

Northern Crops Institute

# 2023 ANNUAL UPDATE



North  
Connect

The Northern Crops Institute supports regional agriculture and value-added processing by conducting educational and technical programs that expand and maintain domestic and international markets for northern-grown crops.





LEADERSHIP

# DIRECTOR'S REPORT



**Mark Jirik**  
Director

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The theme at NCI is one of change this year. Winston Churchill summed it up best, "To improve is to change; to be perfect is to change often." And while we are still far from perfect, in 2024, NCI will be going through many transformative changes in the coming year.

First and foremost is the move to the Peltier Complex. After forty years at the NCI building on Bolley Drive, NCI will be moving to our new home at the Peltier Complex. The building will transform what NCI is capable of in both our technical services and programing. The Peltier Complex will bring together NCI, NDSU's food, meat science, and bioprocessing labs, in addition to the North Dakota Trade Office and USDA food labs. NCI will have three times as much dedicated space, and an additional three times as much shared space.

Second is the renovations to the Feed Center. The NCI Feed Center was constructed in 1990, and at the time, utilized some used equipment. Thanks to North Dakota Legislature, the NCI Feed Center will be getting a \$3.9 renovation including replacing the almost seventy-year-old pelletizer and rusting bins, in addition to new learning spaces and warehouse space.

NCI is also transitioning through a leadership change as I announced to the Northern Crops Council on December 8, 2023 that I would be stepping down once interim leadership could be in place. It has been humbling to see what the team at NCI has accomplished in the six years I've served as director. In 2018, NCI hosted 8 programs with 191 participants. In 2023, NCI hosted 24 programs, 9 events or conferences, and 61 webinars, and reached almost 3,500 people from 72 countries.

During my time at NCI, I've been fortunate to work with a visionary Northern Crops Council that laid out a strategy to take us to the next level, staff members with the talent and skill to get us there, and partner organizations that were willing to support us on that journey.

As I transition to my next stage, I can safely say, the best years of NCI lay in front of it.

-Mark Jirik, Director

# NCC CHAIR'S REPORT



**Tim Dufault**  
NCC Chair

As a longtime supporter of the Northern Crops Institute, I'm honored to begin my term serving as the chair of the Northern Crops Council (NCC), and what an exciting time it is indeed to be stepping into this role.

Prior to my appointment as chair of the NCC, I served as a member of this board representing the Minnesota Wheat Research and Promotion Council. I also farm in the Crookston, MN, area.

The most exciting milestone I look forward to in the upcoming year is the move to the new Peltier Complex. Excitement has been on the rise and is growing exponentially as we get closer to the greatly-anticipated new building. The grand opening and ribbon-cutting ceremony is scheduled for June of 2024. The level of support the Peltier Complex has

received from this region has been astounding. The state-of-the-art building will be a place to research, educate, and showcase all the crops grown in the four state region.

Finally, I'd like to thank all the members of the Northern Crops Council for their help, input, and leadership. A thank you also goes out to all of our friends and supporters in Minnesota, Montana, North Dakota and South Dakota. It is the continued collaboration and teamwork that will successfully guide the Northern Crops Institute into this next chapter.

-Tim Dufault, NCC Chair



**EDUCATION IS THE MOST POWERFUL WEAPON WE CAN USE TO CHANGE THE WORLD.**

- Nelson Mandela

# 2023 NORTHERN CROPS COUNCIL (NCC)

The Northern Crops Council is the governing body for the Northern Crops Institute. They dedicate their time and talent to making sure NCI is focused on our mission and properly utilizing the time and resources of the institute. It's members consist of:

- Tim Dufault, Chair** | MN Wheat Research & Promotion Council
- Matt Swenson, Vice Chair** | ND Oilseed Council
- Terry Angvick** | MT Wheat & Barley Committee
- Milo Braaten** | ND Soybean Council
- Kris Folland** | MN Soybean Research & Promotion Council
- Doug Goehring** | ND Department of Agriculture
- Kevin Haas** | Northern Pulse Growers Association
- Jiwon Kim** | ND Trade Office
- Aaron Kjelland** | ND Wheat Commission
- Scott Huso** | Alternate to ND Wheat Commission
- Greg Lardy** | North Dakota State University
- Peter Matthaei** | Dakota MB
- Mike McCranie** | SD Soybean Research & Promotion Council
- Tony Schneider** | ND Barley Council
- John Swanson** | MN Corn Research & Promotion Council
- Vance Taylor** | North Dakota Mill
- William (Bill) Wagner** | ND Corn Council
- Chris Wiegert** | Healthy Food Ingredients



## NCI THANKS OUTGOING NCC MEMBER FOR YEARS OF SERVICE

**TREGG CRONIN**

Tregg Cronin of Gettysburg, SD, represented the SD Wheat Commission.



**WARREN BENNIS**

"Leadership is the capacity to translate vision into reality."

ON-DEMAND COURSES

# ON-DEMAND COURSES



The NCI has continued to provide a variety of on-demand courses for both domestic and international participants. These on-demand courses are self-paced to allow learners the ease and flexibility of learning based around their own availability. They are delivered through our user-friendly learning management system, Brightspace, and offer a convenient and cost-effective way for professionals to gain new skills and experiences to advance their career in agricultural markets and beyond.



