

OCTOBER 2022

OREGON WHEAT

An Official Publication of the Oregon Wheat Industry

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- 6 Oregon Wheat Promoted with Trade Teams from Around the World
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Photo by
Theresa Peterson

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Ben Maney

President

MY TWO CENTS WORTH



Over the years politicians from both sides of the aisle have shown a willingness to listen to those of us working in the field and take to heart our concerns about the impacts of policy decisions on our ag operations and communities. Even when we disagree, advocacy from the League and open communication helps modify policy to mitigate the most detrimental impacts and avoid jeopardizing the livelihoods of our family farms and industry. That type of discussion around the importance of the Columbia-Snake River system has never been more important. We rely on the system of locks and dams to maintain a critical linkage to our markets. While the benefits of the river system and the critical roles it serves remain unchanged, the calls to remove the four Lower Snake River Dams have increased-- even as resources for improvements to the system are returning results.

Most recently, a process in Washington was undertaken to identify the potential costs to replace the functions of the dams on the lower Snake River. The final report was released in August. While already identifying that costs would run in the tens of billions, it still required more information to incorporate the true costs to farmers and rural communities. The Pacific Northwest Waterways Association summarized the report outcomes stating that: "The recommendations recognize that more information must be known before dam breaching can truly be considered as a viable option moving forward. The recommendations also note that the services provided by the dams must be replaced or mitigated prior to any decommissioning or breaching, and that near-term actions across the basin are needed to help ensure salmon survival."

The dams serve the greater public good and working together, we can have healthy rivers and a healthy economy. That raises this question of why some want to tear out the four Lower Snake River dams just as state and federal policies are set to grow our need for clean, cheap power and carbon-efficient transportation modes beyond anything we've imagined before. Removing the dams will make our energy grid less reliable, increase energy costs, raise emission levels, dry up irrigation water and jeopardize our ability to get grain to market.

With around 85% or more of Oregon wheat bound for export markets, we, along with our rural communities depend on the benefits provided by the Columbia-Snake River locks and dams, especially for the ability to get our grain to market on barges. Proposals for removing dams along the Lower Snake River have not identified any realistic alternative solutions for transporting wheat and

other products. They assume that removal of the Lower Snake River dams would result in shipping activities shifting to road and rail transport. Critically, alternative rail and truck routes do not exist to handle the product shipped on the river, in addition to shortfalls rail car and truck driver availability.

Setting aside the fact that no realistic proposals have been made to address the insufficient rail and road infrastructure, a shift from barge to road and rail transport would result in significant cost increases for transporting grain. Not only would the need to use an alternative freight option for getting grain to markets place additional burdens on us as wheat farmers – and other businesses throughout the Pacific Northwest- it would also increase emissions. Barge transportation is a relatively low source of emissions per ton-mile of freight compared with truck or train transportation.

So many issues are involved if the Lower Snake River dams were destroyed. The inability to navigate the Snake River would devastate us as wheat farmers. The nation's large railways simply aren't interested in running massive unit trains over such short distances. And we have not yet even accounted for the cost of replacing the short line tracks that were torn out after the dams were built. This is before we even talk about a potential 25% rate hike for rate-payer owned utilities in Oregon. If Bonneville Power Administration had to replace the four lower Snake River dams, NW River Partners indicates that rates could go up by 50%, and that retail cost would be passed on to customers, including our farm operations and community members who cannot afford that increase in the face of growing inflationary pressures.

We are fortunate to have the hydroelectric power and low-emission shipping here in Oregon. We need to protect the dams that provide it. I appreciate that the recommendations included in the most recent report recognizes the necessity of the river system to ensure viable farm operations. We continue to oppose dam breaching as the benefits of barge transportation cannot be replaced. Here at Oregon Wheat, the League continues to advocate for our transportation system and investments that will improve the health and reliability of the Columbia-Snake River system.



NAWG Releases 2023 Farm Bill Priorities

Jessica Chambers, Wayfinder Communications

The National Association of Wheat Growers (NAWG) released their 2023 Farm Bill priorities, following adoption by the NAWG Board of Directors. The priorities focus on issues critical to Oregon wheat producers, including protecting crop insurance, increasing the reference price for wheat and supporting export development programs. The Farm Bill – enacted in 2018 - expires in 2023 and is in the process of reauthorization by Congress.

The Oregon Wheat Growers League (OWGL) is working to ensure the Bill continues to support Oregon's wheat producers, specifically that improvements made to agricultural programs reflect the unique needs of the state. "From risk protection through crop insurance to enhancing market access, the Farm Bill provides essential support to wheat producers in Oregon," said OWGL President Ben Maney. "The NAWG priorities closely align with Oregon wheat priorities to advocate for the needs of our producers. We are looking forward to working with our legislators on these priorities for the upcoming Farm Bill."

Priorities for the 2023 Farm Bill include the following:

Protect Crop Insurance: In 2021, 78 percent of total U.S. wheat acres were covered by some form of crop insurance. Crop insurance is a critical risk management tool for wheat growers, and it is essential that we do not limit the effectiveness and accessibility of crop insurance. NAWG and OWGL oppose any cuts to crop insurance that may jeopardize the capability of the partnership between the federal government and the private insurance industry to deliver risk protection effectively.

Enhance Crop Insurance: The cost to purchase crop insurance has increased in recent years. In 2022 alone, the cost to purchase crop insurance rose by an average of 49 percent. As margins continue to shrink in light of inflation, it is becoming increasingly punitive to purchase high enough levels of crop insurance to provide an adequate safety net, so enhancements to crop insurance to provide adequate coverage is needed.

Increase the Reference Price: Increasing the Price Loss Coverage (PLC) reference price for wheat in Title I is necessary to reflect current production costs.

Conservation: The Farm Bill is expected to have a climate smart focus. We support conservation programs which accommodate the unique environments found in the Pacific Northwest. NAWG and OWGL support voluntary conservation programs and the provision of technical and financial assistance to producers who implement these practices.

Market Access Program (MAP) and Foreign Market Development (FMD) Funding: Export revenue has increased by nearly \$10 billion since the late 70s, and programs to develop export markets has provided impressive returns, with an ROI of \$24.5 or more for each dollar invested. Meanwhile, levels of investment have largely remained the same since the early 2000s and ATP funds will sunset. As work continues to expand markets across the world, additional funding is crucial.

