

NCI's New Pilot Flour Mill

Multi-state and industry efforts make facility a reality.

The Northern Crops Institute (NCI), which is based at North Dakota State University, Fargo, celebrated its new pilot flour mill renovation with a ribbon-cutting ceremony on Nov. 24, 2009.



Cutting the ribbon for the new Pilot Mill at the Northern Crops Institute. Left to right: Mehmet Tulbek, NCI technical director; Brian Sorenson, NCI director; René Steiner, Buhler Inc.; North Dakota Gov. John Hoeven; North Dakota Commissioner of Agriculture Doug Goehring; David Clough, North Dakota Wheat Commission; Arlo Skari, Montana Wheat and Barley Committee; Laird Larson, South Dakota Wheat Commission; Mark Jossund, Minnesota Wheat Research and Promotion Council; and John Crabtree, NCI assistant director.

NCI Director Brian Sorenson kicked off the event along with special guests, which included North Dakota Gov. John Hoeven; North Dakota Agriculture Commissioner Doug Goehring; D.C. Coston, Ph.D., NDSU vice president of agriculture and university outreach; representatives of regional wheat commissions; and René Steiner, president, Buhler North America.

Guests toured the mill after the ribbon-cutting ceremony. A dinner followed the event.

Widespread Support

"This project is the result of a strong partnership between North Dakota, South Dakota, Minnesota, and Montana and a steadfast commitment to growing the agriculture and value-added processing industries in our states, as well as enhancing our competitiveness in marketing commodities worldwide," Gov. Hoeven said.

Donations from the South Dakota

Wheat Commission, North Dakota Wheat Commission, Montana Wheat and Barley Committee, Minnesota Wheat Research and Promotion Council, General Mills,

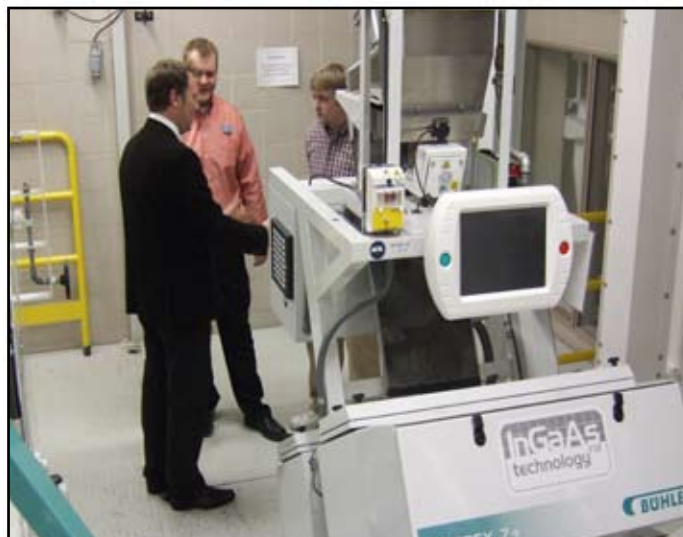
Horizon Milling, and several individuals partially funded the renovation. Buhler Inc. also donated an optical color sorter, which can detect and remove defective product and foreign material in wheat.

Innovative Mill Facility

"This pilot mill project is a great example of how NCI is continuing to add technical capabilities to support our educational programs and support value-added processing," Sorenson said. "We intend to use the mill for short-course programs and help buyers understand how to best utilize the wheats grown in this region and to conduct testing programs for new varieties.

"Whenever someone comes to NCI as part of a short-course program or international trade mission, we also have an opportunity to showcase our crops and help them see the potential for adding value to their businesses."

According to Sorenson, NCI's pilot durum mill was converted into a dual-purpose or "swing mill" to give the Northern Plains region the capability to mill pilot-scale or test-scale quantities of bread wheats (e.g., hard red spring, hard red ▶



Ruedi Weiss, Buhler Inc. (left), Steve Meyerhofer (middle), and Andrew Meyerhofer (right) of the Meyerhofer Steel and Construction Company look at the optical color sorter that was donated by Buhler Inc. Meyerhofer Construction was a main contractor for the new mill.



Brian Kaae (left), MT Wheat and former NCC Chair, visits with Kim Koch (center), NCI Feed Center manager, and Doug Goehring (right), ND Commissioner of Agriculture, during the tour of the new mill. Photo: JMO Photography

winter, and hard white) into flour for quality and test baking/processing evaluations. The mill also has the capability of milling durum wheat into high-quality semolina.

"We worked with the engineers at Buhler, Inc. in Plymouth, MN to design and build this pilot mill facility in several phases, which allowed us to get the mill operational in a very short period of time," Sorenson said.

The flour milling capacity of the new mill is from 200 to 300 lbs./hour, a higher volume than a laboratory scale mill can produce, Sorenson adds. The flour quality closely matches flour from a commercial flour mill.

In addition to milling and testing flour, the new pilot mill also will be used for educating millers about hard wheats. NCI's pilot-scale durum mill, built in 1991, was one of the few facilities in the nation dedicated specifically to educating and training durum millers.

Renovation Done in Phases

In late November 2009, phases one and two were completed, so that the new mill facility could elevate the grain for cleaning and color sorting, temper the wheat to optimum moisture conditions for milling, and mill the wheats into flour or semolina.

The existing building and much of the pilot-scale durum mill equipment were

used in building the new mill, according to Sorenson. Additional equipment to improve grain handling, cleaning, tempering, and purifying was purchased or donated.

"For 2010, phases three and four will give us the ability to mix flour and work with incorporating fortified nutrients and other additives," Sorenson said. "We'll also install a storage bin and equipment to package the flour into 50-lb. bags, to aid in further testing and research."

Presently, NCI is conducting a nationwide search for a full-time milling specialist. Several candidates have been

interviewed; however, no final selection has been made yet.

Some History About the Project

According to Sorenson, in 2007, when the Northern Crops Council (NCC) formed a committee to look at the future of NCI's technical capabilities in milling, the NCC identified a definite need for a swing mill of this capacity.

"The committee decided to review the existing equipment, and it determined that we had a great asset in our pilot durum mill," Sorenson said. "Using the existing durum mill equipment as a starting point for the new mill sped up the project as well as kept the overall costs down."

At a November 2008 meeting, the NCC voted to move forward with the project. "To go from a project design to a completed installation by 2009 was a testament to the NCI staff, the NCC, as well as Buhler, which helped us put this project together," Sorenson said.

The project also fits in well with NCI's overall mission, according to Sorenson, in supporting regional agriculture and value-added processing by conducting educational and technical programs that expand and maintain domestic and international markets for northern-grown crops. The NCI is funded by the Minnesota, North Dakota, and South Dakota, and commodity groups in these states and Montana.

Karl Ohm, associate editor



D.C. Coston, (left), Ph.D., NDSU vice president for agriculture and outreach, North Dakota Gov. John Hoeven (center); and NCI Director Brian Sorenson visit before the ribbon-cutting ceremony.