### HIGH OLEIC SOYFOODS

On-Demand Course

This course introduces participants to high oleic soybeans and their use in soyfood products. Topics covered in this course delve into the differences between conventional soybeans and high oleic soybeans as well as the impact that using high oleic soybeans has on the processing and final product quality of food.

There are also lectures that discuss the breeding and availability of high oleic soybeans, the many foods that utilize soybeans, and the nutritional quality of soybeans in human health.

Registration fee: \$250  
Register online at <https://courses.northern-crops.com/>

EDUCATIONAL COURSES

# EDUCATIONAL COURSES



The NCI programs staff was busy in 2023 offering an expanded array of programs in traditional and new formats. NCI continued to host a record number of our popular in-person courses while continuing to offer courses online. We've learned that our course participants want both virtual and in-person options, and that each type of course serves a different audience. Our 2023 courses included:



### PASTA PRODUCTION AND TECHNOLOGY (IN-PLANT COURSE)

March 22-23, 2023

This course kicked off the NCI's 2023 course list with some travel for the program team and course presenters. Pasta Production and Technology is one of NCI's longest running and most popular short courses. This particular session was held by request. It was arranged by NCI and took place on-location at another facility. This course was conducted externally with 10 domestic participants.

## ON-DEMAND AVAILABLE COURSES

- 1** **BARLEY TO BEER**  
Registration fee: \$100
- 2** **FEED MILLING 101**  
Registration fee: \$250
- 3** **HIGH OLEIC SOYFOODS**  
Registration fee: \$250

- 4** **SOURDOUGH BAKING COURSE**  
Registration fee: \$250
- 5** **STONE MILLING BASICS**  
Registration fee: \$250



### SOY IN HUMAN FOODS

March 28-30, 2023

This course was requested by USSEC with a goal to grow interest in soy in a number of key human food areas, such as traditional foods, beverages, TVP, and innovative food opportunities. The participants included food manufacturers, other food industry professionals, and government officials from central and South American countries. This course was conducted in-person at the NCI facilities with 23 participants from the United States, Mexico, Columbia, El Salvador, Guatemala, Peru, and Honduras

## EDUCATIONAL COURSES



### PASTA PRODUCTION AND TECHNOLOGY April 25-27, 2023

This course introduced participants to the fundamental and applied aspects of pasta production and quality through lectures and laboratory demonstrations. Grain and ingredient quality, specifications and processing variables and their impact on final pasta product quality are presented in detail. The primary focus was traditional dry durum-based pasta; however, non-traditional ingredients and fresh pasta were also covered through lectures and demonstrations. This course was conducted in-person at the Northern Crops Institute with 33 participants from the United States, Mexico, and Canada.



### FRESH, REFRIGERATED, AND FROZEN PASTA TECHNOLOGY (COMPANION COURSE) June 30, 2023

This course introduced participants to the fundamental and applied aspects of fresh, refrigerated (chilled), and frozen pasta production and quality through lectures and laboratory demonstrations. It was held as a companion course to the Pasta Production and Technology course held in the three days prior. This course was conducted as a hybrid at the NCI facilities and online with 6 participants in-person and 1 participant online from the United States and Mexico.



### FOOD GRADE SOYBEAN PROCUREMENT June 19-23, 2023

This course focused on the many aspects of sourcing and purchasing high quality, identity preserved (IP) soybeans for food products, such as tofu, soymilk, miso, natto, tempeh, high protein beverages, desserts and many others. Training was provided on the important steps in the origination and contracting process. The participants had the opportunity to visit family farms to see food grade soybeans growing in the fields, as well as tour processing and packaging facilities. This course was conducted in-person at the NCI facilities with 5 participants from the United States, Mexico, and Canada.



### CONTRACTING FOR WHEAT VALUE July 19-21, 2023

This course was requested by U.S. Wheat Associates for the Southeast Asia market. Lectures covered topics such as U.S. wheat marketing strategies and procedures, inland logistics, global supply and demand, and flour mill management optimization techniques. Participants were also involved in several hands-on lab demonstrations and tours to a local grain elevator and farm. This course was conducted in-person at the NCI facilities with 6 participants from the United States, Thailand, the Philippines, and Vietnam.



### PASTA PRODUCTION AND TECHNOLOGY June 26-29

This course was added to the course list following the high demand of the earlier Pasta Production and Technology course held in April. The objectives and content followed a similar structure as well. New to this course was the option for participants to return for an additional day of learning at the companion course Fresh, Refrigerated, and Frozen Pasta Technology. This round of the Pasta course was also conducted in-person at the NCI facilities with 17 participants from the United States and Mexico.



### BOARD LEADERSHIP TRAINING (CLOSED COURSE) August 2, 2023

This course was a closed course to provide leadership training for an organization governed by a board of directors. Topics included the basics of parliamentary procedure, proper media etiquette, and other valuable information for both the governing body as well as staff members. This course was specially requested and conducted in-person at the NCI facility with 23 participants from the North Dakota Corn Utilization Council and North Dakota Corn Growers Association.

