Wheat Marketing Center (WMC) is dedicated to improving the well being of present and future generations of U.S. wheat farmers and worldwide consumers by conducting wheat utilization research projects and delivering dynamic educational programs in partnership with other international technical and educational organizations.

Cookie and Cracker Technology Course evaluating end products.

Korea Contracting for Wheat Value workshop participants comparing pan bread.

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Wheat Marketing Center is governed by a 13 member board made up of wheat commission members from the seven charter states along with six industry representatives. Let me take a moment and introduce the group that meets twice a year, sets policy, and makes up the four working committees, all dedicated to US wheat growers and their customers around the world.

Grower state board members are David Clough, North Dakota; Darren Padget, Oregon; Brit Ausman, Washington; Steve Beedy, Colorado; Von Johnson, Nebraska; Bruce Myllymaki, Montana; and myself, Idaho. The industry representative component of the board includes Tom Zelenka, Schnitzer Steel (ret); Ron Williams, Columbia Grain; Chris Labbe, Kerr Pacific; John Akre, Port of Portland; Greg Guthrie, Burlington Northern Santa Fe; and Keith Bailey, Ag Ventures NW.

At the helm daily is Managing Director Janice Cooper. She is in her second year at WMC and has been in the wheat industry for many years, most recently as Executive Director of the California Wheat Commission. Janice currently is chairperson of USDA’s Federal Grain Inspection Service industry advisory committee.

Our Technical Director is Dr. Gary Hou. Gary is a published scientist known and recognized worldwide for his Asian noodle, cracker and other wheat foods expertise. He has served the WMC for over 21 years!

Lab Supervisor Bon Lee is an internationally recognized milling expert who, like Gary, consults with customers from around the world to assure U.S. wheat products and blends are meeting customers’ needs. He is also in charge of the annual crop quality testing process.

Kathleen Gehring is our Lab Technician who is always attending to detailed processes and equipment -- all with great efficiency and a smile. Like Bon and Gary, her long term commitment to U.S. growers is commendable!

The newest addition to the staff is Gamble Wright. She is the receptionist and office manager we all greatly appreciate!

Food Technologist Caryn Ong and Lab Assistant Kin Wong round out the very capable team that works tirelessly to assure that WMC is "improving the competitive edge of United States wheat farmers through education and research" every day.

The international Visiting Scholar program provides WMC with industry expertise and university scholars from around the world on a six to twelve month rotating basis. While with us in Portland, they conduct a baking or milling research project while lending their international expertise to U.S. growers.

Working for you every day, we are the industry’s Wheat Marketing Center, dedicated to US wheat farmers. I am honored to serve at the pleasure of the board.
Greetings from Portland! I have been on the job for just over a year now and am honored to take this opportunity to reach out to our stakeholders, collaborators, and friends in the wheat industry to provide a report on the highlights from the Wheat Marketing Center. As we close out the year, WMC staff are all busy with year-end projects and travel, grower workshops, pilot cracker line product testing, and planning for 2017. In fact, as I reflect on the year, I can’t really think of a slow period. As you will see in this report, we have hosted many visitors from near and far; conducted numerous technical courses showcasing the quality of U.S. wheat in a range of end products; and completed the annual crop quality testing and several in-depth research projects.

2016 has also been a busy year for the Board of Directors, chaired by Bill Flory, a wheat grower representing the Idaho Wheat Commission. All board members serve on committees engaged on financial, personnel, marketing, and governance issues. These committees provided leadership throughout the year beyond the biannual board meetings. In 2016, the committees oversaw the redrafting of the Employee Handbook, restructuring of the budget, and planning for new marketing tools. We have a diverse board – seven representatives from the charter state wheat commissions (Idaho, Oregon, Washington, North Dakota, Montana, Colorado, and Nebraska) and six members from entities related to the global wheat industry. The knowledge and expertise of the members, many with long service on our board, bring valuable insights to discussions of strategy and business development.

