

# Northern Crops Institute Annual 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.



*Connecting in the Global Marketplace*



## A Note from the NCC Chair

**Robert Majkrzak, NCC Chair**  
**President, Red River Commodities, Inc.**



**Majkrzak**

It is a pleasure to address the readers as the current chair of the NCC. My involvement with NCI over the past years has been as an Industry Advisory Board member, Council member, and contracting for special technical projects.

Coupled with my agricultural career that started on a farm in Thompson, N.D., to my current position as President of Red River Commodities, I have

remained committed to agriculture industries from farm to fork. My involvement with NCI over the years has allowed me to witness the many people who work to maintain the positive image of all northern-grown crops.

In March, Brian Sorenson resigned as Director at NCI. Brian served NCI for 10 years, starting as Technical Director prior to assuming the position of Director in 2008.

Brian was very instrumental in improvements to the technical capabilities that can be seen throughout NCI. We wish Brian the very best in his career and thank him for his contributions to NCI.

The first major task as Chair was to head the Search Committee that recruited and selected the new NCI Director. The search began in April and concluded with the hiring of Mark Weber in September. I hope you will join me in welcoming Mark to his new position.

Mark has a unique background that blends family farming, agricultural education, grower promotion through commodity groups, and marketing experience into a high energy promoter of northern-grown crops and the capabilities of NCI. Over the next months, I hope all of you will be able to meet Mark.

It should also be noted that during the search process, John Crabtree served as an Interim Director. John's 28 years of service to NCI and his dedication to the continued success of all programs allowed NCI to "not skip a beat" in this transformational time. We all say another thank you to John for a continued job well done.

The future holds many challenges for agriculture, including issues of a growing population and the ability of food systems to provide a secure food supply. NCI short courses and technical capabilities continue to expand and prove to be very valuable for buyers who make decisions on where to source their products.

The mission of NCI remains clear, and I feel the staff and facilities are positioned well to support regional agricultural industries with educational and technical programs. The reward: expanding markets for northern-grown crops in a competitive world.

## Director's Corner

**Mark Weber**  
**Director, Northern Crops Institute**



**Weber**

Since its inception, Northern Crops Institute has achieved remarkable success by evolving into a first class facility recognized throughout the world. Agriculture in the 21st century is changing rapidly and I believe that by cooperating with the entire food chain, from farmers all the way to the dinner table, we can help provide further impetus for change. I am excited about the visionary role that the NCI will play to help shape agriculture's future for the next generation. That is why I threw my name in the hat for the chance to join this team!

U.S. farmers have witnessed unbelievable technological changes in just the last few short years. Despite the high risks of farming, American agriculture is filled with tremendous profit opportunities. As nations around the world continue to evolve in their economies, they will demand better diets. That means increased demand for higher quality food and more demand for U.S. farm commodities.

In 2009, the four-state region of Minnesota, Montana, North and South Dakota exported nearly \$11 billion worth of farm products. It is clear that NCI's mission is more important than ever. Our mission is to promote our northern region's crops to our customers around the world by providing the best possible technical education and support for them.

NCI has an ambassador's role—showcasing our region's agriculture as we build relationships based on trust and integrity. While asking what our customers' needs are, we must continue to endorse that we are reliable and consistent suppliers of the highest quality. We need to make sure we are on the cutting edge of the latest technology as it evolves in the industry. That's why it is imperative that we build and enhance our relationships with other scientists and researchers in the university system and the private sector.

Cooperation will be the key to future success. The two most valuable partners that NCI has are the commodity groups and the university scientific community. Our staff will be relying on the outstanding team of dedicated and talented faculty scientists within the departments of Cereal and Food Science, Plant Sciences, Agribusiness and Applied Economics and other departments at North Dakota State University, University of Minnesota, South Dakota State University, and Montana State University. I will be taking a lot of direction from the region's commodity groups, such as the wheat commissions, soybean, barley, and corn councils, pulse growers, and others. They know what the marketing opportunities are.

It's great to join the NCI team and---until next time!

## Mark Weber Named Fourth Director of Northern Crops Institute

Mark Weber assumed duties as Director of Northern Crops Institute on September 19, after a national search.

Weber has more than 18 years of experience in agricultural leadership. He served as Executive Director for the Red River Valley Sugarbeet Growers Association for 12 years and, previous to that position, he served as the first Executive Director of the North Dakota Soybean Council and Growers Association for nearly six years.

“This is a wonderful opportunity,” says Weber. “NCI has had a strong role in agriculture’s past successes and has an impeccable reputation worldwide. I am happy to be part of it,” Weber concludes.

Robert Majkrzak, chair of the Northern Crops Council, comments, “Mark brings to NCI a unique blend of agriculture leadership, involvement with commodity groups, work on legislative issues, and experience as a grower.”

Weber earned a Bachelor of Science degree in mechanized agriculture and agronomy and a Master of Science degree in agriculture economics from NDSU. Weber lives in Casselton, N.D., where he is involved in his family farm. He is a widower with two children.

Weber replaces Brian Sorenson, who left in March. John Crabtree served as Interim Director while the search process was underway.

## 2011-2012 Northern Crops Council

### Robert Majkrzak, Chair

Fargo, ND  
Red River Commodities, Inc.

### Mike Beltz

Hillsboro, ND  
ND Soybean Council

### Dean Bresciani, Ph.D.

President  
North Dakota State University

### Ryan Brooks

Bowman, ND  
Northern Pulse Growers

### David Clough, Past Chair

Fessenden, ND  
ND Wheat Commission

### Chet Edinger

Mitchell, SD  
SD Wheat Commission

### Doug Goehring

Commissioner of Agriculture  
ND Department of Agriculture

### Ernie Hoffert

Carrington, ND  
AmeriFlax

### Mark Jossund

Moorhead, MN  
MN Wheat Research and  
Promotion Council

### Doyle Lentz

Rolla, ND  
ND Barley Council

### Milo “Buzz” Mattelin

Culbertson, MT  
MT Wheat & Barley Committee

### Jay Romsa

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General Mills

### Robert Sinner

Casselton, ND  
SB&B Foods Inc.

### Kevin Skunes

Arthur, ND  
ND Corn Council

### René Steiner

Plymouth, MN  
Buhler Inc.

### Arnold Woodbury

Wyndmere, ND  
ND Oilseed Council

### Karolyn Zurn, Vice Chair

Callaway, MN  
MN Soybean Growers

## 2011-2012 Industry Advisory Board

- **John McLean, Chair**  
Cargill
- **Mark Askegaard**  
Askegaard Organic Farm
- **Eric Bartsch**  
United Pulse Trading
- **David Berg**  
American Crystal Sugar
- **Mark Berwick**  
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Institute
- **Darwin Britzman**  
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- **Rodney Christianson**  
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Columbia Grain
- **Joel Dick**  
Dakota Specialty Milling
- **Mark Dillon**  
Golden Growers Cooperative
- **Timothy Dodd**  
Dakota Growers Pasta Company

- **Carrol Duerr**  
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- **Roger Hipwell**  
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- **Greg Johnson**  
Premier Pulses International
- **Brad Kjar**  
Tharaldson Ethanol
- **Gerald Leukam**  
T.E. Ibberson Co.
- **Jon Long**  
BNSF Railway Inc.
- **Robert Majkrzak**  
Red River Commodities
- **Dave Polries**  
Dakota Dry Bean

- **Jay Romsa**  
General Mills
- **Robert Sinner**  
SB&B Foods
- **Travis Sitter**  
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- **Alan Slater**  
Busch Agricultural Resources
- **René Steiner**  
Buhler Inc.