## EDUCATIONAL COURSES



### INTSOY August 7-11, 2023

This course provided an overview of many aspects of the soy industry. Participants explored new ideas for soy-based foods and snack foods, soy as a supplement to fortify foods, soy as animal nutrition, and an overview of soy production in the U.S. The course took place in Minnesota, North Dakota and South Dakota, with lectures from industry experts, farm visits and plant tours. This course was conducted in-person across the region with 23 participants from the United States, Ghana, Nigeria, Kazakhstan, Cambodia, Myanmar, Sri Lanka, Guatemala, Dominican Republic, and France.



### GRAIN PROCUREMENT MANAGEMENT FOR IMPORTERS September 11-20, 2023

This course focused on the mechanics of grain merchandising, and it was designed to educate individuals who are responsible for purchasing grain. It was led by NDSU distinguished professor of Agribusiness and Applied Economics, Bill Wilson, Ph.D. This course was conducted in-person at the NCI facilities and the NDSU Commodity Trading Room with 32 participants from the United States, Spain, Portugal, China, Nigeria, Tanzania, Kenya, United Kingdom, Mauritania, South Africa, Thailand, Philippines, Indonesia, Oman, Algeria, Saudi Arabia, Saint Vincent, Trinidad & Tabago, and Japan.



### PASTA PRODUCTION FROM MULTIPLE U.S. WHEAT CLASSES | August 21-25, 2023

This course focused on the use of a variety of wheats in pasta production beyond the typical durum wheat for semolina flour. The agenda contained a mix of lectures, lab demonstrations, and tours. Some of the lab demonstrations included a semolina quality test and hands-on pilot scale processing. Both of these demos were conducted on-site in NCI's analytical lab and pasta lab. This course was conducted in-person at the NCI facilities with 6 participants from the United States, Mozambique, Nigeria, South Africa, Egypt, Morocco, Honduras, Venezuela, Dominican Republic, Mexico, and Chile.



### CONTRACTING FOR WHEAT VALUE October 2-6, 2023

This course was requested by the U.S. Wheat Associates for a second round in 2023. Similar to the Contracting for Wheat Value course held in July, participants were involved in several interactive lab demonstrations, hands-on baking, and tours of a local grain elevator and farm. Lectures covered topics such as risk management, global supply and demand, U.S. hard red spring wheat market outlook, and flour mill management optimization. This course was conducted in-person at the NCI facilities with 4 participants from the United States, South Africa, and Morocco.



### CORN AND DDGS PROCUREMENT August 28-September 1, 2023

This course focused on Dried Distillers Grains with Solubles, or DDGS, which are the most significant coproduct from ethanol production, in both size and value. Academic and industry authorities guided participants through the full complexity of the international DDGS markets. An overview of the U.S. DDGS handling and marketing system was discussed. This course was conducted in-person in the Twin Cities, Minnesota area as well as on the campus of NDSU in Fargo, North Dakota, with 18 participants from the United States, Taiwan, Vietnam, Tunisia, Turkey, and Saudi Arabia.



### GRAIN INDUSTRY EMERGING LEADER PROGRAM: LEADERSHIP VS MANAGEMENT December 5-7, 2023

This course covered and compared management vs. leadership strategies as they apply to grain elevator management. Participants learned how to understand financial statements and how they interact to evaluate business performance. Participants also learned the fundamental components regarding human resources and several team management strategies and methods. This course was conducted in-person at the NCI facilities with 10 domestic participants.

## EDUCATIONAL COURSES



### ONLINE COURSES

#### HEALTHY SOLUTIONS FOR FOOD BARLEY USES

January 30-February 9, 2023  
25 participants

#### ETHANOL PROCUREMENT FOR TRADERS

May 22-June 9, 2023  
6 participants

#### PRODUCING QUALITY FEED THROUGH EFFECTIVE COMMUNICATION

June 19-29, 2023  
13 participants

#### FEEDING SOY MEAL AND NON-GRAIN FEED INGREDIENTS

November 6-16, 2023  
7 participants



#### NIOP OILS UNIVERSITY

October 25-26, 2023

The National Institute of Oilseed Products (NIOP) approached the NCI in 2022 about establishing a professional development course titled "Oils University." The course was designed as an advanced learning opportunity for mid-level employees, complementing NIOP's Oils 101 course for entry-level professionals. The first session of this new course was held in Dallas, Texas.

NCI provided the curriculum, learning materials, and presenters. NIOP provided the participants and five industry experts as mentors.

NCI's Mark Jirik and Neil Doty provided presentations, and Casey Peterson coordinated the event. Over 30 mid-level

professionals from the oilseed industry participated in the two-day short course. Dr. Doty covered oil chemistry and common uses. Mr. Jirik spoke about economics, trading rules, shipping logistics, biofuels, and other topics.

The course was a success, and NIOP has already contracted to repeat the course in 2024. It introduced NCI to a new set of industry professionals and will provide a solid path to develop strong relations with the users of oilseeds grown in our region.



### BY THE NUMBERS

The Northern Crops Institute hosted a total of 15 in-person courses and 4 online courses in 2023.