WMC Lab Services, the for-profit entity set up to handle proprietary training, wheat and flour testing, and product development, also had a good year. Governed by a separate Board of Directors, WMC Lab Services continues to add customers and promote U.S. wheat through its specialized services.

Our full-time staff remains committed to the WMC’s mission of improving the competitive edge of U.S. wheat through education and research. Existing staff – Gary Hou, Bon Lee, Kathleen Gehring and Caryn Ong – were joined early this year by Gamble Wright, a native of Jacksonville, FL, as Office Manager. Two visiting scholars, a research associate, and a part-time milling associate rounded out the staff.

I want to express my personal thanks to the extended WMC family for welcoming me and making this year so memorable. My first year was focused on internal operations and on outreach to our partners. I visited all seven charter states to report on WMC’s progress, attended U.S. Wheat Associates (USW) meetings and regional marketing conferences, and participated in wheat quality and other industry meetings. All wheat organizations share the common goal to promote U.S. wheat. By working together we are better positioned to meet the many challenges in the current world market.

**Staff**

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WMC By the Numbers

300 tour guests

153 course participants

17 courses

10,127 lab tests

61 grower workshop participants

24 countries engaged
WMC hosts multiple technical training courses and growers’ workshops each year.
For a current list, please see the back cover or visit our website, wmcinc.org.

Participants of the Korea Whole Wheat Noodle Development Course with Shawn Campbell of USW and WMC Board member John Akre.

Nigerian team, above, developing product with our partners at the Food Innovation Center (FIC), and below, assessing their new products, during the Advanced Asian Noodle Technology Short Course.

Lin Carson, PhD, CEO and Founder of BAKERpedia, presenting course materials at a new “Science of” series.

Janice Cooper, far right, touring Dave’s Killer Bread with Montana farmers during a growers workshop.
U.S. wheat competes in the world market based on its high quality and reliable supply. Each year, Wheat Marketing Center joins other quality laboratories from around the country in testing and documenting the quality characteristics of the current crop. In cooperation with elevators and grain facilities in Idaho, Oregon and Washington, harvest samples of PNW wheat are collected and sent to WMC where tests are performed and results reported weekly throughout the harvest season. In addition to this weekly testing, WMC produces an in-depth Crop Quality Report on soft white wheat (funded by the PNW wheat commissions) and provides data on soft white and hard white wheat for the comprehensive USW Crop Quality Report.

In addition to testing the current crop, WMC also participates in the ongoing effort to improve the quality of U.S. wheat by evaluating new varieties being considered for commercial release. Each year, public and private breeders submit their most promising lines for review by quality and commercial labs. WMC tests grain, flour and end product quality and presents results at each of the regional review meetings.

### Research Highlights

WMC’s research projects have focused on the end use quality of U.S. wheat, improvement of whole-wheat flour products, and enhancement of nutritional benefits in wheat foods. Often, research topics are chosen in response to harvest challenges and/or market opportunities. Subjects this year include:

- Optimization of western white flour blends for Japanese sponge cake
- Soft wheat whole-wheat flour particle size and snack cracker baking performance
- Utilization of soft white whole-wheat flour in baking and steamed bread applications
- Improvement of textural and sensory properties of whole-wheat noodle with selected enzymes and emulsifiers
- Hard wheat whole-wheat flour particle and tortilla baking quality
- Improvement of whole-wheat tortillas with sprouted whole-wheat flour substitution
- Development of a special leavening system to improve the opacity in whole-wheat tortillas
- Shelf-life extension of pan bread using wine grape pomace

For research results or to discuss new research projects, please contact Dr. Gary Hou, WMC Technical Director, at ghou@wmcinc.org.
The numbers reported here are for WMC’s FY 15/16, which ran from July 1, 2015 to June 30, 2016. Starting in December 2016, the financial accounting system was reorganized to improve transparency and project accounting.