- **Tom Streifel**  
Highwater Ethanol
- **Mark Stutrud**  
Summit Brewing Company
- **Vance Taylor**  
North Dakota Mill
- **Jennifer Tesch**  
SK Food International
- **Ken Ulbrich**  
Bay State Milling

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*Thank You*

## Three NCC Members Honored for Their Years of Service to NCI



Laird Larson (right) receives a clock from David Clough (left) presented in gratitude for his six years of service on the NCC, representing the South Dakota Wheat Commission. Larson also served two years as NCC Chair.



Outgoing Northern Crops Council Chair David Clough (right) is recognized by NCI Interim Director John Crabtree (left) for his two years service as NCC Chair at the NCC Reorganizational Meeting in July. Clough will continue his term on the NCC, representing the North Dakota Wheat Commission.



Vance Taylor (right) North Dakota Mill, is presented with a clock by David Clough, given in gratitude for Taylor's six years of service on the NCC. Taylor continues to serve of the NCI Industry Advisory Board.

## Renovated NCI Auditorium and Conference Room Debut This Year

NCI's Auditorium and Conference Room received a beautiful face-lift during the spring of 2011. In the Auditorium, desk tables, the world map, clocks, podiums, projector, and the photo frames were all replaced with more up-to-date models.

Installation of the improved wireless system allowed for the removal of the desktop microphone-translation equipment. A replacement translation system is under consideration and will purchased soon. New chairs and a tabletop were also added to the Conference Room.

David Clough, NCC Chair, commented at the June NCC meeting that he thought the room's acoustics were good and that the painted walls will be easy to clean.



The NCI Auditorium renovation was completed in time for the NCC Reorganizational Meeting in June 2011.



NCI staff worked with the NDSU Facilities Management staff to complete the renovation. They removed the old fixtures from the Auditorium, constructed the furniture-quality desks and podiums, and did much of the finishing work in the Auditorium. Our thanks to them!

## Special Thanks to All Who Supported NCI Programs and Activities in 2011

North Dakota State University  
Agribusiness and Applied Economics  
William Wilson, Ph.D.  
Frayne Olson, Ph.D.  
Animal Science  
Austen Germolus  
Kurt Johnsen  
Greg Lardy, Ph.D.  
David Newman, Ph.D.  
Research Extension Center  
Vern Anderson, Ph.D.  
Blaine Schatz  
Cereal and Food Sciences  
Clifford Hall, Ph.D.  
Dilrukshi Thavarajah, Ph.D.  
Plant Sciences  
Elias Elias, Ph.D.  
Rich Horsley, Ph.D.  
Hans Kandel, Ph.D.  
Frank Manthey, Ph.D.  
Phil McLean, Ph.D.  
Kevin McPhee, Ph.D.  
Mohamed Mergoum, Ph.D.  
Juan Osorno, Ph.D.  
Paul Schwarz, Ph.D.  
Senay Simsek, Ph.D.  
Stan Stancyk  
ADM-Benson Quinn  
Minneapolis, Minn.  
Randy Narloch  
American Feed Industry Association  
American Soybean Association  
AmeriFlax  
Sheri Coleman  
BNSF Railway, Fort Worth, Tex.  
Russell Huntington  
John Miller  
Buhler, Minneapolis, Minn.  
Roberto Cespedes  
Michael Ehr  
Cargill, Inc., Minneapolis, Minn.  
Maurice Hurst  
CHS, Inc., Inver Grove Heights, Minn.  
Roger Baker  
Ryan Caffrey  
Mike Klein  
Savage, Minn.  
Greg Oberle  
Superior, Wisc.  
Dick Carlson

Columbia Grain, Minneapolis, Minn.  
Ryan Peterburs  
Dakota Growers Pasta  
New Hope, Minn.  
Alexis Freier  
Radwan Ibrahim, Ph.D.  
Dakota Specialty Milling, Fargo, N.D.  
Daryl Bashor  
Joel Dick  
Robert Meyer  
Brian Sorenson  
DeMari Pasta Dies, Dracuti, Mass.  
Gabriele Cannata  
Duluth Seaway Port Authority  
Ron Johnson  
Adolph Ojard  
Adele Yorde  
FC Stone, St. Louis Park, Minn.  
David Bullock, Ph.D.  
Kelsey Dodd  
Dan Hofstad  
Frontier Futures, Minneapolis, Minn.  
Austin Damiani  
GIPSA/FGIS, Superior, Wisc.  
Art Boline  
Hunter Grain Company  
Hunter, N.D.  
Paul Skarnagel  
Kansas State University  
Animal Sciences and Industry  
Joe Hancock, Ph.D.  
Minneapolis Grain Exchange  
Rita Maloney  
Joe Victor  
Minnesota Corn Research and  
Promotion Council  
Minnesota Department of Agriculture  
Minnesota Soybean Research and  
Promotion Council  
Minnesota Wheat Research and  
Promotion Council  
Montana Wheat and Barley Committee  
Montana State University  
National Grain and Feed Association  
North Dakota Barley Council  
North Dakota Corn Council  
North Dakota Grain Inspection Service  
Darcy Rasmussen  
North Dakota Oilseed Council  
North Dakota Soybean Council

North Dakota State Mill  
Grand Forks, N.D.  
Travis Devlin  
Randy Egstad  
Vance Taylor  
North Dakota Wheat Commission  
Neal Fisher  
Erica Olson  
Jim Peterson  
Northarvest Bean Growers  
Northern Canola Growers Association  
Barry Coleman  
Northern Pulse Growers Association  
Philadelphia Macaroni Company  
Grand Forks, N.D.  
Bill Stabert  
Ralco Nutrition, Marshall, Minn.  
Matt Frederking  
SK Food International, Fargo, N.D.  
Tara Froemming  
Aaron Skyberg  
South Dakota Corn Utilization Council  
South Dakota Soybean Research and  
Promotion Council  
South Dakota State University  
Animal and Range Science  
Bob Thaler, Ph.D.  
South Dakota Wheat Commission  
State of North Dakota  
State of South Dakota  
T.E. Ibberson Company  
Hopkins, Minn.  
Gerry Leukam  
Tharaldson Ethanol  
Casselton, N.D.  
Keith Finney  
Ryan Thorpe  
The Money Farm, Casselton, N.D.  
Mike Krueger  
Trading Technologies  
Chicago, Ill.  
Brian McLaughlin  
U.S. Dry Bean Council  
USA Dry Pea and Lentil Council  
Pete Klaiber  
U.S. Grains Council  
U.S. Soybean Export Council  
U.S. Wheat Associates  
John Oades  
University of Minnesota

## Tough Economic Situation Draws Twenty-Seven Grain Buyers from Eighteen Nations to Grain Procurement Short Course

Algeria, Belgium, Canada, China, Egypt, Israel, Italy, Jordan, Korea, Lebanon, Mexico, Morocco, Netherlands, Poland, Sweden, Trinidad & Tobago, USA, Yemen • September 19-28, 2011



Mark Weber, (far left), NCI's new Director, starts his first day at NCI on the same day that the Grain Procurement course begins. John Crabtree, (far right), welcomes the course participants and explains the day's schedule at the beginning of the class.

Twenty-seven grain buyers from 18 nations learned how to make more effective purchases while decreasing their risk as they attended the 2011 Grain Procurement Management for Importers short course at NCI.



**Crabtree**  
John Crabtree, NCI Assistant Director and coordinator of the course. "The combination of price jumps, world economy, and an uncertain grain supply from year to year have resulted in significant price volatility."

"We are continuing to see a lot of private trading companies at our courses. They are looking for ways in which they can do a better job of managing their risk and procuring grain for their companies. This course gives the participants important risk management tools. You cannot eliminate risk completely but there are ways in which buyers can limit the amount of risk that they have to deal

with. That's really the purpose of the course," concludes Crabtree.