# 2024 COURSE SCHEDULE

\* Subject to change

- |   |   |
|---|---|
| <b>1</b> HEALTHY SOLUTIONS FOR FOOD BARLEY USES (ONLINE)<br>January 15-26               | <b>13</b> BIOFUELS INDUSTRY TOUR<br>July 23-24  |
| <b>2</b> STONE MILLING: A HANDS-ON EXPERIENCE<br>February 20-23                         | <b>14</b> BIOFUELS INDUSTRY TOUR<br>July 23-24  |
| <b>3</b> QUALITY FEED PELLET PRODUCTION (ONLINE)<br>February 26-March 8                 | <b>15</b> FEED MANUFACTURING AND HANDLING FOR GRADUATE STUDENTS<br>July 24-25           |
| <b>4</b> PRODUCING QUALITY FEED THROUGH EFFECTIVE COMMUNICATION (ONLINE)<br>March 18-29 | <b>16</b> PASTA FROM MULTIPLE U.S. WHEAT CLASSES<br>July 29-August 2                    |
| <b>5</b> PASTA PRODUCTION AND TECHNOLOGY<br>April 23-25                                 | <b>17</b> CONTRACTING FOR WHEAT VALUE<br>August 7-9                                     |
| <b>6</b> FRESH, REFRIGERATED, AND FROZEN PASTA<br>April 26                              | <b>18</b> INTSOY<br>August 12-16  |
| <b>7</b> EAA IN NORTHERN GROWN SOY<br>May 6-10  | <b>19</b> DDGS USE AND PROCUREMENT<br>August 26-30                                      |
| <b>8</b> SOYBEAN AND SOYBEAN MEAL PROCUREMENT AND RISK MANAGEMENT<br>May 13-21          | <b>20</b> NEXT 5 YEARS EXECUTIVE CONFERENCE<br>September 5                              |
| <b>9</b> SUMMER AG ACADEMY<br>June 10-14  | <b>21</b> GRAIN PROCUREMENT<br>September 9-18   |
| <b>10</b> TRENDS IN MILLING AND BAKING (ONLINE)<br>June 10-21                           | <b>22</b> WHEAT-BASED SNACK FOODS<br>October 7-11                                       |
| <b>11</b> STONE MILLING: A HANDS-ON EXPERIENCE<br>June 18-21                            | <b>23</b> NIOP OILS UNIVERSITY<br>October 23-24   |
| <b>12</b> ANCIENT GRAINS CONFERENCE<br>JUNE 25  | <b>24</b> FUTURE OF FEEDING SOYBEAN MEAL AND NON-GRAIN FEED INGREDIENTS<br>November 4-8 |



## WEBINARS

# WEBINARS



NCI webinars have proven to be a powerful tool in developing markets, connecting people, and sharing ideas to grow markets for crops grown in the region. The webinars have allowed us to reach audiences and share messages that we would not be able to during an in-person course. It eliminates the need for travel, and allows us to plant seeds of innovation in the region and globally.

This past year, NCI hosted a total of 61 webinars under the following series names: The NCI Market Update, Market Update Special Edition, Future of Feeding, Cereal Innovators, and Everything Ethanol.

One of our most watched webinars featured presenter Dr. Senay Simsek, which also corresponded to the Wheat Quality Handbook she had written in conjunction with NCI. This Cereal Innovators webinar aired live on February 8, 2023.

In total, 3,437 participants from 64 countries worldwide participated in one of NCI's webinars or watched its recording. These statistics show why the NCI truly thrives at Connecting in the Global Marketplace.



## HANDBOOKS

# HANDBOOKS



The NCI published three handbooks this past year. *Wheat Quality*, *Your Kitchen to Consumer Workbook*, and *Stone Milling* were all exciting releases in 2023. The *Wheat Quality Handbook* gives a deep dive into the wheat structure and how and why it differs for various wheat classes. *Your Kitchen to Consumer Workbook* was

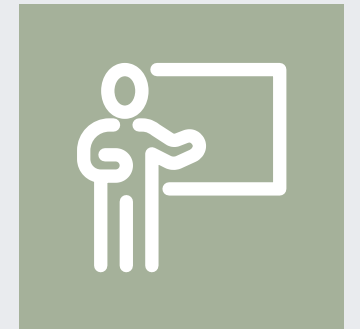
designed to provide an outline to assist entrepreneurs in developing their new food product idea. The *Stone Milling Handbook* gives readers an overview of the stone milling process and the different ways it can be utilized.

Each of these handbooks were written by renowned authors in these topics and are well worth the read. They are available for purchase through the NCI website.



## CONFERENCES

# CONFERENCES



In 2023, the NCI successfully hosted both its Ancient Grains Conference and Next 5 Years Executive Conference for the second year in a row. The continued positive feedback has proven that the conference realm will remain a prevalent component in NCI's future. By popular demand, both of these courses plan to be repeated again in 2024. These events are made possible by combined efforts of NCI's program, technical, and marketing teams.

## THE NCI'S ANCIENT GRAINS CONFERENCE BECOMES A BACK-TO-BACK HIT THIS YEAR



The NCI hosted its second Ancient Grains Conference on July 25th, 2023, at the Oliver Kelley Farm in Elk River, MN. The purpose of the conference was to explore and educate the attendees on the benefits of consuming Ancient Grains foods while also showing them the numerous potential uses for these types of grains.

