

Northern Crops Institute

Spring Update

2011

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.



Register Today for an NCI Food or Feed Short Course...

For more information and to register, visit www.northern-crops.com and follow the educational courses link, or call 701-231-7736.

June 6-10 DDGS and Soy: Nutrition, Use and Feed Manufacturing Short Course highlights recent advances in feed manufacturing using distiller's grains and soy. Hands-on pellet production and site visits. Fee: \$1,100

June 13-16 Agricultural Microscopy Short Course offers industry professionals an opportunity to learn how to identify various plants, animal and mineral-based feed ingredients. Class size is limited to 20 participants. Fee: \$750

June 21-23 Basics of Wheat and Flour Quality Short Course emphasizes how quality differences can influence milling and baking performance; how to evaluate wheat and flour quality; the milling process and its effect on flour; and flour requirements for different end-use products. Hands-on experience. Fee: \$750

July 11-15 Baking with Soy Short Course highlights the use of soy ingredients in baking by elaborating physical dough properties, baked product quality, technical specifications of soy ingredients and regulations. Soy-enhanced breads and other bakery products will be demonstrated to highlight soy's functional properties. Fee: \$1,100

July 26-28 Dry Edible Bean Quality and Utilization Short Course discusses the use and benefits of dry edible beans—pinto, navy, black, great northern and kidney beans—in food products. Fee: \$750

August 8-12 Pasta: Raw Materials and Processing Technology Short Course provides participants with technical info and hands-on experience in pasta extrusion and drying. Site visit to commercial pasta manufacturing facility. Fee: \$1,100

August 22-26 Pea Fractionation and Utilization Short Course focuses on the utilization and processing of dry yellow and green peas and pea ingredients in food products. Dehulling, dry milling, wet milling, fractionation technologies, and food product development applications will be discussed. Fee: \$1,100

September 19-28 Grain Procurement Management for Importers Short Course demystifies cash and futures markets in international grain trading. Site visits to Minneapolis Grain Exchange, country elevator, export grain terminal, and barge facility. Fee: \$1,400

October 4-7 Wheat and Flour Quality for Breeding Programs Short Course highlights wheat & flour quality and evaluation procedures for breeding programs. Hard red spring, hard red winter and durum wheat quality and end product evaluation will be discussed extensively. Fee: \$850

October 25-27 Understanding Northern Feed Ingredients Short Course will focus on the use of oilseeds, legumes, pulses and their co-products in livestock feeds. Hands-on training opportunities at the NCI Feed Production Center. Fee: \$500

NCI Director Brian Sorenson Resigns to Join Dakota Specialty Milling

Brian Sorenson resigned in March as director of the Northern Crops Institute to join Dakota Specialty Milling as director of milling operations. Sorenson joined NCI in November 2000 as technical director and was named NCI director in January 2008 after a national search.

"NCI greatly appreciates Brian's leadership," said David Clough, chair of the Northern Crops Council (NCC), NCI's governing board. "He has enhanced the four-state partnership to carry out NCI's mission, which is more important than ever in today's global market."

Sorenson comments, "This opportunity with Dakota Specialty Milling is the next step for me. My whole life has been full of wonderful opportunities and working with great people. I could not have been prepared for my new job if it had not been for the opportunities and experiences that I've had at NCI," Sorenson says.

A Conversation with Brian...

Looking back over the years, Sorenson sees a number of changes that have occurred at NCI.

"One of my first accomplishments as NCI Technical Director was the expansion of NCI's technical services and building on our reputation of integrity," he reflects.

"When I first got here, I was basically trying to fill the shoes of Jim Jacobs, who had been technical director at NCI for the previous 18 years. At that time, the technical service program was not charged with bringing in revenue. I thought that was something that we could grow."

"So we took on an industry-style approach to product/process development—this refers to how you schedule, how you report information, and how you work with clients," he continues. "Even though the work was proprietary and confidential, I wanted our customers to come to NCI and feel like we were their partners, helping

them develop the best products as quickly as possible.

"I always looked at product development as an extremely important part of crop promotion and utilization. Helping companies make new and better products is the best way to increase demand and use. Each new piece of equipment that we buy or each new technique that

we learn gives us new ways to showcase the crops," he says.

"Timing is so important. When opportunities came up at NCI, we took advantage of them and built our reputation very quickly. As a result, Dakota Growers Pasta in Carrington, N.D., decided to identify NCI as their product development facility. The same thing happened with other companies that we can't identify due to proprietary agreements. Feedback from our customers said, 'You treat us like we're part of your company.' We have built on that success."