U.S. Wheat Associates, U.S. Grains Council, USDA FAS Cochran Fellowship Program, and the North Dakota Corn Council sponsored participants in this course.

William Wilson, Ph.D., NDSU Distinguished Professor of Agribusiness and Applied Economics, was the lead lecturer for the course.



**Wilson**

Highlights of the course were lectures by academic and commodity trade authorities on cash and futures markets, and sessions with grain merchandisers who unravel the complexities of international grain markets.

On-site tours of the Minneapolis Grain Exchange, a country elevator, Duluth Seaway Port Authority, an export grain terminal, and a barge facility rounded out the course.

Featured speakers included: Art Boline, GIPSA/USDA; David Bullock, Ph.D., FC Stone; Austin Damiani, Frontier Futures Inc.; Dick Carlson, CHS

Export Grain Terminal; Ron DeJongh, Columbia Grain; Russ Huntington, BNSF Railroad; Maurice Hurst, Cargill, Inc.; Mike Klein, CHS Inc.; Rita Maloney, Minneapolis Grain Exchange; Brian McLaughlin, Trading Technologies International;

Randy Narloch, ADM-Benson Quinn; John Oades, Ph.D., Consultant, Vancouver, Wash.; Greg Oberle, CHS Barge Facility, Savage, Minn.; Adolph Ojard, Duluth Seaway Port Authority; Frayne Olson, Ph.D., NDSU Extension Service; Jim Peterson, N.D. Wheat Commission; Darcy Rasmussen, N.D. Grain Inspection Service; Paul Skarnagel, Hunter (N.D.) Grain Company, and Joe Victor, Minneapolis Grain Exchange.



2011 Grain Procurement Management for Importers Short Course participants and faculty



William Wilson, Ph.D., NDSU Distinguished Professor of Agribusiness and Applied Economics and an expert in commodity futures trading, leads the 2011 Advanced Grain Procurement Strategies Short Course.

## 21 Buyers from Eleven Nations Attend Advanced Grain Buying Course Canada, Guatemala, Israel, Italy, Japan, Mexico, Netherlands, Nigeria, Portugal, St. Vincent and the Grenadines, and USA • May 16-20, 2011

Twenty-one grain buyers from eleven nations attended the Advanced Grain Procurement Strategies Short Course at NCI.

The course is designed for global grain buyers who want to gain a competitive edge in grain marketing decisions to better manage price and quality risks. Trading games, case studies and panel discussions give participants practical experience in applying what they have learned. The group also toured the Alton Grain Terminal, Hillsboro, N.D.

Twelve participants were sponsored by U.S. Wheat Associates, and

one participant was sponsored by the U.S. Grains Council and North Dakota Corn Council.

“We have seen a lot more volatility in the world marketplace over the past few years, not only price and quality risk, but logistics and inventory risk, too,” says John Crabtree, NCI Interim Director. “We’ve also seen major shifts in grain production. This results in a lot of uncertainty. Today, merchandisers who are in charge of buying grain have a very complex responsibility.”

“In this course, we provide tools that grain buyers can use to handle

some of the risks. The tools that were helpful several years ago may not be appropriate today. It’s up to the individual to pick the right tool from the toolbox. We will never be able to completely eliminate risk, but we can provide grain buyers with some suggestions that will be helpful in their grain purchasing



2011 Advanced Grain Procurement Short Course participants and faculty

decisions,” Crabtree concludes.

William Wilson, Ph.D., NDSU, an expert in commodity futures trading, led the course. Additional speakers included: David Bullock, Ph.D., FC Stone; Ryan Caffey, CHS Inc.; Mike Krueger, The Money Farm; John Oades, U.S. Wheat Associates; and Erica Olson, North Dakota Wheat Commission.

Lecture topics included changes in agriculture trade and evolving global supply chains; basis analysis; hedging and contracting; options; Value-at-Risk; logistics pricing; inventories as risk management strategy; current grain situation and outlook; wheat contract specifications; and buyer/seller relations.



John Oades, Vice President, U.S. Wheat Associates, opens a discussion of how to write a contract that gets the customer the quality of wheat that he needs.

## Food and Feed Safety is the Focus of Two HACCP Short Courses USA • March 15-17, 2011 and August 9-11, 2011

Feed managers and supervisors from six states attended the “Feed Safety and Development of a HACCP Plan” short courses offered by Northern Crops Institute this year.

The first course was at NCI March 15-17, and was co-sponsored by the American Feed Industry Association.

The second course was at Willmar, Minn., August 9-11, and was co-sponsored by the Minnesota Grain and Feed Association.

The courses focused on the development of Hazard Analysis Critical Control Points (HACCP) for all sectors of the feed industry, including ingredient suppliers and finished feed manufacturers (commercial, non-commercial, and on-farm). During the week, participants developed a HACCP template that they could take back to their company to integrate into their safety program.

Matt Frederking, International HACCP Alliance Lead Instructor, was the guest instructor. Kim Koch, Ph.D., manager of the NCI Feed Center, coordinated the courses.

Hazard Analysis Critical Control Point (HACCP) is a systematic preventive approach to food and feed safety that addresses physical, chemical, and biological hazards as a means of prevention rather than finished product inspection. HACCP is used to identify potential food and feed



**Koch and Frederking discuss HACCP principles with participants from Kansas, Minnesota, and Ohio at a HACCP Plan short course at Northern Crops Institute.**

safety hazards, so that key actions can be taken to reduce or eliminate the risk of the hazards.

“HACCP is a process that offers protection from hazards,” says Koch. “It had been a voluntary program in the U.S. feed industry. With the new Food Safety Modernization Act that was passed in early 2011, food or feed manufacturing facilities need two separate documents on site—a written hazard analysis and a written hazard mitigation plan.”

“HACCP can be used in creating both of these documents—from

identification of hazards to dealing with noncompliant events and verification of a return to compliance,” Koch says.

“The food industry has used this process for 30 years or more. But it is newer to the feed and pet food industries. The Food Safety Modernization Act seeks to allow for safer global trade with fewer restrictions,” Koch concludes.

The programs underscore NCI’s commitment to the use of northern grown crops to produce quality feed for livestock, both domestically and internationally. Safety is a top concern.



**Feed Safety and Development of a HACCP Plan Short Course participants and faculty at NCI.**



**Kim Koch, Ph.D., NCI Feed Center Manager, lectures at the HACCP course in Willmar, Minn.**



**The Development of a HACCP Plan Short Course was offered in Willmar, Minn.**

## Pasta Manufacturing Course Showcases the Region's Durum Wheat Guatemala and USA • April 12-14, 2011

Twenty-six participants from fourteen pasta manufacturing companies in United States and Guatemala completed the Pasta Production and Technology Short Course. The course 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," says Crabtree.

"Over the years, we have expanded our hands-on experience in the pasta laboratory. We can do all the lectures in the world, but the best learning experience is to both show and tell participants. When they can physically test the flour and semolina, handle the freshly extruded pasta, and taste the finished product, that is the most convincing part of the whole process," concludes Crabtree.

The class also toured the Philadelphia Macaroni Company in Grand Forks, N.D.

Course faculty and technicians for the pasta course are: Rachel Carlson, NCI Food Technologist; Gabriele Cannata, De Mari Pasta Dies USA; Michael Ehr, Buhler, Inc.; Alexis Freier and Rad-



A participant catches spaghetti as it comes out of the pasta extruder.

wan Ibrahim, Ph.D., Dakota Growers Pasta Company; Thunyaporn Jera-dechachai, NCI Crop Quality Specialist; Frank Manthey, Ph.D., NDSU Professor of Plant Sciences; Rilie Morgan, NCI Processing Specialist; Brian Sorenson, Dakota Specialty Milling; and Mehmet Tulbek, Ph.D., former NCI Technical Director.