The morning keynote presentation was kicked off by returning presenter Shrene White of Ardent Mills on the state of the ancient grains movement. Next was a discussion on economics regarding ancient grains by Glenn Roberts of Anson Mills. Then, while attendees enjoyed a lunch packed with ancient grains, Dana Thompson of the Sioux Chef spoke on indigenous connection to ancient grains.

Throughout the day, there were breakout session opportunities for attendees to choose to participate in live, hands-on demonstrations. These included the baking demonstration, agronomy demonstration, and stone milling demonstration. Lastly, the 2023 Ancient Grains Conference featured an Ancient Grains Panel with topics such as FDA guidelines, nutrition, and processing, as well as a discussion on growing the grain value chain in the midwest.

## THE NCI'S NEXT 5 YEARS CONFERENCE DRIVES IN RECORD-BREAKING ATTENDANCE

The NCI hosted its second Next 5 Years Executive Conference on September 11, 2023, at the Armory Event Center in Moorhead, MN. The conference was greatly attended in person as well as having a live virtual option for the online audience.

The Next 5 Years Executive Conference gave attendees the chance to begin planning for the possibilities of the coming years through the lenses of geopolitics, sustainability policy, livestock development, and biofuel transitions.

NCI welcomed back presenter Jacob Shapiro to kick off the day. And new-to-the-lineup included Megan Rock of CHS, Ty Eschenbaum of A1 Development Solutions, and Larry Lemaster of Elevar Partners. The day concluded with an interactive farmer panel with growers from throughout this northern region.



# CONNECTING IN THE GLOBAL MARKETPLACE

# 3,440

**PARTICIPANTS**

attended or watched the recording of an educational course, webinar, or event hosted by the NCI in 2023.

# 72

**COUNTRIES**

were represented by virtual or in-person participants in these NCI happenings.

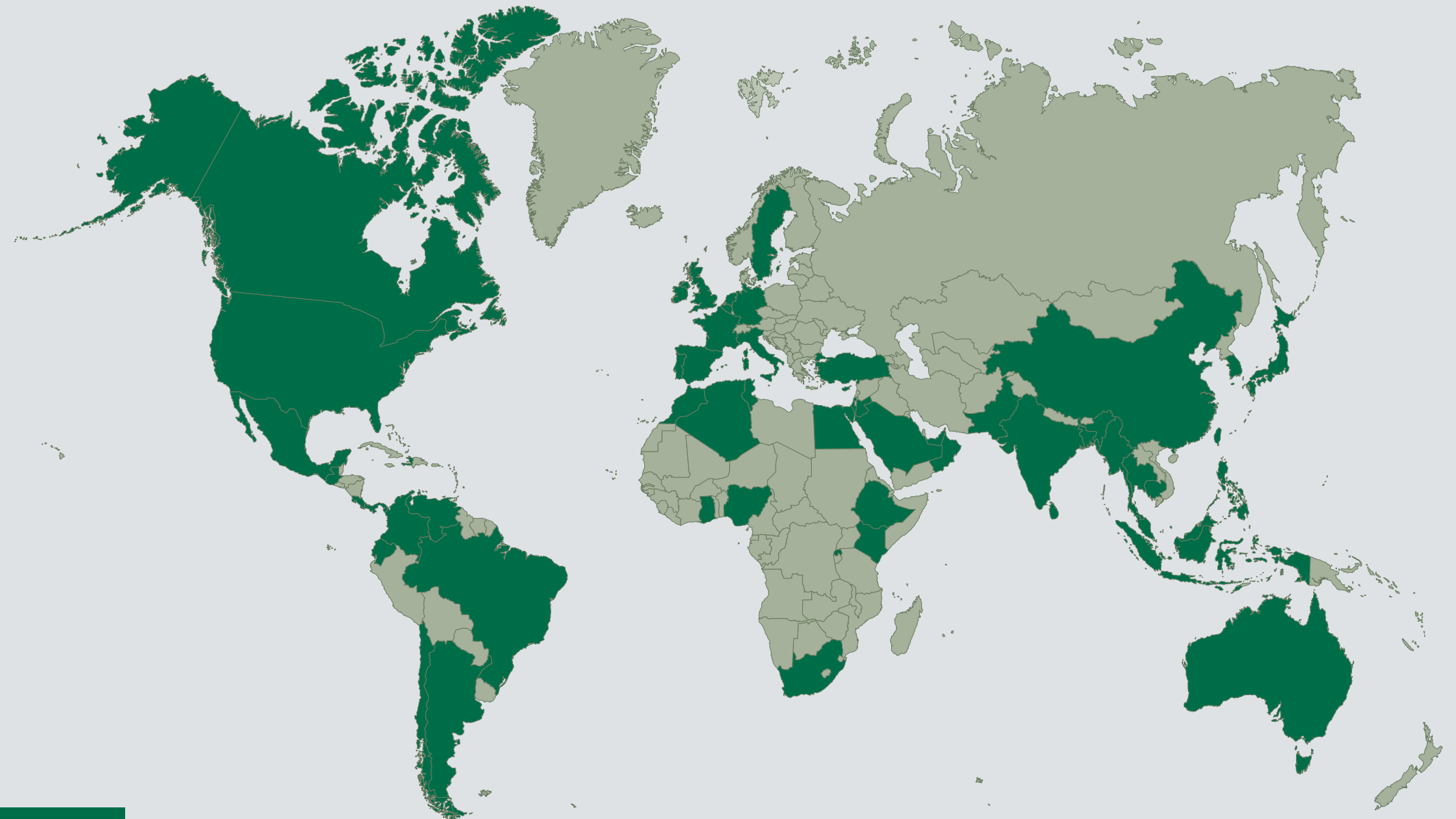
The Northern Crops Institute is an international meeting and learning center that unites customers, commodity traders, technical experts, and professors for discussion and education.