Crop Protection: Tools for crop protection are important for both maintaining safe food supply and for implementing climate-friendly practices. As producers act as stewards of the land, it is important to have reliable protection tools, which allow producers to maintain efficiency.

Increased Budget Authority: Many improvements to the Farm Bill will require increased funding. In a world faced with increasing global hunger, food shortages, and large government expenditures, now is the time for Congressional leaders to increase the budget authority for the Farm Bill and help safeguard the future of U.S. agriculture.

The League met with the Oregon delegation in Washington D.C. in January of this year and again at August recess to discuss concerns impacting wheat producers across the state. During this time, priorities related to the 2023 Farm Bill were discussed, as well as issues related to the river system, opportunities for enhancing trade and the value of funding to maintain competitiveness. "It provided a unique opportunity to advocate on issues affecting wheat growers that cross state and federal lines," said OWGL Past President Clint Carlson.

The Farm Bill faces expiration every five years. First passed in 1933, the Bill helps producers ride out difficult years. It modifies USDA programs that address commodity support, conservation, trade and national food aid, crop insurance, and agriculture and food defense among others.

NAWG President and Washington state wheat grower, Nicole Berg, encouraged wheat producer engagement in the process, stating, "The Farm Bill not only benefits wheat growers but all aspects of American agriculture. It is very important wheat growers' voices are heard on Capitol Hill and that Members of Congress understand what worked and what can be improved upon as the committees work towards reauthorizing the Farm Bill in 2023."

OWGL appreciates the leadership and ongoing engagement that NAWG provides to advocate for wheat producer needs in the development of the Farm Bill: making these priorities a reality and protecting the future of agriculture. 

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Oregon Wheat Promoted with Trade Teams from Around the World

Amanda Hoey, CEO

Each summer, hosting and supporting trade and technical teams is a key activity for the Oregon Wheat Commission. The visits help to further build relationships with existing customers, as well as open markets for Oregon wheat in new regions.

Over the past few years, the industry shifted in response to pandemic restrictions to provide remote trainings, crop updates and meetings. U.S. Wheat Associates (USW) noted that “Substituting virtual trade visits during the pandemic did allow more customers to learn about the 2020 and 2021 U.S. wheat conditions and harvest. And virtual experiences will remain part of USW’s trade service and technical support.” Yet, there is no replacement for the one-on-one interactions that in-person visits allow, and we are excited for the return of teams to Oregon this year.

Bringing trade and technical teams of overseas customers and stakeholders is possible due to the support of producer assessment funds through the Oregon Wheat Commission and through funding from USDA Foreign Agricultural Service export market development programs to USW. This year, we have a long list of team visitors due to the relaxing of travel restrictions.



Farm dinners and tours provide direct connection between Oregon wheat producers, researchers and customers. Korea Crop Survey Team at Newton Farms in Athena, OR.

Crop Survey Teams

We take pride in the consistency and reliability of quality wheat grown in Oregon for the export market, but each year is unique. Crop survey teams coordinated through USW foreign offices provide customers in our major markets with direct information on crop progress and quality. These teams meet with elevators, wheat producers and researchers to obtain the most accurate and up-to-date information on the crop.

In July, we hosted a Korean Crop Survey team comprised of representatives from major milling companies buying Oregon soft white wheat. The multi-day visit allowed for meetings with local coops, a stop at the wheat breeding program and farm tours at Newton Farms in Athena, Oregon and Emerson Dell Farms in The Dalles, Oregon.

The visit with Korea Crop Survey Team was followed by several visits from millers in Japan. In August, representatives from the Japanese Flour Millers Association (JFMA) and Ministry of Ag, Fisheries and Forestry (MAFF) travelled through the state, with particular focus along the supply chain, meeting with elevator operators. Not only do these visits support discussion on crop quality, they also provide insight to operations and the investments to segregation of wheat at facilities, as well as testing and inspection protocols.

Company specific crop survey teams are also supported through the Commission. In August we hosted the Nisshin group, one of the largest single buyers of Oregon wheat. The team visited elevator operators and experienced harvest operations at Commissioner Darren Padgett’s Farm in Grass Valley, OR.



JFMA and MAFF representatives meet with Morrow County Grain Growers staff and Oregon Wheat Commission in Boardman, OR.



Nisshin representatives experience the exceptional 2022 harvest at Padgett Ranches in Grass Valley, OR.

Growing Markets and Building New Connections

Growing and expanding markets is another focus for the Commission. This year included a unique visit in early August, coordinated through the IGP Institute at Kansas State University, with individuals from Vietnam who were recipients of the USDA’s Cochran Fellowship Program. The USDA Cochran Fellowship program works with University partners to provide multi-week training opportunities to agricultural professionals to strengthen and enhance trade linkages between eligible countries and agricultural interests in the United States.

This team experienced the entire supply chain for Oregon Wheat: from an overview of the wheat production and marketing system, to increasing an understanding of the value of Oregon wheat. The base of that understanding began on the farm, where some had their first opportunity to see a wheat plant in the ground.

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Getting to the farm was not without challenges, though. Oregon Wheat Growers League Sherman County President Thad Eakin hosted the on-farm tour, and we thank him for the tremendous effort to provide a hands-on experience. Thad noted that few things ever go as planned, stating “Since it was harvest, our neighbors had a massive breakdown so asked if we could host this team. Of course, it then rained the night before. Enough to shut down harvest for the morning.” Thad and his family were undeterred. “We moved locations and set up equipment. By the afternoon, we were taking people through the field in the combine.” Like everything in farm operations, our producers find a way to keep going through all the challenges to deliver.

Collaboration Across State Lines

Team visits do not stop at state lines, particularly in the case of Pacific Northwest (PNW) wheat. Not only does Oregon Wheat coordinate with the other PNW commissions for crop survey and team visits arranged through USW, but we also engage with teams visiting research labs in the region. In July, members of the next generation of flour millers and commodity buyers from operations in Morocco, Algeria, Egypt and Oman met at Western Wheat Quality Lab in Pullman, WA, where Oregon Wheat Commission caught up to the team. The stop was organized by Idaho Wheat Commission and USW. The PNW visit allowed USW to



Western Wheat Quality Lab in Pullman, WA.