Pasta short course topics include durum varieties, quality evaluation, durum milling and semolina quality,

wheat quality tests, functional and alternative pasta ingredients, semolina physical and rheological tests, commercial pasta production, impact of protein and starch on pasta quality, pasta die design, die management and measurement, pasta drying technology, equipment options for pasta extrusion, pasta color and cooking evaluation, quality assurance, specialty pasta technology, whole and multi-grains in pasta, and causes and solutions of pasta defects.



Brian Sorenson, former NCI Director, explains techniques for evaluating durum wheat quality to the pasta course participants. Sorenson is now employed at Dakota Specialty Milling, Fargo, N.D.



Pasta Production and Technology Short Course participants and faculty

## Canola and Flax Short Course Highlights Their Functionality in Foods USA • April 26-28, 2011

Flaxseed and canola are important oilseed crops for our region. North Dakota raises about 93% of the total U.S. flax and canola crops. To support this growing market, NCI conducted the Functionality of Canola and Flaxseed Short Course to help food processors understand the utilization and benefits of flax and canola.

“Consumers are becoming more health conscious every year and the number of health foods in the U.S. marketplace has significantly increased since the last decade,” says Mehmet Tulbek, Ph.D., former NCI Technical Director.

“This market growth has helped flaxseed and canola crops to penetrate new market segments in the market and we anticipate additional growth in the future. In the last decade, North Dakota companies started to export significant quantities of flaxseed to several countries. These new markets helped U.S. flax receive global attention,” says Tulbek.

“Our main objective with the course is to educate participants on contracting, quality evaluation, milling, end product utilization, shelf life and sensory properties of U.S. flaxseed and canola. Hands-on experiences with multi-grain breads, pasta, tortilla and snack foods help participants understand the impact of flaxseed and canola fortification in food systems,” he concludes.

With today’s emphasis on health,



Thunyaporn “Naggie” Jeradechachai, NCI Crop Quality Specialist, uses different sized screens to demonstrate the differences in milling results.

flax and canola are gaining recognition with the nation’s consumers due to the nutritional and health benefits.

“Flaxseed is an ancient crop used for food and fiber,” says Clifford Hall, Ph.D., NDSU Cereal and Food Sciences, and a lecturer in the course. “Flaxseed contains high levels of omega-3 lipids, fiber, and the phytochemical called lignans. The omega-3 lipids have anti-inflammatory properties that are important for reducing cardiovascular disease. Lignans have been shown to

inhibit prostate and breast cancers. Fiber from whole flaxseed has been shown to reduce cholesterol levels.”

Course speakers and technicians included: John Crabtree, NCI; Sheri Coleman, Ameriflax; Barry Coleman, Northern Canola Growers; Natsuki Fujiwara, NCI; Clifford Hall III, Ph.D., NDSU; Thunyaporn Jeradechachai, NCI; Hans Kandel, Ph.D., NDSU; Frank Manthey, Ph.D., NDSU; Rilie Morgan, NCI; Frayne Olson, Ph.D., NDSU Extension Service; and Tulbek, NCI.



Mehmet Tulbek, Ph.D., former NCI Technical Director, extrudes flax-enhanced pasta.



Functionality of Canola and Flaxseed Short Course participants and faculty



Natsuki Fujiwara (left), NCI Food Technologist, fries doughnuts in canola oil during class.

## Colombian Pork Producers Look to NCI to Update Feed Expertise

Colombia • May 31-June 3, 2011

Opportunities presented through new free trade agreements prompted the Colombian Association of Pork Producers to come to NCI to update their knowledge of feed ingredients, ration formulation, feed mill equipment, and plant design.

Thirteen members of the Colombian Association of Pork Producers attended a four-day feed manufacturing program. The participants represented some of the largest feed mill companies and swine operations in Colombia.

The seminar was sponsored by

the Minnesota Corn Research and Promotion Council, the North Dakota Corn Utilization Council, and the U.S. Grains Council (USGC).

"Members of the Colombian Association of Pork Producers wanted a program that would bring their people up to speed with the feed industry, in order to deal with any opportunities that may arise through new trade agreements," says John Crabtree, NCI Assistant Director.

"Although United States and Colombia are still negotiating a free trade agreement, many changes have

already occurred in the marketplace, resulting in consolidations and increased competition," he continues.

"The U. S. Grains Council has strongly promoted DDGS in Colombia as a feed ingredient. If the U.S. and Colombia sign a free trade agreement, this will be a great opportunity to move U.S. DDGS into Colombia," Crabtree concludes. DDGS are a co-product of ethanol production.

Kim Koch, Ph.D., NCI Feed Center manager, coordinated and lectured in the program. Kurt Johnson, NCI Feed Center, assisted with feed milling.

Other speakers included:

Gerry Leukam, T.E. Ibberson Co.; Roberto Cespedes, Buhler; Robert Thaler, Ph.D., South Dakota State University; Joe Hancock, Ph.D., Kansas State University; David Newman, Ph.D., NDSU; and Matt Frederking, RalCo Nutrition. Ryan Thorpe hosted a tour of Tharaldson Ethanol Facility in Casselton, N.D. David Fairfield, National Grain and Feed Association, could not attend but shared information.

Lecture topics included feed mill design, equipment, personnel, feed manufacturing processes, swine nutrition, DDGS and grain sorghum in feed, meat quality, and feed safety.



Members of the Colombian Pork Producers Association gather around the NCI pelleting mill to observe Kim Koch, Ph.D., NCI Feed Center Manager, as he manufactures feed pellets.



Koch (left) explains the controls of the feed pellet mill to some of the participants.



Colombian Association of Pork Producers Feed Program participants and faculty



Two participants examine the feed pellets manufactured at the NCI Feed Center.

## Understanding Quality is Focus of Basics of Wheat and Flour Short Course Japan and USA • June 21-23, 2011

Quality specialists from several U.S. milling companies spent three days at NCI's Basics of Wheat and Flour Quality Short Course, learning more about how wheat type and quality affect the milling and baking processes.

The group participated in lectures and hands-on baking, as well as laboratory and milling demonstrations. Speakers demonstrated Perten equipment, Chopin Mixolab, Buhler lab mill, TA-XT Plus, and C-Cell technology, in addition to traditional wheat and flour testing technology.

"NCI offers this course to educate entry and mid-level quality specialists and technicians working in flour mills and baking companies as well as entry and mid-level marketing and sales staff," says Mehmet Tulbek, Ph.D., former NCI Technical Director. "The wheat industry has been evolving quickly in the last decade and there have been several new developments in quality control and evaluation techniques. NCI is always up to date and we present new equipment and quality control solutions for short course participants," he concludes.

John Crabtree, Assistant Director, coordinated the course. Speakers and technicians included Robert Meyer and Brian Sorenson, both from Dakota Specialty Milling; Ryan Taylor, Perten Technologies; Gregory Vericel, Chopin Technologies; and Rachel Carlson, Natsuki Fujiwara, Alyssa Hicks, Rilie Morgan, and Tulbek, all NCI.



**Two participants at the Basics of Wheat and Flour Short Course examine the bread dough that they made with whole wheat flour.**

Course topics included factors that define wheat and flour quality, U.S. wheat classes; a review of 2010 HRS wheat quality survey; quality tests; impact of milling on wheat flour quality; physical dough testing in flour; impact of dough rheology; impact of flour quality on baked products; baking performance using whole wheat flour;

flour requirements for hard/soft wheat products; semolina requirements for pasta products; characterization of mixing, fermentation, and baking processes; impact of protein and starch in flour based products; methodology of bread quality evaluation; and functional ingredients in flour and flour-based products.