The Northern Crops Institute is a globally recognized facility. Throughout this past year, we had the privilege of educating a total of 3,440 total participants from 72 different countries through our live or recorded courses, webinars, and events. It is through these avenues that we work to expand and maintain domestic and international markets for northern-grown crops.

During this year's courses, webinars, and events, participants had the opportunity to virtually tour farms and facilities, engage in virtual demonstrations, attend a variety

of lectures from university professors and technical experts in the industry, and much more.

At the Northern Crops Institute, we believe that crops grown in the northern-tier of the U.S. are valued by perceptive worldwide customers and will stand the test of quality against competitors. We also believe that adapting to new trends and technologies is necessary to remaining vital to the agricultural industry. This year's record participation showed us that we can persevere through anything, and allowed us to truly connect in the global marketplace.



■ NCI's global reach in 2023 denoted by the countries participants were from.

## QUOTE COURSE PARTICIPANT

“Well, actually from my opinion, the most important thing is the interaction with other people from [the] same industry and different countries...[W]e get a lot of information from people; they are introducing new topics and so on.”

-Ahmed El Sabaie, Egyptian Swiss Group  
Pasta From Multiple U.S. Wheat Classes course participant



### DID YOU KNOW?

The Northern Crops Institute hosted a total of 61 webinars in 2023.

# EVENTFUL YEAR FOR NCI TECH TEAM

The NCI Tech Team continued to meet the mission of the NCI by promoting utilization of the region's ag commodities through product development and testing. While there is a wide range of established cereal grains, oilseeds, and pulse crops for the team to focus on, we also found ourselves on the "development" side of new and expanding crops as well. This is a constant reminder of the ag diversity, creativity, and entrepreneurial spirit in this region. It also showcases the adaptability and knowledge of the tech team!



It is becoming more apparent that food and ingredient companies, university researchers, and regional stakeholders are learning about NCI tech services as 2023 brought many new clients. It's awesome to get referrals, but we still feel there is more we can do to promote our capabilities, even inside the region. The number of lab tours we gave in 2023 does indicate the increased interest in what we do, and our best opportunity to get the word out.

Pasta production, soyfoods, and oil extraction continue to offer consistent projects. It is also important to note that we continuously apply for grant funds for product development in

ways to showcase new products and processing techniques for our commodities. In fact, in the last 2 fiscal years, 50-55% of the tech service revenue was from product development grants.

In late 2022, the NCI hired Dr. Amrita Ray, Milling Specialist, for dedicated stone milling efforts. This has led to various outcomes to support cereal grains and ancient grains. Dr. Ray spent her time developing methods on milling a wide variety of these grains and subsequent product development in the bake lab. These efforts culminated with an NCI handbook on stone milling, created content for an on-demand program, two hands-on short courses, and a webinar.



Our NCI Feed Production Center is also increasing with client services and grant projects. This facility is an incredible resource for promoting utilization of our feed grains and Feedmill Manager Shane Mueller's energy and experience with the commercial livestock feed industry will continue to add value to the region.



We are very fortunate to have received support for the building expansion efforts that will kick off in 2024.

Early 2023 was filled with planning meetings for the Peltier Complex. There were numerous discussions on room design, equipment utility needs, and insuring rooms are ready for possible equipment in the future. A special appreciation to Neil Doty for his efforts, and to the Chris Hamre and Brent DeKrey with NDSU Facilities Management for closely involving NCI in this process. The rest of the year was really quiet for our involvement as the building took shape. That is quickly changing as we now begin with the details on the move to our new labs.

So whether working with private companies, new entrepreneurs, supporting livestock feed industry and NCI short-course programs, the NCI is very pleased to report the team's dedication in 2023 to help "grow international and domestic markets for regional commodities," and we certainly look forward to the opportunities in 2024.

# NCI COMMUNICATIONS TEAM PARTNERS WITH WISHH ON SOYBEAN "BOOK BOX" REFRESH

In 2023, the NCI, along with longtime collaborator WISHH (World Initiative for Soy in Human Health), refreshed an old design of the soybean "book box" titled *Soy Good!*

This box is an educational tool to provide international buyers with a hands-on visual example of U.S. soy-based samples. The inside of the box holds a set of nested vials containing five samples: Whole Soybeans, Defatted Soy Flour (DSF), Texturized Soy Protein (TSP), Soy Protein Concentrate, and Soy Protein Isolate.

Each sample notes information regarding uses, manufacturing processes, protein content, and calories per 100 grams.