"Not everything was a total success, though," he adds with a smile. "We occasionally over-

promised. But we made up for any losses and figured out how to do what we promised. Because of this, we gained a lot of credibility. Our reputation is built on integrity... shooting straight and being honest with customers. NCI is

considered a critical contributor to the food industry, in pasta and in other areas as well."

"By increasing our technical capabilities, we have built our educational programs. One thing we've really added to our courses is hands-on experiences. Participants now get their hands in the dough, they touch it, spread it, hang it, and that helps people feel they are part of the process—making the pasta, hanging it to dry, cooking it.

"These different areas of growth have increased our opportunities to become involved with larger projects.

For example, the end product collaboratives of the U.S. Wheat Associates and projects with other crops, such as dry peas, lentils and edible beans. Through the excellent



David Clough, (right), Northern Crops Council Chair, presents an engraved clock to Brian Sorenson, NCI Director, in thanks for his years of service to Northern Crops Institute.

"I always looked at product development as an extremely important part of crop promotion and utilization. Helping companies make new and better products is the best way to increase demand and use. Each new piece of equipment that we buy or each new technique that we learn gives us new ways to showcase the crops," says Sorenson.

efforts of our technical staff, we are able to build on the momentum.

‘We’ve built a really cohesive staff with a strong team mentality and philosophy. Our staff really works together and I give credit to all of them. It requires a good manager to allow people to grow their careers and focus on their strengths—to help them realize their potential.

“The Northern Crops Council is a very important part of NCI. This group of producers and food processors provide input and resources that make NCI’s work possible. Tough decisions need to be made, and I feel that the NCC has grown with NCI. Both the past and current Northern Crops Council members can take credit for the growth of NCI. They’ve helped to build an organization that people want to become a part of. NCI really is an organization of dozens of people, the staff, the Northern Crops Council, the Advisory Boards, regional producers, commodity groups, and the scores of industry and university cooperators who assist us with the short courses and in other ways.

“The collaboration between Minnesota, Montana, North Dakota and South Dakota is really key to NCI’s success. It doesn’t make sense for the four states to duplicate efforts, when the work of Northern Crops Institute benefits them all.

“I covered twelve U.S. Wheat Associates (USW) crop tours throughout the world in my ten years at NCI. These trips provided me with a great learning experience. I’ve traveled to Asia, Europe, North Africa and South America for USW crop quality seminars. These opportunities helped me see my affinity to working with international people. Participating in these seminars is a lot more than getting up and talking about crops. It’s really an exchange of information with people who are experts, professionals.

“I’ve enjoyed telling the story of our crops and promoting our grain domestically and overseas. I hope the new director will be someone who can take NCI even further than I took it. NCI has such a great mission and I will do my best to still be part of that,” Sorenson concludes.

Crabtree Named NCI Interim Director A National Search for a New Director Begins

John Crabtree has been named Interim Director of Northern Crops Institute (NCI), Fargo, N.D. He is currently the NCI Assistant Director.

Crabtree is a graduate of North Dakota State University with a master’s of science degree in agricultural economics. Before joining Northern Crops Institute in 1984, he was an extension agent and staff chairman for the Oregon State Extension Service. Crabtree also served as NCI Interim Director in 1993 to 1995. He is a native of Plainview, Nebraska.



Crabtree

“It is a pleasure to serve as Interim Director of such a great organization that is well known around the world,” says Crabtree. “The dedication of past and current staff, partnerships with private industry, universities, commodity organizations, and the support of the four-state region has been instrumental in the Institute’s success. As with any organization, there will be challenges and opportunities ahead. I’m confident that we will have the resources and expertise to carry on the mission of promoting the region’s high quality crops,” he concludes.

David Clough, Chair of the Northern Crops Council, comments, “John’s appointment as Interim Director will keep NCI in the forefront of agriculture, promoting and finding new uses for all the crops grown in the four-state region. He will keep NCI focused on its mission of supporting regional agriculture with its educational and technical programs in the domestic and international markets.”

Clough adds, “Brian’s leadership as Director during the last three years, and seven years before that as Technical Director, is greatly appreciated. Brian helped strengthen NCI in the ever-changing global market. We wish him the best in his new endeavor.”

A national search is underway for a new director.