**Participants shape bread dough into loaves before baking it.**



**Basics of Wheat and Flour Quality Short Course participants and faculty**



**Natsuki Fujiwara, NCI Food Technologist, explains the results of a colorimeter test.**

## Baking with Soy Course Helps in Introducing Soy into Africa

Nigeria • July 11-15, 2011

Margaret Ajufo, the managing director of Sunset Bakery in Asaba, Nigeria, attended a week-long intensive short course focusing on the use of soy ingredients in baking applications.

Ajufo joined NCI Crop Quality Specialist Thunyporn (Naggie) Jeradechachai in the NCI Baking Laboratory to make several different types of breads and other bakery products that highlight various functional properties of adding soy. The addition of soy flour to bread products can raise protein content, balance essential amino acids, and increase the bread's nutritional value and shelf life.

NCI has been hosting bakers from Nigeria since 2009, when the first Alltech Company employee came to learn about using soy in baking.



Margaret Ajufo, (left), and Thunyporn Jeradechachai, (right), NCI Crop Quality Specialist, show off the soy-enhanced bread they made during the course.

The following article was written by Karen Edwards, courtesy of WISHH.

### Nigerian Baker Finds Recipe for Soy Sales

Four days in North Dakota gave Sunset Bakery's Managing Director many reasons and recipes to use more high-protein U.S. soy than ever in Nigeria. The North Dakota and Minnesota soybean checkoff organizations supported the World Initiative for Soy in Human Health (WISHH) in bringing Margaret Ajufo to the Baking with Soy Short Course offered by NCI in Fargo in July.

"I will not be selfish," said Ajufo about sharing the training with other bakeries in her region. "I will help the other bakeries to see the usefulness of soy and that it's really a great product. It's the best quality, best flavor, best color, and has profits from increased yields of our bakery foods."

"African food companies and consumers benefit from U.S. soy and the technical expertise that is provided by the WISHH Program," said North Dakota soybean grower Jared Hagert, current treasurer of the North Dakota Soybean Council. "Through WISHH, there is the ability to create commercially sustainable enterprises that focus on utilizing U.S. soy."

Ajufo and many other bakers in Nigeria began using defatted soy flour in 2009 as a result of WISHH's work with Alltech, a company in Lagos that is now a repeat customer from CHS. WISHH provided Alltech with soy flour samples through the USDA Quality Samples Program.

NCI's hands-on demonstrations and

technical training gave Ajufo necessary information to make high-quality products with soy products. "We also did a lot of cooking with soya; a lot of doughnuts, cakes, it was all really interesting," said Ajufo, who plans to add these new products to her bakery in Nigeria. "I was so amazed to see how they made the tortilla. The one with the soya came out very smooth, very nice. I also like the recipe we did for the sponge cake, too."

Increasing the protein content of food is important for wellness and the strength to work, said Ajufo. "We eat a lot of bread in my country so I'm happy as a producer that I am feeding my people a high-protein product." (printed with permission.)



Ajufo begins making her soy-enhanced bread in the NCI Baking Laboratory.



Baking with Soy Short Course participant and faculty



Jeradechachai and Emily Hunt, an NCI student employee, assist Ajufo with mixing the dough.

## Southeast Asian Food Processors Learn about U.S. Dry Edible Beans Indonesia, Malaysia, Philippines and Thailand • July 26-28, 2011

Twelve food processors and food brokers from Indonesia, Malaysia, Philippines and Thailand came to NCI to learn more about the uses of dry edible beans in food products. The course focused on U.S. pinto, navy, black, great northern, and kidney beans and was co-sponsored by the U.S. Dry Bean Council.

“The Association of Southeast Asian Nations (ASEAN) is a growing economic power,” says Mehmet Tulbek, Ph.D., former NCI Technical

Director. “Due to the joint efforts of NCI and the U.S. Dry Bean Council, we have reached several companies in the region. We are hoping that our work will increase edible bean sales to the region.” United States is the world’s 5th largest producer of dry edible beans. North Dakota and Minnesota produce nearly 50% of the dry edible beans grown in the U.S.

“Dry edible beans are protein, fiber and micronutrient rich crops. In NCI’s first edible bean short course, we highlighted dry bean flour utilization and novel edible bean applications to the Southeast Asian buyers. We demonstrated dry edible bean breeding, quality, milling, utilization solutions, cost management, nutritional strategies as well as the supply chain and processing practices in the U.S.,” Tulbek concludes.

Lectures were supplemented by hands-on experiences in NCI’s analytical, milling, baking, pasta and extrusion laboratories.

Participants also toured a Wal-Mart store, NDSU Greenhouses and NDSU Edible Bean Breeding Field Plots, SK Food Specialty Processing facility in Moorhead, Minn., and their corporate offices in Fargo. The group also met with the staff of North Dakota Trade Office, Fargo.

Speakers and technicians for the course included Natsuki Fujiwara, NCI Food Technologist; Clifford Hall, Ph.D., NDSU; Thunyporn Jeradechchai, NCI Crop Quality Specialist; Phil McClean, Ph.D., NDSU; Rilie Morgan, NCI Processing Specialist; Frayne Olson, Ph.D., NDSU Extension Service; Juan Osorno, Ph.D., NDSU; Mehmet Tulbek, Ph.D., former NCI Technical Director.



Participants examine edible beans during a demonstration on quality evaluation led by Thunyporn “Naggie” Jeradechchai (left) NCI Crop Quality Specialist.



Rilie Morgan, NCI Processing Specialist, and Mehmet Tulbek, Ph.D., former NCI Technical Director, demonstrate the use of edible bean flour in extruded snacks using the NCI twin-screw extruder.



John Crabtree, NCI Assistant Director, welcomes the participants and reviews the schedule.



Edible Bean Quality and Utilization Short Course, July 26-28, 2011



Participants make chocolate chip cookies with bean flour in the NCI Baking Laboratory.

## Marketing Short Course Focuses on Dry Pea Ingredients

Indonesia, Malaysia, Mexico, Philippines, Thailand, and Vietnam • August 22-26, 2011



**Mehmet Tulbek, Ph.D., former NCI Technical Director (center) leads a demonstration of milling peas in the NCI Mill.**

Twelve food processors and importers from Indonesia, Malaysia, Mexico, Philippines, Thailand, and Vietnam traveled to NCI in August to learn more about the use and marketing of dry pea-based ingredients in food products.

The course was co-sponsored by USA Dry Pea and Lentil Council (USADPLC).

“USA Dry Pea and Lentil Council is pleased to once again team up with Northern Crops Institute in order to educate food processors and distributors on the uses of pea flour and pea fractionates in processed foods,” says Pete Klaiber, USADPLC Director of Marketing. “By bringing Southeast Asian industry members to

NCI, we have been able to introduce them to experts in the field. Courses like this one will help us achieve our goal of increasing consumption of U.S. produced peas, lentils and chickpeas worldwide,” he concludes.

Eighty-eight percent of the 2010 U.S. dry pea crop was produced in the four-state region of North Dakota, Montana, Minnesota and South Dakota. The cool, dry growing season of the U.S. northern tier is especially well suited for growing pulse crops. U.S. production of dry peas, lentils, and chickpeas has more than doubled in the past decade.

Course topics include dry pea breeding, quality evaluation, nutrition and milling applications; contracting

specialty crops; functionality of dry pea flour, protein, starch and fiber; Asian and vermicelli noodle processing; baking and pasta processing with pea flour; use of dry peas in food products; and sensory evaluation of pea-fortified products.