Thad Eakin describes the process for thrashing grain and the Vietnam fellows experience the vastness of wheat fields in Grass Valley, OR. Photos courtesy IGP.



Recipients of the USDA Cochran Fellowship meet at the Oregon Wheat Commission offices in Portland, OR. Photo courtesy of IGP.

introduce information about the U.S. grain marketing system at an early stage in the careers of young professionals and build strong relationships to lay the foundation for future opportunities like potential combination cargos.

Technical Teams and Exchanges

Functional performance of the crop, the technical specifications of classes of wheat grown in Oregon and opportunities for new markets are highlighted through the year with technical teams and exchanges taking place at the Wheat Marketing Center (WMC).

There is an extensive list of groups utilizing the technical services at the WMC. Included within those was a group from South Africa, sponsored by USW, who visited in mid-July for a course focused on soft wheat milling and product applications. The short course included cracker, cookie and sponge cake making and evaluation process, as well as demonstration of testing methodologies for soft white and soft red winter wheat flours. The Oregon Wheat Commission met with the group to talk about our operations and the value of PNW wheat.

The WMC also hosted a couple of groups coordinated through the USW Seoul office, including a Noodle Flour Development Short Course in June and a Bakery Development team. The teams included processors and milling quality specialists from Korea.

Technical support extends beyond courses and delves into specific customer needs. In mid-July, USW brought a team of three quality control managers from Japanese flour millers to Portland, meeting with WMC and the Oregon Wheat Commission to talk about U.S. club wheat functional performance. USW noted that “The demand for the highest quality cakes and confection products leads Japan to be the leading importer of US Western White Wheat. This is a subclass of soft white (SW) that includes

a blend of not less than 10% club wheat and 90% SW, which allows the customer to define quality targets and adjust the proportion of SW and Club wheat in the blend according to price and quality expectations.”

More on the Horizon

For 2022, the return to normal is not just in relation to travel, but also in relation to the crop. “We are excited about the good quality this year. We have been able to talk with our customers about their needs and how we can meet them, and we have been able to highlight our sustainable production practices,” stated Dana Tuckness, Oregon Wheat Commission Chair. “The consistent message we are hearing from our customers is a continued commitment

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Korean Bakery Development Team engages in demonstrations at WMC in Portland, OR.



South Africa team at the Wheat Marketing Center in Portland, OR.



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to buying Oregon wheat,” he noted. The Commission engages in a dialogue with visiting team members. These discussions help raise awareness with wheat producers and elevator operators on issues customers may be facing and offers the Commission an opportunity to talk about how investments in research can also address needs.

Over the next few months, we continue to host groups, with

scheduled visits for customers from the Philippines, Taiwan, Japan and South Asian countries. Each visit provides an opportunity to celebrate and appreciate the long and beneficial relationship with our buyers, and discuss the particulars of the 2022 crop quality. The connections are essential to our long-term success and trade team visits help reinforce the quality of Oregon Wheat and reliability of the entire US wheat system. Throughout each visit, we have been pleased to hear a continued commitment to purchasing Oregon wheat. 

New NRCS Partnership to Benefit Wheat Producers

Amanda Hoey, CEO

An agreement nearly a year in the making was executed in August between the Oregon Wheat Growers League and the USDA Natural Resources Conservation Service (NRCS). The grant agreement formalizes a contract partnership, with the intent of making NRCS and other federal programs more applicable in wheat producing areas.

The agreement follows discussion between USDA NRCS Oregon State Conservationist, Ron Alvarado, and the League Board of Directors at the December 2021 board meeting. During the meeting, the Board highlighted challenges for Oregon wheat producers to fully participate in programs, including NRCS Conservation Stewardship Programs, due to the limitation of enhancement options which can be economically implemented on farm in the unique environments found in the Pacific Northwest. The discussion also covered technological advancements and innovations wheat producers are using in the field and the opportunity to incorporate those advances more

quickly to programs; especially moving into the next Farm Bill. The benefit to both wheat producers and NRCS was clear, so Ron Alvarado presented an option to pursue funding for a technical support position at the League to engage with wheat growers and evaluate practices that would make NRCS program enhancements viable for implementation, increase utilization of NRCS programs and provide a direct pathway for NRCS to engage with producers to craft conservation enhancements with meaningful impact in Oregon wheat production systems.

With the execution of the agreement, the League is actively working on hiring for the necessary technical expertise for the position. Jay Gibbs, USDA NRCS Oregon Basin Team Leader, congratulated the League Board on “being innovative, thinking outside the box and willing to try some new partnerships.” He noted the unique nature of the agreement saying, “I am aware of no state in the nation that has a like or similar agreement.” 

ERP Payments Assist Wheat Producers Impacted By Disasters

Through the USDA Farm Service Agency’s (FSA) \$6 billion Emergency Relief Program, farmers have been able to offset crop yield and value losses for crop years 2020-2021. The payments cover losses from droughts in much of wheat country, excessive heat, hurricanes, winter storms, and other eligible disasters.

Funding for the \$6 billion dollar program was authorized in September 2021 as part of a larger package of \$10 billion that was included in the Extending Government Funding and Delivering Emergency Assistance Act. NAWG and the League had advocated for more timely delivery of resource and the League is pleased with the extension of payments to producers in this year.

Of the total Phase 1 Emergency Relief Program payment disbursement for Oregon (\$55.18M), wheat accounts for roughly 59% (\$32.42M) which is reflective of the extensive damage from natural disasters in the last year. USDA announced in August that pre-filled applications for second phase assistance for producers impacted by disasters in 2020/21 will be mailed later that month. Among other items, the applications will include those who received crop insurance indemnities for qualifying 2020 and 2021 disaster events after May 2, 2022, new Substantial Beneficial Interest (SBI) records such as those where tax identification numbers were corrected, and new primary policyholders not included in the initial insured producer Phase 1 mailing because their claim records had not been filled. 



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JULIE BORLAUG is continuing the Borlaug legacy of food security and innovation in agriculture. She serves as President of the Borlaug Foundation and Vice President of External Relations for Inari. She is the granddaughter of the late Dr. Norman E. Borlaug, Nobel Peace Prize Laureate and the founder of the World Food Prize.