The inside of the book box is pictured in the bottom left. The vials of samples were provided by WISHH and assembled in the box by NCI. This was a great collaboration project made possible by both parties working together.

The inside of the book box also contains a soy pyramid graphic designed by NCI (pictured bottom right). The graphic depicts the value



of soy through its many uses and will be utilized in future design projects by WISHH.

Over 100 book boxes were assembled, produced, and shipped out. There are a few book boxes on display at NCI as well, so the next time you visit, be sure to take a look at this exciting project!



## IN CASE YOU MISSED IT

The Northern Crops Institute published 42 blog posts in 2023. Check them out at [northern-crops.com/blog](https://northern-crops.com/blog).



ANIMAL SCIENCE TRACK

NEWS & EVENTS

# NCI HOSTS THE SUMMER AG ACADEMY

From June 13-16, 2023, NCI welcomed 44 high school students from the region to participate in the first NCI Summer Ag Academy. The purpose of this event was to inspire these young people to explore career opportunities in agriculture.

Students registered for one of three tracks: Animal Science, Food Science, or International Trade and Policy. They had the opportunity to interact with world-class professionals, facilities, and activities within their selected field.

The Food Science track provided hands-on experience in food product development, allowing the students to learn about the creative solutions needed to feed the world. The Animal Science track explored the livestock industry and gave students opportunities to learn about the processes and ingredients used to feed the livestock of today and tomorrow. The International Trade and Policy track examined how agricultural commodities travel to global destinations and how decisions and events in other parts of the world affect U.S. farmers and the economy.

The entire group also traveled to a nearby dairy operation and grain elevator for tours. A few full-group activities and presentations were sprinkled in throughout as well, creating a common core amidst all three tracks.

The objective was to expose the students to the vast array of career opportunities in agriculture and the potential for meaningful work and feeding the world.

Thanks to the NCI and all the industry sponsors, the academy was free of charge. The students stayed overnight in the dorms on the campus of NDSU with meals provided and even earned two free college course credits!

Due to the success of the 2023 Summer Ag Academy, the NCI and collaborative industry partners will host 60 students again next summer for the 2024 Summer Ag Academy.



FOOD SCIENCE TRACK

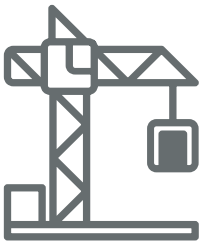


INTERNATIONAL TRADE AND POLICY TRACK



NEWS & EVENTS

# PELTIER COMPLEX, NCI'S NEW HOME, COMING SOON



The move is right on schedule for the Peltier Complex. NCI's future home (along with NDSU's meat science and cereal science, NDTO, and USDA), will officially come to fruition in the summer of 2024. This new 3 story and 160,000 square foot facility is located on the southwest corner of the North Dakota State University campus on 18th Street North. It will be the largest academic building project in NDSU's history. The name was given by the Peltier family, who have had a long history in agriculture at NDSU.



PELTIER COMPLEX EXTERIOR CONSTRUCTION UPDATE 2023

# THE END OF AN ERA: A TRIBUTE TO NCI'S ORIGINAL BUILDING

2023 marks the last year of the NCI building on Bolley Drive of the campus of NDSU. The building with attached Harris Hall is set to be torn down shortly after the move, estimated summer of 2024.

This building has served the NCI and its purpose well over the last 40+ years and will be remembered as a cherished piece of history in the books. However, with the growth NCI has experienced, the move to a bigger and better space will be an incredible opportunity to expand the NCI's capabilities.

Regarding the current building, Director Mark Jirik says, "It is a beautiful building, It wasn't designed to do some of the things that we know are important in education today."

The NCI building holds many memories for thousands of visitors from across the world. We would like to extend a thank you to all of those visitors who have contributed to the success of this closing chapter.



THANK YOU'S

# THANK YOU NORTHERN CROPS INSTITUTE SUPPORTERS

Thank you to all who supported NCI programs and activities in 2023. An additional thanks to our:

## 2023 FUNDING PARTNERS

- Minnesota Department of Agriculture
- Minnesota Soybean Research & Promotion Council
- Minnesota Wheat Research & Promotion Council
- Montana Wheat & Barley Committee
- North Dakota Barley Council
- North Dakota Corn Utilization Council
- North Dakota Soybean Council
- North Dakota State Appropriations
- North Dakota Wheat Commission
- South Dakota Corn Utilization Council
- South Dakota Department of Agriculture
- South Dakota Soybean Association
- South Dakota Wheat Commission