Employment Opportunity at NCI DIRECTOR OF NORTHERN CROPS INSTITUTE

Applications are being accepted for the twelve-month, full-time director’s position at Northern Crops Institute (NCI) located at North Dakota State University, Fargo, N.D., USA. NCI is an international meeting and learning center that supports the promotion and market development for northern-grown crops. The Director provides administrative leadership and vision for the Institute’s fiscal, personnel and program efforts.

See <https://jobs.ndsu.edu/postings/439> for the full description and application procedure. For full consideration, apply by June 15, 2011.

NDSU is an EO/AA Employer.



Feed Short Course Focuses on Safety Plan

Feed managers and agricultural supervisors from Kansas, Minnesota and Ohio attended the Feed Safety and the Development of a HACCP Plan Short Course March 15-17 at NCI. This course focused on the development of Hazard Analysis Critical Control Points (HACCP) for all sectors of the feed industry. During the week, participants developed a HACCP template that they can take back to their company to integrate into their safety program. Matt Frederking, International HACCP Alliance Lead Instructor, was the guest instructor. Frederking is Director of Regulatory Affairs and Operations at Ralco Nutrition in Marshall, Minn. Kim Koch, Ph.D., NCI's Feed Center Manager, coordinated this course.

Natsuki Fujiwara Joins NCI Staff as Food Technologist

Natsuki Fujiwara joined the Northern Crops Institute staff in January as a Food Technologist.

Fujiwara's responsibilities include conducting quality analysis of northern-grown crops with special focus on wheat, soybeans and barley. She also assists in the development of new products and processes utilizing northern-grown crops and helps with the implementation of NCI's educational programs.



Fujiwara

"We appreciate the opportunity to have Ms. Fujiwara join our NCI staff, where she will help us develop programs and investigate opportunities for northern-grown crops in domestic and overseas markets such as Japan," said Brian Sorenson in January.

Fujiwara is a December 2010 graduate of North Dakota State University, where she earned a Bachelor of Science degree in Food Science. Fujiwara is a native of Kyoto, Japan.

Pasta Manufacturing Course Showcases Region's Durum Wheat

Twenty-six participants from 14 pasta manufacturing companies in the United States and Guatemala completed the Pasta Production and Technology Short Course at Northern Crops Institute.

The course, which ran from April 12 to 14, is designed to showcase the high quality durum wheat that is produced in this region.

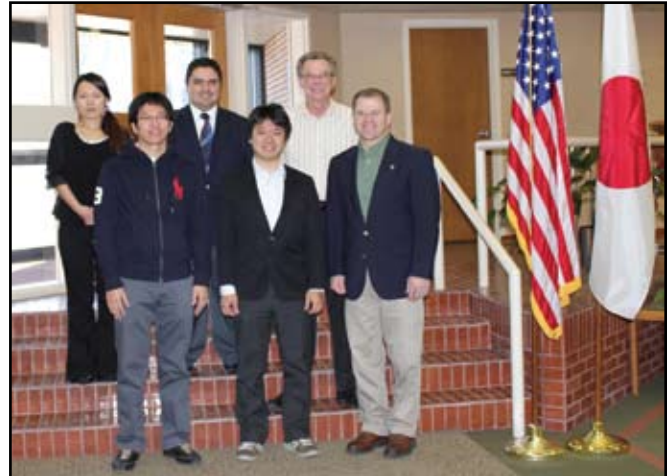
"This course is a never-fail offering for NCI," says NCI Interim Director John Crabtree, who coordinates the educational courses. "We have presented it for 27 years. The fact that it usually fills to capacity is testimony to the quality of faculty and facilities that the participants experience," he concludes.





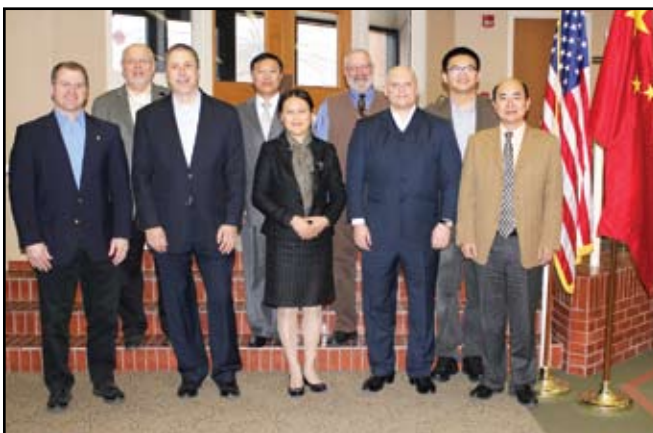
Richard Retires from Northern Crops Council