Speakers and technicians for the course were Rachel Carlson, NCI Food Technologist; Clifford Hall, Ph.D., NDSU Dept. of Cereal and Food Sciences; Thunyaporn Jeradechachai, NCI Crop Quality Specialist; Kevin McPhee, Ph.D., NDSU Pulse Breeder; Frayne Olson, Ph.D., NDSU Extension Service; Dilrukshi Thavarajah, Ph.D., NDSU School of Food Systems; and Mehmet Tulbek, Ph.D., former NCI Technical Director.

Lectures were supplemented by hands-on experiences in NCI’s analytical, milling, baking, pasta and extrusion processing labs. Participants also toured SK Food International’s processing facility in Moorhead, Minn., and their office in Fargo.



**Participants show off the bread they made with pea flour during the course’s baking sessions.**



**Participants prepared and evaluated bread and other baked products made with pea flour.**



**Marketing Pea-Based Ingredients Short Course, August 22-26, 2011**



**Thunyaporn “Naggie” Jeradechachai (right), NCI Crop Quality Specialist, assists group with baking.**

# 2012 SHORT COURSES

## Tentative Schedule

April 10-12	Pasta Production and Technology
May 14-18	Advanced Grain Procurement Strategies
June 12-14	Rheology of Wheat and Flour Quality
July 10-11	Using Barley in Food Applications
August 14-17	Barley Malt Quality Evaluation
Sept. 17-26	Grain Procurement Management for Importers

Check our website for the most up-to-date information.

[www.northern-crops.com](http://www.northern-crops.com)



The Wheat Quality Council concluded their Hard Red Spring Wheat and Durum Tour in July at NCI. The tour covered North Dakota, parts of western Minnesota and northern South Dakota. Participants scouted 369 hard red spring wheat fields, 31 durum fields and 19 hard red winter fields.

## Technical Director Resigns

Mehmet Tulbek, Ph.D., NCI Technical Director since July 2008, has resigned to assume new duties with Alliance Grain Traders, a Regina based Canadian company. He will be heading up their new Research, Development and Innovation Division.



Tulbek

Tulbek was NCI's Pulse and Oilseed Specialist for two and a half years before being named Technical Director. His experience includes over thirteen years of research and process development experience in pulse, oilseed and wheat quality and processing.

"I believe this new opportunity with Alliance Grain Traders is the next stage of my career," says Tulbek. "During my six years at Northern Crops Institute, I have had the opportunity of working with excellent mentors, great colleagues and served on several projects.

"During my time as technical director, NCI offered canola, edible bean, flaxseed and pulse technical education short courses for the first time. We continued to serve the regional, national and international companies in developing new products as well as optimizing their current products lines.

"During this period, we have increased our processing capabilities up to 250 days per year in product development, pasta processing, product quality evaluation, wheat flour milling and baking areas.

"I would like to complement our technical team with this growth, and I have been proud of serving with them. Working at NCI and being part of the team has been wonderful experience for me. I wish nothing but success for NCI in the future."

Tulbek earned his Ph.D. degree in cereal science at North Dakota State University (NDSU). He is a native of Turkey.

A national search for a new Technical Director is underway.

## Food Barley Initiative Gets Underway at NCI

The newest initiative at Northern Crops Institute (NCI) is the Food Barley Program, which is designed to increase the use of barley as a food ingredient. NCI is working with national barley industry leaders and growers to promote food barley use in other countries. Several states, including North Dakota, Montana, and Minnesota, are involved in this initiative. The North Dakota Barley Council is sponsoring much of the NCI food barley program.

For many years, NCI has hosted barley malt short courses and has featured barley in animal feed, and now we are addressing the potential of food barley, which shows great promise in Asia. Consumers in Japan and Korea already have a tradition of using food barley in their diets.

“The main interest driving these projects is the nutritional component of barley. Consumers need to become more aware of barley’s nutritional value, particularly of its beta-glucan, which aids heart health,” says Mark Weber, NCI Director.

Natsuki Fujiwara, NCI Food Technologist, is developing a series of recipes that increase the amount of barley flour in bakery products, such as pan bread, muffins, bagels, cookies, and pizza. She is working to find the right formulations without sacrificing performance, taste, color or appearance.

NCI hosted its first food barley trade team in September. A Japanese Barley Promotion Team came to NCI to discuss a newly planned food barley promotion program in Japan and to receive an update on barley quality and food barley work done in the region. The team was sponsored by U.S. Grains Council (USGC) and the North Dakota Barley Council. They were hosted by Steve Edwardson, North Dakota Barley Council.

Presenters at the trade team meeting were: Tommy Hamamoto, USGC Tokyo; Greg Fox, Ph.D., WestBred; Mary Sullivan, National Barley Foods Council and Washington Grain Commission; Natsuki Fujiwara, NCI Food Technologist; Rilie Morgan, NCI Processing Specialist; Chris Fastnought, Ph.D., WestBred; Paul Schwarz, Ph.D., NDSU Plant Sciences Dept.; and Frayne Olson, Ph.D., NDSU Extension Service.



**Natsuki Fujiwara, NCI Food Technologist, leads the Baking with Barley session. Fujiwara and Rilie Morgan, NCI Processing Specialist, also demonstrated extrusion of barley snacks.**



**Rachel Carlson, NCI Food Technologist, assists the Barley Team as they sample barley-enhanced bakery products.**



**Fujiwara explains the dough structure of the barley-enhanced bread.**



## Feed Center Offers Feed Education, Consulting, and Animal Research Support

Showcasing northern-grown crops in animal feed is the mission of NCI's Feed Center. That adds up to lots of corn, soybeans, and other crops.



Koch

Kim Koch, Feed Center manager, says, his staff produced 1,337 tons of feed, an average of 25.7 tons per work week in 2011. In all, 871 tons of corn, 152 tons of soybean meal, and 108 tons of DDGS and soybean hulls were used in teaching and research animal diets.

NCI continues to provide education and technical assistance to those utilizing the co-products from the Renewable Fuels Initiative. With sponsorship from the North Dakota Corn Utilization Council and support from the U.S. Grains Council, NCI provided feed manufacturing course for the Colombian Swine Producers Association.

To assist feed manufacturers with compliance under the Food Safety Modernization Act, NCI staff conducted two Feed Safety HACCP courses.

U.S. Grains Council also sponsored a five day seminar program in Mexico highlighting feed manufacturing technology and proper storage of bulk ingredients. Koch presented information on the use of sorghum in feed rations, led discussions on processing differences between sorghum and corn, and answered questions about feed manufacturing technology issues.

NCI conducted four short duration feed education programs: improving Chinese dairy production through the N.D. SuperFeed program for the Changzhou Lihua Livestock Company; feed manufacturing technology for a Kazakhstan feed and livestock team; and feed manufacturing technology for Japanese and Vietnamese teams. Each of

these programs emphasized the quality and value intrinsic of northern crops and co-products, while demonstrating feed production techniques.

Dr. Talat Naseer Pasha, Dean of Faculty of Animal Production and Technology, University of Veterinary & Animal Sciences, Lahore, Pakistan, spent two days visiting the NCI Feed Center for an update on feed technology and to discuss ongoing collaboration in the area of dairy calf nutrition.

Feed Center staff also supported three animal trials at the NDSU Main Station Animal Units and NDSU Hettinger (N.D.) Research Extension Center.

**Beef/Dairy – Over (extra) supplementation of dietary nitrogen and sulfur and the impact on uterine pH and embryo implantation:** The hypothesis was the use of DDGS in diets of open females at inclusion levels exceeding needed (required) levels of protein (N<sub>2</sub>) and sulfur (S) could have a negative effect upon uterine pH and embryo implantation. No differences were observed between control and test diets.