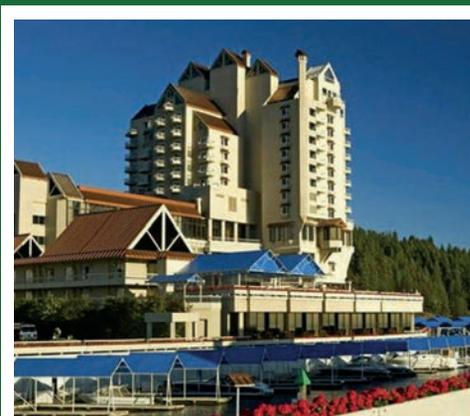
ROBERT BONNIE (invited) is the Undersecretary for Farm Production and Conservation at USDA. Prior to joining USDA, Bonnie was at Duke University, first as a Rubenstein Fellow and later as an Executive in Residence at the Nicholas Institute for Environmental Policy Solutions working on conservation and environmental issues in rural America.

RAY STARLING has been the Chief of Staff to a U.S. Senator and U.S. Secretary of Agriculture Sonny Perdue, worked at the White House, and been involved in crafting public policy for over 15 years. He grew up on a family farm in North Carolina. Ray combines a humorous style with a deep sincerity for his audience members' self-reflection and personal development.



ERIC SNODGRASS is a Science Fellow and the Principal Atmospheric Scientist for Nutrien Ag Solutions, where he develops predictive, analytical software to help agricultural producers manage weather risk. His frequent weather updates focus on how high-impact weather events influence global agriculture productivity.

WHEAT WORLD UPDATE will feature a panel of industry experts discussing global issues facing the wheat industry and the opportunities they present for producers. This panel will feature Antonina Broyaka, an Associate Professor from Vinnytsia National Agrarian University, Ukraine; Dr. Randy Fortenbery, Washington State University Extension; and more.



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Auction and Dinner

Auction and dinner is Thursday, Dec. 1, at 6 p.m. Social hour starts at 5:30. Donation forms can be found at wawg.org.



**Watch wawg.org/convention
for updates!**

Wheat Marketing Center Takes You on a Tour of the Crop Quality Process

Mike Moran, Executive Director Wheat Marketing Center

U.S. grown wheat is prized in the world market for its value and the quality it brings across a variety of end uses. Customers of U.S. wheat trust that, year after year, growers will consistently provide a reliable product. Wheat breeding programs develop new varieties annually, continuously striving to improve yield, disease resistance, drought tolerance, and functional and nutritional quality to meet the needs of an increasingly discerning market. As harvest proceeds each year, a collaboration of growers, commissions, and grain elevators collect wheat samples throughout the country to send to wheat quality laboratories for grading and analysis with the purpose of reporting on the quality of each year's crop. Here in the Pacific Northwest, Wheat Marketing Center (WMC) is the organization that tests soft white, club and hard white samples. The results of these tests are published weekly on the WMC website. At the end of the season, full results are compiled into a report that is printed and distributed domestically and internationally for buyers of U.S. wheat to guide their purchasing decisions and operations.

The crop quality process begins well before harvest. In late spring, the WMC team meets with the PNW state wheat commissions to evaluate the previous season's crop quality process and identify areas for improvement. Grain elevator operators and other collaborators in the PNW are engaged and sample collection supplies are distributed where needed. These volunteer collaborators play a critical role in ensuring that samples of sufficient quantity are collected and labeled



Crop Quality Sample Intake with Bon Lee, Liman Liu, Autumn Sicard.

with class and location information and promptly shipped to WMC for analysis.

Each year the WMC team receives and processes roughly 600 samples over a seven-to-nine-week period, typically starting in late July until the harvest is complete. As samples arrive, they are assigned a unique identification number and catalogued by class and location. Samples are grouped by the six PNW wheat production zones and fourteen USDA economic statistics districts. These production zones distinguish areas of similar climate and geographic features. Once labeled and catalogued, they are then separated into sub samples so that a variety of tests can be conducted simultaneously. A portion of each sample is sent to the USDA Federal Grain Inspection Service (FGIS) for official grading including test weight, protein, dockage, and damaged, shrunken, and broken kernels. These grades are added to the data for each sample and are used later to group samples by protein content for end product quality tests.

While FGIS is grading the samples WMC begins the initial lab tests including –



Wet Gluten Testing with Kin Wong.



Cookie Production with Bon Lee and Kin Wong.

- Falling number – an indirect measure of amylase activity associated with sprouting and late maturity alpha-amylase
- Thousand kernel weight – to assess kernel size
- Ash – a direct measure of mineral content
- Wet gluten – a measure of gluten proteins
- Single Kernel Characterization System (SKCS) – measuring kernel diameter, hardness, and weight to predict milling quality
- Ground wheat moisture – for making moisture corrections on falling number, ash, and wet gluten results

Once harvest is complete and all samples have been received, samples are grouped by production zone and divided into subsets based on protein content. These composite samples are analyzed for wheat quality, milled into flour, and then tested for flour quality and physical dough properties.

The analytical lab tests include –

- Amylograph – a measure of starch properties useful to end products such as sheeted Asian noodles
- Solvent Retention Capacity (SRC) – a predictor of cookie and cracker baking potential
- Farinograph – an indicator of dough mixing properties
- Alveograph – for measuring dough extensibility and strength

Milled flour is then used to produce sugar snap cookies, steamed bread, and Japanese style sponge cakes using standardized controlled baking methods. End products are



Steam Bread Ingredients.

tested and evaluated for color, volume, spread, texture, and more to indicate how well the wheat performs in actual products and to compare to previous years' performance.

Once testing is complete, all the data is analyzed and interpreted. These statistics and test results, along with a summary of weather conditions, varieties planted, and an overview of the crop year, are compiled into the PNW Soft White Wheat Quality Report funded by the PNW state commissions for domestic and international distribution. The results are also shared with U.S. Wheat Associates for inclusion in their annual crop quality report covering all U.S. classes of wheat.

