR

Speakers: Dr. Rani Govindasamy-Lucey, Research Professor, CDR

Dr. Rodrigo A. Ibáñez, Associate Scientist, CDR
Erin Levinson, Graduate Student, Research Assistant, University of Wisconsin-Madison
Jason Pronschinske, Graduate Student, Research Assistant, University of Wisconsin-Madison

Cutting Edge Food Safety: Environmental Monitoring & Pathogen Research, 9:15-11:15 AM

Innovation Center for US Dairy and the Center for Dairy Research feature industry experts on topics including:

- ★ Industry perspectives on Advanced Environmental Monitoring tools. Panelists will offer in-depth insights and answer questions on environmental monitoring using current approaches while adding in Whole Genome Sequencing, Metagenomics, and other advanced tools as warranted. This session will review today's cutting-edge tools and offer suggestions on when to leverage which for efficient and highly-actionable results.

- ★ The Innovation Center and CDR will review resources available to help train employees on food safety.

- ★ Research updates from leading dairy food safety researchers. Kristin Shill will share recent Listeria research at the UW Food Research Institute and Tu-Anh Huynh will share her work on dairy microbiomes, including cheese boards, as a source of natural antimicrobial solutions against Listeria monocytogenes.

Moderator: Tim Stubbs, Senior Vice President, Product Research & Food Safety, Innovation Center for U.S. Dairy

Speakers: Dan Belina, Director of Product Safety & Regulatory Affairs, Land O'Lakes Inc.
Karen McCarty, Senior Director of Commercial Quality Assurance, Agropur
Alex O'Brien, Food Safety Coordinator, CDR
Dr. Tu-Anh Huynh, Assistant Professor, University of Wisconsin-Madison
Dr. Kristin Schill, Assistant Research Professor, Food Research Institute, University of Wisconsin-Madison

Thursday, April 16

Navigating the New Milk: Milk Components & Profitability Through the Supply Chain, 9:45-11:45 AM

Breakthrough advances in dairy cow breeding, genomic testing, gender selection and feeding have coincided with unrepresented consumer interest in natural butterfat and dairy protein. Rising production of protein and butterfat in fresh cow's milk offers unlimited possibilities but also new challenges for cheesemakers – both in cheese quality and profitability. Navigating the New Milk offers a deep dive into changes in dairy farm and dairy cow management, the impact of beef genetics on rising dairy components, the global landscape for protein and butterfat, and tools cheesemakers can use to navigate cheese yield, cheese quality and product pricing. Dairy Management Inc. (DMI) caps the discussion with a description of its funded Health & Wellness science, innovation and marketing plans, emphasizing protein and other dairy nutrients needed in consumer diets. ➡

Moderator: John Umhoefer, Executive Director, Wisconsin Cheese Makers Association

Speakers: Leonard Polzin, Dairy Markets and Policy Outreach Specialist, University of Wisconsin
Eric Meyer, President, HighGround Dairy
Mike Brown, Vice President of Market Intelligence, T.C. Jacoby & Company
Dr. Rani Govindasamy-Lucey, Research Professor, CDR
Paul Ziemnisky, Executive Vice President, Wellness, Innovation & Business Development, Dairy Management Inc.

High Protein Yogurts and Beverages, 9:45-11:45 AM

Learn more about high protein dairy beverages and yogurt. Scientists and graduate students at the Center for Dairy Research will review key challenges and research taking place in this area. You'll hear about stability challenges in shelf-stable or ESL (extended shelf life) beverages, recent work on sedimentation in these types of beverages, and learn about the impact of dairy ingredients on high protein yogurts as well as differences in attributes such as graininess and astringency in these products.

Moderator: Tom Guerin, Assistant Director, CDR

Speakers: Dr. Daniel Wilbanks, PhD Food Scientist, CDR
Dr. John Lucey, Professor and Center Director, CDR
Julianna Lopez, Graduate Student, Research Assistant, University of Wisconsin-Madison 🌻



CDR WELCOMES NEW STAFF

Tanya Carney, DBIA Program Coordinator

Tanya has more than 10 years of experience working on government-funded projects in management, research, and communications roles. After spending the beginning of her career advancing farmer-focused food security initiatives in West Africa, Tanya shifted towards supporting farmers in her home state of Wisconsin—something she is excited to continue doing through her role at CDR. As DBIA Program Coordinator, Tanya administers grant programs and coordinates technical assistance and support for dairy farmers and processors across the Midwest.



Sonali Mohapatra, Client Based Researcher-II

Sonali has a PhD from Biju Patnaik University of Technology (India) in biotechnology (fermentation technology-specialization). Previously, Sonali was a post-doctoral researcher at UW-Madison where she researched dairy waste utilization for production of functional food ingredients. At CDR, Sonali works with dairy and food industry clients to design and execute customized R&D projects in dairy waste stream management, yogurt, cheese, and functional dairy ingredient innovation. She conducts bench-, pilot-, and industrial-scale fermentation trials, including bioreactor operations up to 400L for optimizing probiotic growth, metabolite production, and process reproducibility. Being a part of CDR aligns with Sonali's passion for advancing the future of dairy innovation, building sustainable processes, and helping the industry remain competitive in global markets, all while delivering healthier and more functional products to consumers. 🌻



Upcoming CDR Trainings

The Center for Dairy Research is here to help with dairy processing training. Below is a listing of upcoming CDR short courses and other training opportunities.

Cheese Judging – March 6

Cheesemaking Fundamentals – March 10-11 (**Full**)

Certificate in Dairy Processing (online, live) – March 16-June 8

Cheese Grading & Evaluation – March 17-19

Cheesemaking Fundamentals – April 7-8 (**Full**)

PCQI Training Course – April 28-30 (In Manitowoc, WI)

Advanced Cheesemaking: American Varieties – May 5-7

Cultured Dairy Products – May 12-14

Buttermakers Apprenticeship Workshop – June 8-12

For the latest information or to register visit | cdr.wisc.edu/education

Registration for Fall 2026 courses will open on July 16, 2026



DAIRY PIPELINE

Center for Dairy Research
1605 Linden Drive
Madison, WI 53706
www.cdr.wisc.edu

608-262-5970

Editor: *Shelby Anderson* | sanderson@cdr.wisc.edu | 608-692-7125
We welcome your questions and comments.

Technical Reviewers: *Dennis D'Amico (University of Connecticut), Alex O'Brien, Brandon Prochaska, and Dean Sommer.*

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