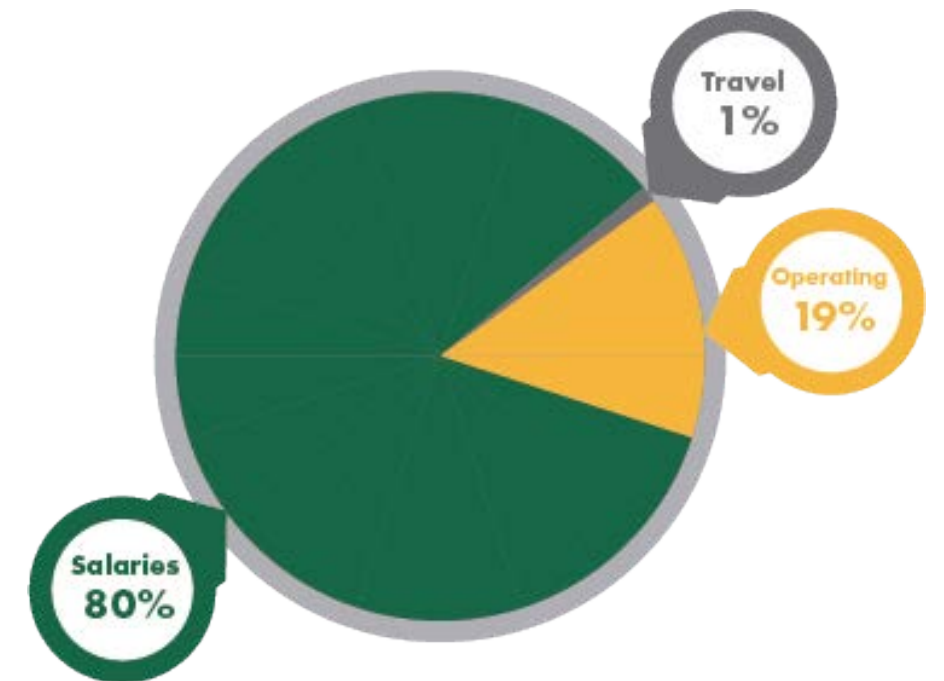
**MARK JIRIK, DIRECTOR**

"Thank you to all who supported the Northern Crops Institute last year. Your generosity allows us to expand and maintain domestic and international markets for northern-grown crops."

FINANCIALS

# NCI 2023 EXPENSE BREAKDOWN

A breakdown of NCI's fiscal year 2023 final expenses is as follows:



## MISSION:

The Northern Crops Institute supports regional agriculture and value-added processing by conducting educational and technical programs that expand and maintain domestic and international markets for northern-grown crops.

# NEED TO TEST AN INGREDIENT OR GET ASSISTANCE WITH PRODUCT OR PROCESS DEVELOPMENT?

We're here for you.



## TECHNICAL SERVICE CLIENT

“Since we started these conversations (with NCI), we have probably gained at least 50% in volume.”

### PROCESSING AND PRODUCT DEVELOPMENT

# PROCESSING AND PRODUCT DEVELOPMENT

If you need to test an ingredient or get assistance with product or process development, then pilot-scale processing at the Northern Crops Institute might be your solution.

#### WE'RE HERE FOR YOU.

NCI's technical staff has worked with food processors and ingredient suppliers, large to small, established to start-up, from all over the globe.

#### WE'VE GOT EXPERIENCE.

Our technical staff has experience in a wide variety of crops and food production including milling, pasta production, baking, soyfoods, oilseed extraction, and extruded foods. We can make a variety of baked products, tortillas, breakfast cereals, long and short-good pasta, snack foods, soy milk and tofu, and texturized vegetable protein and meat analogs. NCI also manages a livestock feed production center with full-fat extrusion and pelleting available. Additionally, we can assist with analytical and testing services and staff will travel worldwide to assist in the uses of northern-grown crops.

#### WHAT WE OFFER.

We offer cost effective service fees, confidentiality, complete services including purchase of ingredients (specialty ingredients are supplied by client - other ingredients provided at cost) and laboratory for proprietary use (upon approval).

TO LEARN MORE OR CONTACT US WITH QUESTIONS, VISIT:

[WWW.NORTHERN-CROPS.COM/TECHNICAL-SERVICES](http://WWW.NORTHERN-CROPS.COM/TECHNICAL-SERVICES)

## OUR 2023 TEAM

### TECHNICAL TEAM

- David Boehm | Technical Director
- Kim Koch, Ph.D. | Senior Feed, Milling and Extrusion Specialist
- Shane Mueller | Feed Mill Manager
- Neil C. Doty, Ph.D. | Business Development Manager
- Travis Strobel | Grant and Client Administrator
- Rilie Morgan | Process Project Manager
- Owen Oltman | Processing Technologist
- Rachel Carlson | Food Scientist
- Brent Trela | Food Scientist
- Fatemeh Zare | Food Scientist
- Mary Niehaus | Food Technologist
- Edil Vidal Torres | Food Technologist
- Amrita Ray, Ph.D. | Milling Specialist

### EDUCATIONAL PROGRAM TEAM

- Casey Peterson | Program Development Manager
- Brian Sorenson | Program Manager
- Nick Sinner | Program Manager
- Krista Jansen | Program Specialist
- Liz Labuhn | Program Coordinator
- Brooke Thiel | Education Specialist

### COMMUNICATIONS TEAM

- Grant Christian | Communications & Marketing Manager
- Kali Berlinger | Communications & Marketing Specialist
- Kari Schiefelbein | Communications & Marketing Specialist

### ADMINISTRATIVE TEAM

- Janel Brooks | Accountant
- Lynn Stadum | Administrative Assistant

### EXECUTIVE TEAM

- Mark Jirik | Director

### FOLLOW US ON SOCIAL MEDIA!

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