In the fall, the WMC technical team participates in virtual and in-person crop quality seminars internationally. This annual collaboration of WMC, growers, elevators, PNW state wheat commissions, and U.S. Wheat Associates influences the decisions of wheat buyers by publicizing the quality of U.S. wheat. By providing this service, WMC serves to support growers and customers by highlighting the value and quality of U.S. wheat. 



Bon Lee on the Alveograph.



Is Your Seeding Operation Ready Yet?

Dana Tuckness

OWC Chair

OREGON WHEAT COMMISSION

As I was servicing my combine for the upcoming harvest the phone rang. It was my grandson Brody. “Hi grandpa, when are you starting harvest?” “The wheat should be ripe sometime next Week, Brody” was my reply. That was the third time today, same question, same answer. Now comes the follow-up question, “Is your combine ready yet?” Same answer: “Almost.” Five minutes later my wife, Kathy, calls “Hi, Brody just called and is worried because your combine isn’t ready yet.” Now, everyone has their own ideas on whether an eleven year old boy should even have a phone. I won’t comment on that here, except to say, next year I am going to request his parents hide it from him two weeks prior to harvest. He is my oldest grandchild and has been riding shotgun in the combine with me every harvest since he was just a little guy. He knows everything about the newest combine models and is always telling me about the latest features I didn’t even know existed.

As I write this, harvest is winding down. All in all, we had a pretty good harvest, and I hope all of you did too. By the time this magazine is in your hands Fall planting will be upon us. With all the research and development going on in the wheat world, both public and private, it is sometimes hard to decide which variety or varieties to plant. Do I stick with the old ‘tried and true’ or try a new one that looks good in Ryan Graebner’s OSU variety trials or maybe something your neighbor tried that did well. Of course, we all want the one that will put the most money back in our pockets. When looking at the information from the variety trials, yield is always the first thing most of us look at, and why shouldn’t it be? Of course, more wheat means more money, but there are other things to consider. A variety with the right disease package might yield a little less, but might save you some input costs and actually improve your bottom line. If you are growing Soft White Wheat, and most of us here in the PNW are, there is about a 90% chance your wheat will be exported. This puts quality at the top of the list! Your Oregon Wheat Commission (OWC) and US Wheat Associates have been developing overseas markets for decades, and quality is the key reason for returning customers and establishment of new ones.

The OWC has a pamphlet at owgl.org (it is published annually in this magazine as well) that lists varieties from most



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desirable to least desirable and even unacceptable. When considering a new variety, it’s a good idea to check to see where it falls on this list. No one wants to hear that their wheat is unacceptable.

One problem that Oregon Wheat researchers have been monitoring this year and can rear its ugly head is Fusarium Head Blight (FHB). This can cause your wheat crop to be rejected even for animal feed if vomitoxin or DON toxin, which can be produced by this disease, is present. The amount of DON allowed in wheat for human consumption or feed purposes is extremely low. This is one we really need to be on the lookout for and plan ahead at planting to minimize its effects. Since FHB is a soil/stubble-borne fungus, one of the most common ways for infection in the wheat head, is splashing of water, during a rain or overhead irrigation while the plant is flowering. Corn is a host for FHB, so be particularly careful when planning your rotation into wheat this Fall. It is best not to plant wheat immediately behind a crop of corn. If you must plant behind corn, maximum tillage, such as plowing the stalks down, would be the safest way to go. Although there is no silver bullet against FHB when choosing a variety, there are some that show a little more resistance than others, so do some research before planting. An application of fungicide may also be necessary in the Spring if conditions are favorable for FHB. I obtained most of this information from Dr. Christina Hagerty (OSU) and would like to thank her for the research and work she has done over the last few years on this issue.

Well, I think I have rambled on enough for this month; besides I hear my phone ringing. I know who it is, what the question is, and the answer is no.... the corn head is not mounted on the combine yet. It’s sure going to be tough on ‘ol grandpa when that boy outgrows riding on the combine with him. 

Selecting for Quality 2022 - Legacies, Bakeries, Cookies, Crackers, and Cakes

Dr. Andrew Ross, Professor and Dr. Teepakorn Kongraksawech, Research Associate

2021 was a tough year for many reasons: a heat dome, drought, low test weights, high protein soft white (SW) wheat, and other challenges. It was also a tough year for the community of cereal scientists across the northwest who support your efforts by examining the quality of wheat variety candidates. In 2021, we lost two stalwarts of the cereal science community:



Drs Louise Slade and Craig Morris. Their passing left a significant hole in our scientific capabilities and robbed us of the further innovations that they might have imagined: innovations that could have made assessing wheat quality an even more effective enterprise than it already is. Among a host of other achievements, Dr. Louise Slade's immediate and profound impact on what you do was the creation and deployment of the solvent retention capacity (SRC) test. This test revolutionized the way we think about wheat quality, especially for soft wheat. I will admit to being skeptical of some of the early claims made for SRC's effectiveness. In hindsight my skepticism was not justified. We now use the SRC test as a "shorthand" way to estimate cookie and cracker baking potential of variety candidates, without the need to bake cookies or crackers. Combine SRC with test milling and test baking, and we have a robust and effective way of assessing wheat quality. SRC testing immediately affects which variety candidates are advanced and released, which has a direct impact in your operations. The SRC test also affects export competitiveness. US Wheat Associates have deployed SRC to differentiate US wheats in the marketplace, particularly through the efforts of Roy Chung.