At the March 22 Northern Crops Council (NCC) meeting, Claude Richard (center) receives an engraved clock from David Clough (right), Northern Crops Council Chair, and NCI Director Brian Sorenson (left) in thanks for Claude's five years of service to the NCC. Claude, a producer from Fargo, N.D., represented the North Dakota Soybean Council in their permanent NCC seat. Richard's replacement will be appointed by the North Dakota Soybean Council. Arnold Woodbury, a producer from Wyndmere, N.D., has replaced Mike Clemens to represent the North Dakota Oilseeds Council, who also have a permanent seat on the NCC.



NCI Conducts Japanese Mixolab Seminar

Northern Crops Institute presented a custom technical seminar in January on the use of Mixolab in the durum milling and pasta industry for NCI's Visiting Scholar Kenichiro Takamatsu (front left) and a representative from Medallion Foods, Tacoma, Washington. NCI Technical Director Mehmet Tulbek and NCI Food Technologists Natsuki Fujiwara and Rachel Brudvik taught the program. Mixolab is a new flour and dough testing equipment introduced by Chopin Company in France. NCI is one of the first labs worldwide that has installed the unit.



China Team Learns About Region's Crops

Representatives of Changzhou AMEC Company, Ltd., China, and Changzhou Lihua Livestock and Poultry Company, China, visited Northern Crops Institute to learn more about feed manufacturing and feed ingredients from the four-state region. They were escorted by Corey Kiefer (second from right, front) of China Global Group, Fargo. NCI Feed Center Manager Kim Koch, Ph.D. (second from right, back row) hosted the group.



Romanian Agriculture Team Visits NCI

A two-member Romanian Agriculture Team, hosted by the North Dakota Trade Office, came to NCI in February to learn more about the crops grown in the region. NCI Assistant Director John Crabtree (second row, right) and NCI Technical Director Mehmet Tulbek (second row left) welcomed the team and informed them about the region's agricultural industry. Later, the team was briefed about NDSU agriculture programs by D.C. Coston, Ph.D., NDSU Vice President of Agriculture, and Tom Wahl, Ph.D., NDSU Department of Agribusiness and Applied Economics.

Tulbek Speaks at Dry Edible Bean Seminars in Southeast Asia

Mehmet Tulbek, NCI Technical Director, traveled to Philippines, Indonesia and Malaysia in March to assist the U.S. Dry Bean Council's technical assessment programs. The main objectives of this trip were to meet with the key U.S. bean buyers and educate them about U.S. edible dry beans and bean utilization.

"During our visits, we determined which technical and nutritional information on U.S. dry beans and bean flour the Southeast Asian end users need to proceed with new product development work, label development, product registration, and marketing of U.S. bean-based products," Tulbek says.

Tulbek also visited several snack food, canning, baking and trading companies.

"The U.S. Dry Bean Council team discussed the information and activities that should be included in the July 2011 technical seminar on U.S. bean flour at NCI, as well as other activities that are needed in the next year in Southeast Asia to help increase sales of edible beans and bean flour," Tulbek concludes. Ms. Katanchalee (Dew) Kaewmanee and Dr. Dee Richmond conducted the program. It was sponsored by U.S. Dry Bean Council and U.S. Department of Agriculture.



Jeradechachai Presents at Baking Seminar

Thunyporn (Naggie) Jeradechachai (center), NCI Crop Quality Specialist, was a speaker at the Healthy Baking Seminar during the Round Robin Table Discussion in Anaheim, CA, in March. "I presented technical information on the pulse baking application at the Alternative Grain table," says Jeradechachai. The table was funded by the Northern Pulse Growers Association and USA Dry Peas and Lentils Council.



Pulse Crops Promoted at California IFT

In March, Thunyporn (Naggie) Jeradechachai (left), NCI Crop Quality Specialist, assisted Jennifer William (right), USADPLC Food Marketing Manager, at the Northern Pulse Growers Association and USA Dry Pea, Lentils, and Chickpeas Council's promotional table. The trade show was part of the meeting of the Institute of Food Technologists, Southern California Exposition, in Anaheim, CA.