**Swine – Excess dietary estrogen and early onset of puberty; Use young female swine (gilts) as a biomedical model for young human females:** The hypothesis was the use of estrogenic implants in beef animals results in the early onset of puberty in young girls. Dietary treatments were a 'standard' corn:soy, a low estrogen, the low estrogen supplemented with meat from an 'implanted' or 'non-implanted' steer, and the low estrogen supplemented with tofu. No significant differences were observed in date of estrus onset.

**Sheep – DDGS used in growing-finishing meat sheep:** DDGS proved to be a viable feed supplement for meat sheep.



Members of the Flour City District of the International Association of Operative Millers (IAOM) toured Northern Crops Institute, with special emphasis on the new swing mill. They were escorted by Melinda Farris, (right), IAOM Executive Vice President, and hosted by Alyssa Hicks, (left), NCI Milling Specialist.

### The following crops or their milled products were tested at NCI's main facility and feed center in 2011:

Barley	Buckwheat	Peas
Barley Malt	Canola	Soybeans
Sprouts	Chickpeas	Sunflower
Beans	Corn	Confection
Black	Flaxseed	Oil
Great Northern	Lentils	Wheat: Durum
Navy	Millet	Hard Red Spring
Pinto	Oats	Hard Red Winter
Red		Hard White

### Oilseed Crop Quality Surveys Done at NCI

NCI again conducted several oilseed quality surveys under the supervision of Thunyaporn "Naggie" Jeradechachai, NCI Crop Quality Specialist. The surveys included the North Dakota Soybean Quality Survey, the Commodity Soybean Quality Survey, the Food-Grade Soybean Quality Survey, and the Flaxseed Quality Survey for AmeriFlax.



Mehmet Tulbek (center), former NCI Technical Director, promoted pulses at the Healthy Flavors, Healthy Kids National Leadership Summit at The Culinary Institute of America in San Antonio in May. Recipes developed by Thunyaporn Jeradechachai of NCI were demonstrated during the summit. Kaye Effertz (left), Northern Pulse Growers Association, and Jennifer William (right), USA Dry Pea and Lentil Council, were co-hosts.



Rachel Carlson (center), NCI Food Technologist, attended the Institute of Food Technology Expo in New Orleans, June 12-14. She assisted with technical questions at the Pulse Booth hosted by William and Effertz.



Effertz (left) and Thunyaporn "Naggie" Jeradechachai (right), NCI Crop Quality Specialist, presented information on the use of legume flours in food applications at the Legumes: Wholesome Ingredients in Value-Added Foods Short Course at the Culinary Institute of America, St. Helena, Calif. in August.

# Pulses

Pulse crops have become increasingly important in the four-state region, and the staff of Northern Crops Institute have cooperated on many projects to promote new markets for pulses.

NCI is a partner with the Northern Pulse Growers Association on a USDA Specialty Crop Grant. As part of this grant, our staff is helping food companies utilize more pulse ingredients in their products.

Thunyaporn "Naggie" Jeradechachai, NCI Crop Quality Specialist, is developing pea and lentil fiber and gluten-free recipes to be used as market development tools for pulse crops. The food service and gluten-free sector are growing areas, and NCI is working to focus more technical information to increase their awareness of pulses.

Tulbek and Jeradechachai traveled to Bangkok this summer to conduct a short course, "Baking with Pea Flour." Thirty-five participants from Singapore, Thailand, Malaysia, Philippines, Indonesia, and Vietnam attended.

Tulbek delivered lectures for the three-day course and Jeradechachai did all the demonstrations and lab teaching. Baked products, such as breads, cookies, cakes, pancakes, and other baked items, were fortified with pea flour as a nutritional and functional supplement. They also discussed gluten-free breads and other baked products made with 100% pea flour.

"Some of the participants in the Bangkok course came to NCI later in the year to attend other short courses that we offered at NCI in July and August," says Tulbek. "Our outreach projects overseas really help us promote our short courses and technical services. As a result of reaching these groups overseas, they come to NCI and continue their educational programs to learn more about northern-crops grown in the four-state region," he concludes.

The Culinary Institute of America course was a similar project, funded by the USA Dry Pea and Lentil Council and the Northern Pulse Growers Association. The course was designed to promote pulse crops to the U.S. food industry. The participants were educated on the use of pulse flour, and on how pulses fit into food systems and into different recipes. During the course, the participants used baking formulas that were developed by Northern Crops Institute.

"The 36 participants, all from U.S. food companies, were very excited about the pulse ingredients because of their nutritional benefits and functionality in food products," says Jeradechachai.

The course was sponsored by the USA Dry Pea and Lentil Council and the Northern Pulse Growers Association.

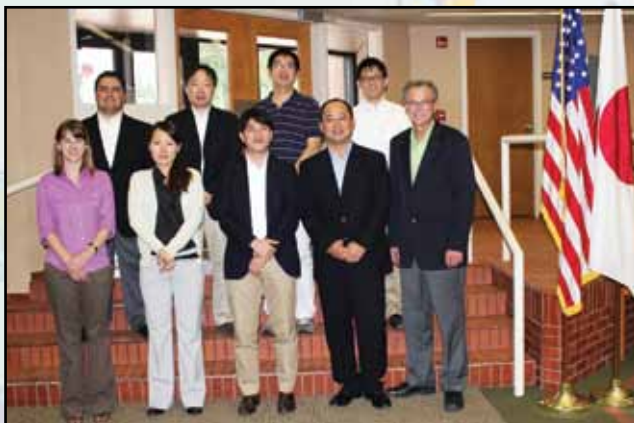
## Trade Teams and International Consulting



**Kyrgyzstan...**An eight-member team of Cochran Fellowship recipients from Kyrgyzstan visited NCI to learn more about U.S. agriculture. Their main area of interest was oilseeds from the Upper Midwest. The team was hosted by NCI Interim Director John Crabtree, and former NCI Technical Director Mehmet Tulbek, Ph.D., who discussed the production and utilization of oilseeds and provided an overview of regional agriculture. The team was escorted by Al Schneiter, Ph.D., NDSU retired, and sponsored by the MACI program of the USDA.



**Japan...**A four-member team from the Toyota Tsusho and Showa Sangyo companies in Japan visited NCI to assess the 2011 wheat crop. They were escorted by Erica Olson, North Dakota Wheat Commission (NDWC). Mohamed Mergoum, Ph.D., NDSU Spring Wheat Breeder, explained the NDSU spring wheat breeding program. Bill Wilson, Ph.D., NDSU Distinguished Professor of Agribusiness and Applied Economics, presented an update on biotech wheat. Senay Simsek, Ph.D., NDSU Wheat Quality Specialist, discussed preliminary quality of the 2011 HRS crop, and Frank Manthey, Ph.D., NDSU Durum Quality Specialist, presented on preliminary quality of the 2011 durum crop.



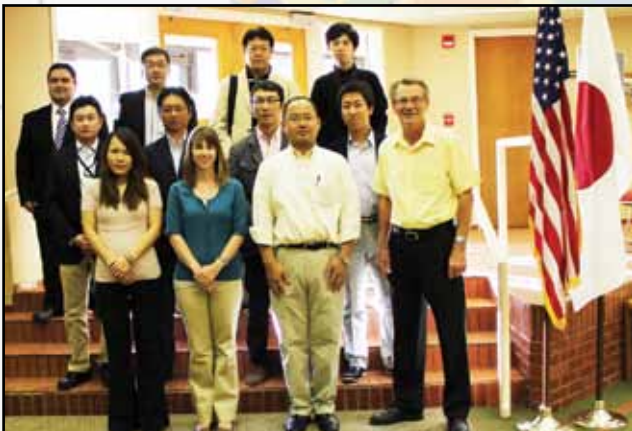
**Japan...**A five-member quality team from Yamakazi Baking Company in Japan visited Northern Crops Institute to meet with wheat experts who explained the quality of the regional wheat crop. Erica Peterson, North Dakota Wheat Commission, presented information about the 2011 wheat crop and quality results from the previous year's crop. Natsuki Fujiwara, NCI Food Technologist, assisted with the question and answer session. The group was hosted by John Crabtree, NCI Interim Director, and Mehmet Tulbek, former NCI Technical Director.