As with Louise, Dr. Craig Morris had profound and immediate effects on your operations. His immediate impacts came through his creation and curation, with Doug Engle, of the genetics and environment (G&E) wheat quality database managed through the USDA wheat quality lab in Pullman. This database, now ably managed by Dr. Alecia Kiszonas, was and is the foundation for the creation of the quality based preferred lists. The database now has 23 years of data and in more recent years has been enhanced by the incorporation of SRC data, one element which is now used to rank SW wheat quality. I have been using the database in other ways, for example, to try to decipher what traits are crucial for sponge cake quality. Craig was also responsible

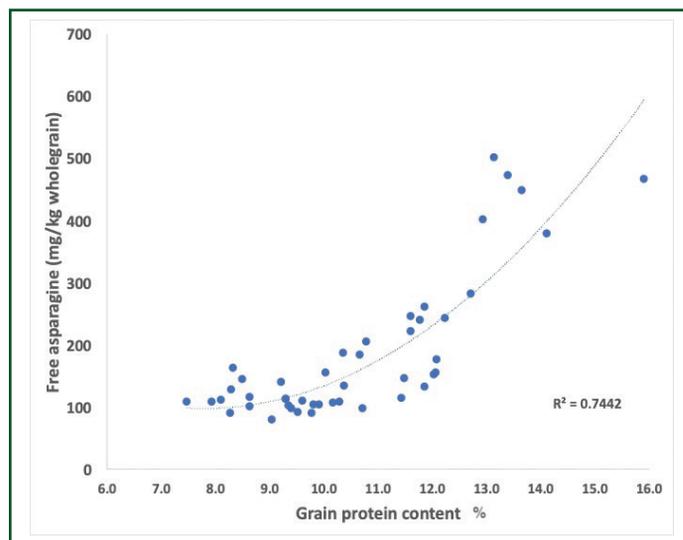


Figure 1: Free asparagine concentration in grain vs grain protein content. Line of best fit is a quadratic and indicates that grain protein explains about 74% of the variation in the free asparagine content.

for a fast and repeatable predictive test for enzymatic (polyphenol oxidase - PPO) darkening of doughs, finding a color forming chemical that leaves the seed viable in case we need it for single seed descent propagation of a genotype. These are just the immediate effects of Craig's legacy. He will also have long term impacts because of his work on the genetics of important quality traits, as well as a laundry list of other innovations and insights into wheat quality. Craig was described by one colleague as "one of the most genius cereal chemists" ever, and Louise by another as the "only Nobel caliber food scientist of the last 50 years." We were fortunate to have both Louise and Craig on our team.

To other matters. The bakery renovation is moving forward as reported in the August Oregon Wheat magazine. The demolition of the old space[s] is complete and we awaited in August the concrete cutters to cut the slab to reroute plumbing and the painters. The crucial walk-ins, freezer and cooler, await the installation of the new flooring. It is good to see some physical progress.

We have completed the Oregon Wheat Commission funded acrylamide experimental work, except for some remaining SRC and Falling Number analyses. The importance of this work is food safety issues related to the

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acrylamide formed from the acrylamide precursor, free asparagine, in the flour during cooking, such as frying and baking. Acrylamide is a known human carcinogen and a concern for wheat processors. Acrylamide accumulates wherever products turn brown (e.g. crusts). We are currently in the process of analyzing the data. A preliminary look shows that the levels of free asparagine in grain of six SW winter varieties across three locations and two years (79 to 502 mg/kg) were consistent with levels seen from a similar environment in Western Europe (143 to 393 mg/kg). Our data also overlapped with values reported for Nebraska wheats of generally higher protein contents (200 to 1100 mg/kg). Consistent with these other studies, we showed a strong relationship between free asparagine and grain protein content (Figure 1).

A new activity, not funded by the Oregon Wheat Commission but of importance to you, is a collaboration

with the Wheat Marketing Center (WMC) and US Wheat Associates on identifying the flour quality factors responsible for superior cake making performance. Not having an easy way to screen for wheat flours that offer premium cake quality has been an impediment to improvement of SW cake making performance. The standard sponge cake test takes considerable amounts of sample and is, to be uncharitable, a pernickety test. The grand majority of lab work will be done at WMC, with some specialized work possible done at OSU. Our main contributions are to methodology and experimental design as well as a comprehensive literature review of the current state of the art in understanding flour compositional factors that are associated with superior cake performance. Seems simple enough, but cakes are complicated. There are many types of cake, sponge, pound, layer, foam, and batter, and each may require different optimal flour characteristics. Stay tuned! 

Harvest 2022 Roundup

Dylan Frederick, Wayfinder Communications

For growers, harvest signals the end of a long year of hard work: from planting, to fertilizing, to weed/disease management and an attentive focus on management practices that will ensure the best possible yield from fields. As we wrap up harvest this year, many growers reflect on crop quality and yields with a sense of excitement as it contrasts with a challenging harvest season last year that stemmed from drought and heat. This year, while there were isolated impacts from frost, hail and wildfire, the total crop showed a benefit from the cool and wet spring to bump up both yields and quality as moisture arrived at the right time. In August, I got the opportunity to visit several farms and talk with growers about their perspective on the 2022 harvest and this exceptional crop year.



Photo by Hayli Sharp-Kaseberg.



Photo by Tate Eakin.



Photo by John McManigal.



Photo by Andy Silcox.



Photo by Amy Kaser.

Overall, a later harvest this year was characterized by above average yields and a high-quality crop. Emery Gentry, a 4th generation wheat farmer in Umatilla County said, “Harvest was late for us this year because we had a wet spring. We started roughly two weeks later than usual, as did a lot of guys in our area, but we had a heavy crop with very good yield.”

The late moisture brought better yields for the year, but for some growers also brought unique challenges. Ben Maney, OWGL President and owner of Maney Farms in Pendleton said, “We had a lot of late rains at the right time, which really re-energized our crop to give us better yields per acre this year. One of the challenges of late rains though, is the amount of time it takes for the crop to ripen. Typically, we’ll start first part of July but this year we started at the end of July. One challenge with harvest being later was the workforce shortages with their support staff going back to college and leaving earlier than usual.”

Wheat growers cite a thread of common challenges that arose throughout the season that included supply chain issues increasing the difficulty to repair broken equipment and the escalating cost of inputs. While these challenges are pervasive and high input prices will have long term impacts, in the near term we share the excitement in 2022 of a better



Photo by Josh Duling.

yield and improved crop quality for our customers. Initial quality results are reflecting high test weights, low protein for soft white, low moisture, low dockage, and heavier and larger kernels when compared to last year.

We are grateful for all the hard work and long hours our producers put in each year to provide high-quality wheat. Take a look at a few of the photos submitted by our members this harvest season! 🌾



Photo by Tanner Crouch.



Photo by Zach Blaylock, B&B Operations.