Kenichiro Takamatsu from Nisshin Mills Completes His Year as NCI Visiting Scholar

Kenichiro Takamatsu (center) receives an engraved plaque from David Clough (right), Northern Crops Council Chair, and NCI Director Brian Sorenson (left) to commemorate his year at NCI as a Nisshin Visiting Scholar. Takamatsu moved to Nisshin's office in Vancouver, Canada, in April.

NCI Feed Center Update

NCI's Feed Center is currently involved in feed manufacture for three on-going animal studies, according to Kim Koch, Ph.D., feed center manager. The beef cow study and the growing swine study are the result of biomedical grants awarded to the NDSU Animal Science Department. These studies will further the use of animals to model the effects of nutrition on human reproductive development and function.



Koch

The Beef Cow Study is designed to explain the effect of unnecessary protein supplementation in the diet, in conjunction with high dietary sulfur levels, on uterine pH. The hypothesis is that unnecessary protein in the diet alters uterine pH levels, perhaps leading to an environment unfavorable to implantation of a fertilized egg, resulting in a lost pregnancy.

The Growing Swine Study is designed to clarify if consumption of estrogenic compounds from either natural sources (soybean protein) or synthetic sources (meat from animals implanted with estrogen-like growth promoters) can initiate early on-set of puberty and cause obesity.

The Sheep Study is a continuation of work conducted last year at the Hettinger (N.D.) Research Extension Center. High cost of grains has prompted sheep feed yards to seek alternative sources of energy and protein. Distiller's Dried Grains with Solubles appears to work well in sheep grow-finish diets, with little or no reduction in growth or carcass quality.

The Feed Center has also been upgrading processing and bulk storage systems through the generosity of the North Dakota Corn Council.



Jeradechchai Attends AIB Baking Course

Thunyaporn (Naggie) Jeradechchai (front row, far left), NCI Crop Quality Specialist, completed the Advanced Bread and Roll Production Short Course at the American Institute of Baking in Manhattan, Kan., in February. "I learned new troubleshooting techniques and how to fix troubled bread dough. The course is very valuable because, at NCI, we always deal with the most unique ingredients in the baking industry," Jeradechchai says.



NCI Teams with Northern Pulse Growers & N.D. Dept. of Ag to Promote Pulse Products

NCI staff members attended the Northern Pulse Growers Association Annual Convention in Minot in January. NCI Technical Director Mehmet Tulbek (left) presented a talk on "Developing Market Opportunities for Pulse Ingredients," and NCI Crop Quality Specialist Thunyaporn Jeradechchai (center right) coordinated the recipes and cooking demos at the North Dakota Department of Agriculture Demo Kitchen. Chuck Fleming (center left), N.D. Department of Agriculture, organized the event's Demo Kitchen with Kaye Effertz (right), Northern Pulse Growers Association.

Technical Staff Presents Sunflower Study

NCI Technical Director Mehmet Tulbek (left) and NCI Crop Quality Specialist Thunyaporn (Naggie) Jeradechchai (right) attended the annual National Sunflower Research Forum in Fargo, N.D., in January. They presented the results of their study on the use of confection sunflower and sunbutter products in replacing peanut-based ingredients in food products. Sunflower ingredients have similar characteristics to peanuts, but do not present allergen concerns for consumers. In this study, NCI evaluated consumer acceptability of food products in which peanut ingredients were replaced with confectionary sunflower ingredients.



Sensory analysis results showed that sunflower replacement did not impact consumer acceptability in cookies, biscotti and bark products. The sunflower flavor became too strong for ice cream and frosting, according to the panelists. Funding for the study was provided by National Sunflower Association and North Dakota Oilseed Council.



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Offering Technical Services and Educational Opportunities

Educational Courses:

- Value-Enhanced Uses
- Grain Standards and Inspection
- Procurement, Risk Management
- Quality, Processing, and Milling
- Extrusion Technology
- Pasta Processing
- Feed Milling and Manufacturing
- Customized Seminars

Technical Services:

- Pilot-Scale Processing
- Milling
 - Baking
 - Extrusion
 - Post-extrusion
 - Feed
 - Industrial

NCI can provide:

- Up-to-date Information
- Fully-equipped Labs
- Hands-on Experiences
- Confidential Environment
- Network of Resources

Connecting in the Global Marketplace

NCI Staff

John Crabtree, Interim Director
 Sally Backman, PR/Communications Specialist
 Linda Briggs, Office Manager
 Rachel Brudvik, Food Technologist
 Natsuki Fujiwara, Food Technologist
 Alyssa Hicks, Milling Specialist
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Update Editor

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www.northern-crops.com