**Operating Budget:** Wheat Marketing Center received 77 percent of its operating income from state wheat commissions. The seven WMC charter states – Oregon, Washington, Idaho, Montana, North Dakota, Nebraska, and Colorado – funded several programs including: general support, crop quality, grower workshops, research, Visiting Scholars, and equipment. South Dakota and Wyoming also provided some funding. WMC appreciates this strong support and looks forward to continued and expanded engagement with wheat growers across the country.

Approximately 45% of operating expense funds salaries and benefits for WMC’s highly trained and experienced staff. Other major expense items include rent, business development, Visiting Scholars, utilities and telecom, and insurance.

The annual fiscal audit resulted in a clean report and noted that issues from the prior year had been addressed.

**Capital Budget:** Starting with FY 16/17, a formal separation was made between the operating and capital budgets, as directed by the Board. Although capital income derived from WMC’s partnership in the Albers Mill Building is still available to fund operations as needed, this delineation clarifies for our major funders that state commission dollars are not being used for building-related expenses.

WMC derived $420,000 in building income, half of which was invested back into the building partnership for tenant upgrades and other capital projects. Close to $100,000 was spent on WMC equipment purchase, repair and maintenance.
In 2001, WMC initiated a scientific technical program for Visiting Scholars in order to perform research on selected topics. Scholars have come from many key markets, including Japan, Taiwan, Mexico, China, and Korea. Since the program’s inception, WMC has hosted 25 visiting scholars from nine countries.

WMC’s Visiting Scholar program invites wheat-focused science professionals to spend 6-12 months to gain technical training and develop increased awareness, understanding and innovation to increase utilization of U.S. wheat. Such exchanges not only strengthen relationships and create networks with current and emerging technical leaders but also provide insight to build foundations for better recognition of the comparative advantages of using U.S. wheat in existing and new product markets.

Program Accomplishments—Wheat Marketing Center hosted two scholars in 2016:

Dr. Wenyin (Sofia) Zheng, Associate Professor, Anhui Agricultural University, Hefei, China; January - December, 2016. Her projects included evaluating soft white whole wheat flour in baked products and wine grape pomace-fortified bread.

Mr. Yosep (Joe) Kim, Researcher, Daehan Flour Mill, Incheon, South Korea; February – August, 2016. Mr. Kim studied the relationship between protein levels and sponge cake quality and identified optimal blends for sponge cakes.
Most of the activity at the Wheat Marketing Center falls within our non-profit educational and research mission. In response to requests from customers for confidential services, however, WMC Lab Services, a for-profit entity, was established to conduct proprietary research, lab analysis and training. WMC Lab Services provides a range of services including quality testing; cracker/biscuit, Asian noodle, tortilla, and other product development on our pilot scale production lines; and customized training for technical staff. Under a lease agreement, WMC Lab Services reimburses Wheat Marketing Center for facility and staff use. WMC Lab Services is governed by a separate board of directors.

With generous funding from several state wheat commissions, Wheat Marketing Center acquired three major pilot scale production lines that enhance our research, product development and technical training capability. The Asian Noodle Line (pictured on left) is a complete line including vacuum mixer, dough sheeters, a series of rollers, slitter, steamer, fryer, and dryer. It mimics the commercial noodle production and is very suitable for technical training and research and product development purposes. The Cracker/Biscuit Line (center), one of only two in the world, can be adapted to many types of products, including saltine cracker, snack crackers, Marie-style semi-sweet biscuits, and various types of rotary cookies. Our most recent acquisition, the Tortilla Line (right), enables WMC to build on its extensive research on improving whole wheat tortilla quality.
**Special Events**

**Latin American and Caribbean Buyers Conference**

In June 2016, US Wheat Associates held its biennial Latin American and Caribbean Buyers Conference in Portland, drawing a record number of participants including 75 flour millers and other buyers from this key region. The conference focused on how current world market dynamics make U.S. wheat an attractive choice for importers. That is an important message for Latin American buyers who import 40 percent of all U.S. wheat exports.