**Iraq...**A two-member Iraqi Agricultural Trade Team, hosted by the North Dakota Trade Office, visited NCI to be educated about the crops grown in the region and NCI educational programs. The team was accompanied by Tom Wollin of North Dakota Trade Office. NCI Interim Director John Crabtree and former NCI Technical Director Mehmet Tulbek welcomed the members of Al Awwad Company and briefed them about the region's agricultural industry.



**Vietnam...** A Vietnam Feed Manufacturing Team came to NCI to meet with Kim Koch, Ph.D., NCI Feed Center Manager, and Bob Thaler, Ph.D., South Dakota State University, and to learn more about the processes of size reduction, mixing, pelleting, and extrusion. The team members were from some of the larger feed manufacturers in Vietnam, where the feed sector is one of the most rapidly expanding in S.E. Asia. They are sponsored by Bayer Animal Science (Vietnam). Thaler and Koch share the opinion that feed formulation and feed manufacturing should always be taught together as they are complimentary to one another. They hope to continue this programming in Vietnam.



**Japan...** An eight-member delegation from Japan visited NCI to meet with experts who shared information about the current wheat crop situation. The Marubeni Company brought customers from Morinaga Company, Okumoto Flour Milling Company, Showa Sangyo Company, Nisshin Flour Company, and Shimadaya Corporation. The team was hosted by John Crabtree, NCI Interim Director. Erica Peterson, NDWC, presented information about current wheat production and crop quality. Mohamed Mergoum, NDSU Spring Wheat Breeder, detailed the NDSU spring wheat varietal program.



**Japan...** A team of mid-level managers from four flour mills in Japan visited NCI on an educational tour sponsored by U.S. Wheat Associates (USW). The millers focused on wheat breeding innovations, latest crop quality data and how the U.S. wheat export system benefits buyers. On average, Japan has imported more U.S. wheat than any other country for many years and is the largest importer of U.S. hard red spring (HRS) and soft white (SW) wheat. "These future leaders of Japan's milling industry are keenly aware of how the U.S. wheat industry works to ensure the highest possible quality and safety," said Japan Country Director Wataru "Charlie" Utsunomiya, who traveled with the team. They were escorted by Erica Olson, North Dakota Wheat Commission. The team was hosted by Mark Weber, NCI Director, and John Crabtree, NCI Assistant Director.



Koch

**Mexico...** Kim Koch, Ph.D., NCI Feed Center Manager, assisted the U.S. Grains Council with a series of seminars on feed management in Mexico. The seminars were held in Torreon, Monterrey, Guadalajara and Merida, Mexico, for livestock/poultry producers and feed manufacturers. Koch presented information on the use of sorghum in feed rations, lead discussions on processing differences between sorghum and corn, and answered questions about feed manufacturing technology issues. Another team member, Carl Reed, Ph.D., Kansas State University IGP Program, gave presentations on sorghum quality (grade and other factors) and proper storage practices. "During the seminars, we stressed the importance of quality when making high value livestock and poultry feeds and understanding how to incorporate sorghum to best advantage," says Koch.

## Trade Teams and International Consulting



**Thailand...** Mehmet Tulbek, Ph.D., former NCI Technical Director, and Thunyaporn Jeradechachai, NCI Crop Quality Specialist, traveled to Thailand to teach at the Baking with U.S. Pea Flour short course. “The main objective of this course was to train the leading regional chefs on the use of pea flour in bread, cake and cookie products. During the program, we presented information about the dry pea supply chain, milling, baking and various end-use technologies,” Tulbek said. The program was conducted by Tirapat Chernprateep and Dr. Dee Richmond, and sponsored by U.S. Dry Pea & Lentil Council and the U.S. Department of Agriculture.



**Japan...** A Japanese Barley Promotion Team came to discuss a newly planned food barley promotion program in Japan and to receive an update on barley quality and food barley work done in the region. The program was sponsored by U.S. Grains Council (USGC) and the North Dakota Barley Council. The group was hosted by Steve Edwardson, North Dakota Barley Council. Natsuki Fujiwara, NCI Food Technologist, led the “Baking with Barley” session.



**Sweden...** Representatives of the Farina Flour Milling Company and the Pågen Bakery Group, Sweden, visited NCI. Hosted by John Crabtree, NCI Interim Director, and Sally Backman, PR/Communications Specialist, the team toured the NCI laboratories and mill, and learned more about the region and its agriculture. They also visited Arthur (N.D.) Company, and an area farming operation. Farina AB belongs to one of Scandinavia’s oldest mills.



**Japan...**A representative of the Japanese Nisshin Flour Mills visited Northern Crops Institute to be updated on the current wheat crop. He was hosted by Erica Olson, North Dakota Wheat Commission. Brent Hinsz, NDSU Plant Sciences Department, presented the preliminary quality report of the 2011 HRS crop; and Mohamed Mergoum, Ph.D., NDSU Spring Wheat Breeder, gave an overview of the Spring Wheat Breeding Program. Natsuki Fujiwara, NCI Food Technologist, hosted the visitors.



**Mexico...**A team representing the Cerveceria Cuauhtémoc-Moctezuma Company (CCM) in Mexico came to NCI to meet with barley experts and tour NCI and NDSU facilities. The objectives of their visit were to learn more about importing malting barley varieties into Mexico, discuss the impact of the CCM and Heineken merger, and introduce U.S. barley varieties to Heineken personnel. They were escorted by Patricia Esqueda, Technical Director, U.S. Grains Council Mexico. They were hosted by Steve Edwardson, North Dakota Barley Council, and Paul Schwarz, Institute of Barley and Malt Science, NDSU. The team was sponsored by the U.S. Grains Council.



**China...**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, China Global Group, Fargo. NCI Feed Center Manager Kim Koch, Ph.D., hosted the group.



**Japan...**Three representatives of Nippon Flour Mills came to NCI to be apprised of the 2011 wheat crop. The team met with Mark Weber, NCI Director, who gave a brief overview of NCI and hosted the team on a tour of the facility. Senay Simsek, Ph.D., Assistant Professor of Plant Sciences at NDSU, gave a quality overview of the HRS wheat crop. Erica Olson, North Dakota Wheat Commission, discussed the U.S. HRS and Durum situation and outlook.



Northern Crops Institute  
 NDSU Dept. 7400  
 P.O. Box 6050  
 Fargo, ND 58108-6050

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2011 Annual Update

### *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
  - Pasta Processing
  - Extrusion
  - Post-extrusion
  - Feed
  - Industrial

#### **NCI can provide:**

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

#### **NCI Staff**

Mark Weber, Director  
 John Crabtree, Assistant Director  
 Sally Backman, PR/Communications Specialist  
 Linda Briggs, Office Manager  
 Rachel Brudvik Carlson, Food Technologist  
 Natsuki Fujiwara, Food Technologist  
 Alyssa Hicks, Milling Specialist  
 Naggie Jeradechachai, Crop Quality Specialist  
 Kim Koch, Ph.D., Feed Center Manager  
 Pat Limesand, Account Technician  
 Rilie Morgan, Processing Specialist  
 Technical Director Position Open

#### **Sally Backman, Update Editor**

Contact us at:  
 Northern Crops Institute  
 NDSU Dept. 7400  
 P.O. Box 6050  
 Fargo, ND 58108-6050  
 Phone: (701) 231-7736  
 FAX: (701) 231-7235  
 E-mail: nci@ndsu.edu

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