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Happy Woman and Her Wheat Truck

Amanda Hoey, Oregon Wheat CEO



‘The Happy Man and His Dump Truck’ was a childhood classic for our house growing up. Mainly, I enjoyed the pictures of the smiling animals catching a ride in the dump truck and the unexpected joy it brought to the day. Like the happy man, when I am in my truck, folks wave as I drive by (typically with all five fingers!). Like the happy man, I have an essential purpose to serve with my truck and periodically have

a chance to pickup visitors to experience that combined feeling of happy exhaustion a good day of work brings. And just like the happy man, the successful completion of my work is dependent on many other people’s work to produce what I haul.

However, unlike the happy man, I am a happy woman driving a wheat truck and smiling this year as I watch the wheat continuously flow from the combine, to the bankout wagon, to my truck bed. It is a dramatic change from 2021. The timely spring rains made all the difference. As well, though, we have some areas hitting record yields that are also the result of the investment into variety development.

Now we face a shift in our Oregon wheat breeding program, with the announcement from Dr. Bob Zemetra of his retirement plans. The public wheat breeding program is one the Oregon Wheat Commission has long considered a cornerstone of our industry’s work with Oregon State University (OSU). When paired with weeds research, plant pathology and cereal quality testing, it supports our sustainable long-term wheat production in the state.

In 1986 our producers led the charge to support the wheat breeder position and secured resources in short order. The Kronstad Chair became the first position at OSU endowed by gifts, and the first endowed chair in the College of Agricultural Sciences. The Warren Kronstad Wheat Research Chair endowment set the base of resources from our industry to support this position. Subsequent to its establishment, the Commission worked diligently with OSU to ensure an agreement on the split of royalties from the sale of public wheat varieties developed using producer investments and are pleased that those royalties further support this position. Finally, we have continued to prioritize our own dollars to the program, with Oregon Wheat Commission research funding contributions.

As such, the Commission has a keen interest in the outcome of the hiring of the next wheat breeder / Warren E. Kronstad Wheat Research Endowed Chair. Over the last

few months, we have engaged in conversation with OSU leadership on the importance of this position for our industry, and I want to express my appreciation for three key elements:

- **Active outreach to the Oregon Wheat Commission.** Dr. Staci Simonich, Dean for the College of Agricultural Sciences, Dr. Sean Donkin, Associate Dean of Research, and Dr. Tom Chastain, Department Head for Crop and Soil Science have continuously met with the Commission and Wheat Industry Advisory Committee to discuss the position and industry needs.
- **Competitive package to attract experienced candidates.** Following a meeting with the University, Dr. Simonich authorized a significant move to advertise the position up to full professor level. Increasing the posting range of the position recognizes the importance of casting a wide net and ensuring the most qualified candidates have reason to look at the position.
- **Providing industry representation on the selection committee.** Previously the College had placed a restriction that prevented industry representatives from serving on selection committees. Dean Simonich reversed that decision, providing space on the committee for two industry representatives: Walter Powell and Dana Tuckness. Between these two gentlemen, we have a range of both irrigated and dryland systems perspectives, as well as Commission past and present leadership. The representation is essential and I am pleased with the shift.

As the process moves forward, we continue to have concerns with ensuring the necessary hiring timelines avoid gaps in the position: both for wheat cultivar development and teaching purposes. Dr. Zemetra has worked to develop new wheat varieties that support increased yields, improved drought tolerance, better resistance to pests and diseases prevalent in the PNW, and enhanced end-use quality factors which are important to our customers. (An aside, Dr. Zemetra was able to work with the Commission in lowering royalties for Appleby for the upcoming planting season due to certain patent expirations). The value Bob brought to the position extended beyond plant breeding, though, to teaching the next set of wheat breeders. Working within the necessary parameters, the priority from the Commission, therefore, is support for candidates who not only demonstrate an established track record in developing and releasing varieties, but who are also interested in developing the next generation of wheat breeders and are a collaborative partner with the team of growers, plant pathologists, weed scientists, and cereal quality professionals.

A change in wheat breeding is significant, but it is one part of the whole research team. Thus, the Commission is not resting at the work with the University on this position. We are actively talking about means to secure other positions within the system including the investment to facilities to be attractive to researchers, opportunity for future endowments to secure positions in a similar manner to the wheat breeder

position and ensuring adequate resources via assessments for research grant allocations.

This happy woman is excited for the ongoing partnership with OSU. Mostly, though, this happy woman is excited for the close of another harvest season and the delivery of an exceptional crop of wheat to support all of our customers around the world. 

Reconciliation Passes: What It Means For Ag

On August 16th, President Biden signed the Inflation Reduction Act (H.R. 5376) into law. The bill includes \$740 billion in spending and tax provisions intended to target large corporations and the wealthy to achieve deficit reduction. Provisions of significance for farmers include:

- \$3.1 billion in farm debt relief
- \$4 billion in funding for the Bureau of Reclamation to work with public entities and Tribes to mitigate the impact of drought
- \$8.45 billion for the Environmental Quality Incentives Program

- \$4.95 billion for the Regional Conservation Partnership Program
- \$3.25 billion for the Conservation Stewardship Program
- \$1.4 billion for the Agriculture Conservation Easement Program
- \$1 billion to USDA's NRCS for conservation technical assistance

The bill, as enacted, makes no changes to stepped-up basis, which NAWG and other agricultural organizations opposed in earlier iterations of the reconciliation package and are critical components of the tax code that help protect family farms as they are transferred from one generation to the next. 



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New Faces and New Technologies in the Pendleton Cereal Pathology Program

Dr. Christina H. Hagerty

This year we welcomed Grayson Franklin Namdar to the Columbia Basin Ag Research Center (CBARC) team as the new Cereal Pathology Faculty Research Assistant. Grayson recently earned his Bachelor of Science in crop and soil science with a focus in agronomy from Oregon State University. Grayson’s family farm is in Helix, OR – he spent his summers working harvest for his aunt and uncle, Jim and Leslee Williams. Grayson is an excellent addition to the program! He is so hard working, brings fresh ideas, and has a wealth of practical knowledge in dryland wheat farming.

In addition to new personnel, the program has recently added a suite of new technologies that makes us more efficient, relevant, safer, and adds additional data to help us answer research questions. These new technologies include:

1. Air conditioning in the pathology workspace
2. “WieSEL” on-combine weigh system with the Zürn combine
3. John Deere RTK guidance system
4. Barcoded grain samples
5. Drone technology for high throughput phenotyping



Grayson F. Namdar operating the Zürn 110 combine at Starvation Farms in Morrow County.