WMC staff and board of directors welcomed more than 50 guests for a pre-conference facility tour, demonstrating both cracker/biscuit and Asian noodle pilot scale lines. During the conference, several customers asked for additional meetings with WMC staff to discuss technical issues and potential research projects.

**Grain Inspection Advisory Committee**

The 15 member Grain Inspection Advisory Committee (GIAC), appointed by the U.S. Secretary of Agriculture to advise the Grain Inspection, Packers and Stockyards Administration (GIPSA) on programs and services, met at the Wheat Marketing Center in October 2016. GIAC is comprised of grain industry representatives from all segments of the industry.

Larry Mitchell, GIPSA Administrator, opened the meeting and welcomed the more than 50 participants. Senior FGIS staff from Washington, DC and the National Grain Center in Kansas City provided a series of detailed presentations updating the committee on field operations, fiscal issues, international activities, and technical scientific projects.

The following day, the committee discussed and adopted nine resolutions on a number of pending issues. The committee strongly urged the Federal Grain Inspection Service to improve testing equipment “equivalence,” reduce variances in results and continue its monitoring programs. Resolutions provide guidance and recommendations regarding programs and policies.

After completing the resolution process, the committee and FGIS staff toured the WMC and Columbia Export Terminal. They then joined WMC’s Board of Directors for a vigorous discussion on many issues, including how to improve the Falling Number testing protocols. USW Vice President Steve Wirsching completed his term as committee chair and passed the gavel to WMC Managing Director Janice Cooper.
2017 Highlights

Wheat Marketing Center has an exciting year planned for 2017. In addition to our full complement of USW and WMC sponsored technical training courses and grower workshops, we are also planning an export workshop for elevator operators, hosting a Bread Bakers Guild class, and participating in the USW World Staff Conference. We are also expanding course offerings featuring new technologies and techniques through our partnership with BAKERpedia.

We have launched a rebranding effort that has brought in our new logo. Next we will update our website and refresh the educational displays that have formed a core component of our outreach mission. The Board’s Marketing and Promotion Committee is fully engaged in this effort and is attracting many partner resources to the project.

We are looking forward to utilizing the tortilla line donated by the Nebraska Wheat Board for training and research purposes. We will also be adding a stone mill, courtesy of Montana Wheat and Barley Committee, which will enhance our already robust research program to improve the quality of whole grain products.

For more details, call our office, follow us on social media, or join us at the Spring Board of Directors meeting on March 23-24, 2017.

**Grower Workshops**

- **Jan. 9** Idaho Farmers  
  Sponsored by Idaho Wheat Commission

- **Jan. 9-13** Nebraska Farmers  
  Sponsored by Nebraska Wheat Board

- **Feb. 27-28** Oregon Farmers  
  Sponsored by Oregon Wheat Commission

- **Mar. 7-10** Montana Farmers  
  Sponsored by Montana Wheat & Barley Committee

- **Mar. 20-22** Nebraska Youth  
  Sponsored by Nebraska Wheat Board

- **Nov. 29** Washington Growers  
  Sponsored by Washington Grain Commission

**WMC Courses**

- **Feb. 8-9** Science of Artisan Bread Baking  
  Organized by WMC and BAKERpedia

- **Mar. 14-15** World of Rye Breads  
  Sponsored by BBGA

- **Apr. 17-21** Cookie and Cracker Technology Short Course

- **May 9-11** Flat Bread and Flour Tortilla Technology Short Course

- **June 6-8** Asian Noodle Technology and Ingredient Application Short Course

  More courses to be added.

**USW Courses**

- **Mar. 20-24** Korea Whole Wheat Noodle Development  
  USW/Seoul Office

- **June 19-23** China Contracting for Wheat Value Workshop  
  USW/China Office

- **July 10-14** Korea Whole Wheat Baking Study Team  
  USW/Seoul Office

- **July 31-Aug. 11** Asian Noodle Technology Courses for Nigeria  
  USW/Cape Town and Lagos Offices

- **Aug. 21-25** Korea Contracting for Wheat Value Workshop  
  USW/Seoul Office