Student worker Sydnee Enright on the plot combine buddy seat catching 1-pint grain sub-samples from each plot.

Air Conditioning:

The pathology workspace at CBARC was previously cooled with a swamp cooler. Last summer due to heat waves and wildfires leading to poor air quality index, we lost a total of 10 work days. Pathology operations needed to be shut down due to workspace safety concerns that the swamp cooler could not mitigate.

This spring, we had central air conditioning installed and converted the pathology workspace into a common sample processing area for CBARC. In addition to the workspace being much more comfortable, the central air conditioning has lower air turbulence than the swamp cooler which allows us to weigh samples year-round and process delicate samples (e.g. flax and mustard seed) with the air conditioning on.

WieSEL: This is our third harvest season with the Zürn 110 combine which is equipped with the WieSEL on-combine weigh system. The on-combine weigh system is so efficient that we have gone from a harvest crew of five to a harvest crew of two. In plant pathology we typically have 50 ft-long plots. In high yield locations, each plot can yield up to 50 lbs each. Prior to the new combine acquisition, each plot was bagged and hauled from the field, weighed individually at the station, cleaned, and evaluated for protein and test weight. We have eliminated many of these steps with Zürn technology: at harvest, the on-combine weigh system determines plot yield, one pint of grain from each plot is sub-sampled and the remaining grain flows to the combine’s 15-bushel bulk tank. This greatly reduces labor and increases safety of the pathology team. We no longer need to clean samples after harvest with the Zürn machine: samples can go directly from the combine to the protein and test weight analyzer.

Guidance System: The pathology tractor is now equipped with a John Deere RTK system. Besides having perfectly



Christina H. Hagerty helping unload the Zürn 110 combine bulk tank.



Pathology plots planted with RTK system for perfectly straight plots. Photo from Sherman County, OR.



Student worker Sydney Enright scanning barcoded grain samples for the near infrared spectroscopy analysis for moisture, protein, and test weight.

straight trials, the RTK system greatly reduces the trial “flagging” time prior to planting, allows us to more efficiently determine trial alleyways, and plots work better with aerial imagery for data collection. We can also plant longer, narrower trials which allows for more efficient harvesting (less turns!).

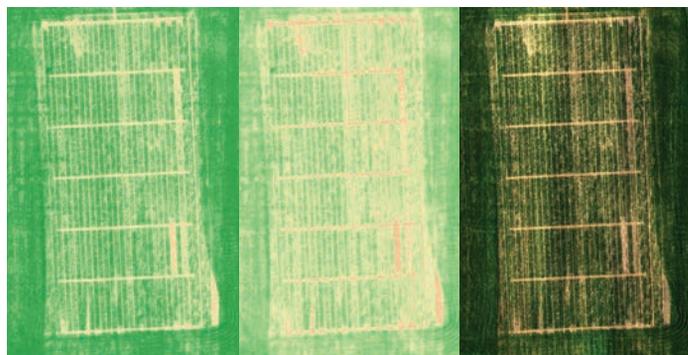
Barcoding: Barcoded grain samples allow us to scan the sample identification information (plot number, treatment, location, etc.) rather than entering data by hand. After the sample is scanned, it is run through the near infrared spectrometer to determine moisture, protein, and test weight.

Drone Technology (UAV): Many breeding and pathology programs incorporate UAV-captured aerial imagery from trials that cannot be captured using traditional on-ground methods. We have been working in close collaboration with Drew Legget, Blue Mountain Community College (BMCC) precision agriculture instructor, to incorporate high-throughput UAV technology into our research. Each spring one of Drew’s BMCC interns flies our trials with a UAV to collect drone imagery. This winter Grayson and I attended a UAV technology workshop in Utah (hosted by Dr. Margaret Krause) to further learn how to incorporate this technology in our program. We now have normalized difference vegetation index (NDVI), normalized difference red edge (NDRE), and red green blue (RGB) data on many trials. NDVI and NDRE function to estimate plant “greenness” while RGB captures what the human eye can process.

Some of the technological advances in the program are quite simple (air conditioning in our workspace!) and some are advanced (UAV technology). From the simple to the advanced technologies we have incorporated – each advancement helps us serve farmers the best of our ability.



Christina in Grayson in Utah at a high throughput phenotyping workshop.



NDVI, NDRE, and RGB drone imagery capture from OWC-Funded Fusarium crown rot trial in Morrow County OR. Photos courtesy of Drew Legget’s precision agriculture internship program.

Funding for these advancements comes from a wide range of sources, including the Agricultural Research Foundation, OSU College of Agriculture, USDA-ARS, and industry partnerships. All of these advancements allow us to better deliver high quality and timely data for our Oregon Wheat Commission-funded work. We will always be on the lookout for new technologies to increase safety, efficiency, and our ability to serve stakeholders of Oregon Wheat. 

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RECIPE

Spider Cookies

Recipe contributed to eatwheat.org by Kelsey Byrnes.

These festive spider cookies start with packaged cookie dough and mini peanut butter cups, making a super easy and delicious Halloween treat!

INGREDIENTS

1 (16 ounce) package refrigerated peanut butter cookie dough (24 count)

24 mini peanut butter cups, unwrapped

Black gel icing

Pearl sprinkles or eyeball candies

INSTRUCTIONS

1. Preheat oven to 350°F and line two baking sheets with parchment paper.
2. Roll each piece of cookie dough in a ball and place at least 2 inches apart on the prepared baking sheets.
3. Bake for 8-10 minutes, or until golden brown around the edges.
4. When the cookies come out of the oven, press the peanut butter cup into the center of the cookie.
5. Let cool for 15 minutes, then remove to a wire rack.
6. Use the black gel icing to create spider "legs", and stick the "eyes" onto the peanut butter cup (they should stick as the peanut butter cup will be melty and soft).
7. Let cool completely and enjoy!



↓ SUBSTITUTION IDEAS ↓

- Substitute malted milk balls, a tootsie roll or caramel-filled candy in place of the peanut butter cup.
- Use different types of cookie dough or homemade, if preferred.



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