

# IDAHO GRAIN

THE IDAHO GRAIN PRODUCERS ASSOCIATION MAGAZINE

FALL 2014



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**Idaho State Wheat Growers Association**  
Idaho Grain Producers Association  
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**A** FEW years ago the commercial for Oldsmobile went, “It’s not your father’s Oldsmobile anymore.” The need to keep up with the times for design, functionality, creature comforts, and regulations to meet the demand of customers forces not only Oldsmobile to evolve, but other industries as well.

I have been fortunate that my grandfather and father kept many different publication materials and user manuals. Going through magazine literature showing off the advantages of a John Deere Model D or Allis Chalmers coming out with their Roto-baler or looking at a booklet with Palouse area farmers telling about the benefits of a John Deere Model 55 combine is a great history of agriculture evolution.

My favorite though is a USDA publication from the 1930’s with the title “How to Work Your Horses More Profitably.” It has a great picture of a team of horses and the farmer following in the background doing tillage. It’s definitely not our grandfa-

ther’s or father’s agriculture anymore.

Agriculture still has many things in common such as increasing yields to feed a growing population, soil health, improving tillage practices through better equipment and knowledge, the desire for better varieties, etc. I believe agriculture will be chasing these through eternity.

We have had tremendous advances in farming technologies such as McCormick’s reaper, John Deere’s plow, and Eli Whitney’s cotton gin. Norman Borlaug’s efforts to create better wheat varieties has been the foundation of today’s breeding methods, hybrids, and biotech crops. There is still more to do.

Many of you know that I love technology, especially precision agriculture equipment. I also have a fascination with Unmanned Air Systems (UAS) or as the media calls them, drones. I truly believe that the integration of UAS into agriculture will be one of those industry-changing technologies that can propel agriculture into the future.

However U.S. agriculture is at a distinct disadvantage to our competing countries. There are no rules for commercial use in the states. As a matter of fact, agriculture doesn’t even have a seat at the table to help the Federal Aviation Administration (FAA) develop rules for our own industry.

The FAA has hindered our industry even further by releasing a notice that farmers can no longer fly their fields because that is considered a commercial operation, but we can fly our garden because we consume those crops. How far are they willing to go to hinder personal property rights? If I take a picture of my home site and a combine or tractor is sitting there and I sell it, is that commercial?

Another serious setback to agriculture by the FAA is limiting use of UAS to do research. Researchers can do projects if the proper forms have been accepted and permission granted by the FAA, but they need to have a UAS development component. Our researchers cannot do simple research with them to help us to better understand what is going on in our fields.

Agriculture is attacked every day by activist groups, government entities, public comments in social media outlets, etc. that we need to do a better job of managing resources. Farmers need to conserve water, use less fertilizers and pesticides, reduce erosion, and just plainly do a good job environmentally.

The demands for agriculture to do more will even increase. The word “SUSTAINABILITY” is being thrown out into the media and our industry. The best definition I can give you is it being the equilibrium regarding the areas of social, environmental, and economic. In laymen’s terms it means tracking your crops and the practices you do on your farm to a consumer’s table.

The development of UAS to work in conjunction with existing precision agriculture technologies can help us be successful in complying with the demands of many while helping us become more profitable. Farmers would be able to make better crop management decisions during the growing season because there is timely and helpful data.

In 1995, Microsoft launched Windows 95 bringing the computer to millions of homes. Email became popular and movies were made about it. I was one of those that fought accepting that advancement in communications. I wondered “why I needed email.” Fast forward almost 20 years and it is my preferred form of communication.

When I go to grower meetings I see farmers of all ages whip out smart phones faster than Billy the Kid could draw a gun. We rely on this technology to help us for everyday work and life. As a matter of fact, today’s smart phone is more powerful than my computer in 1995.

Agriculture has always been innovative, mostly by need. When confronted with a problem we seem to always deliver. It is no longer our “father’s agriculture.” We have accepted the new varieties of wheat and barley and work them with tractors and combines with cabs.

We need to stay on the cutting edge of technology and adopting these advancements. Not only for the sake of our profitability, but to meet the demands that are being brought to us. Agriculture needs to do a better job of using precision technology for management and help in the fight for ensuring that new technology advancements such as UAS and biotech crops are in our toolbox.

Will you make the move like your grandfather or father did to update when technology advancements are made? Will you help in the fight to ensure that we have the necessary tools in our toolbox? Or will you “keep working your horses profitably”? ■

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## It's the Environment, Stupid

**L**IKE most of us do, we step out our front doors every morning and breathe in that cool morning air. We appreciate the feeling of a new day dawning and the opportunity that awaits as we jump in our car or truck and get moving.

In that peaceful moment as you stand on the front porch gazing out at your surroundings and breathing in that morning air, are you thinking about how much ozone, PM10, or PM2.5 you might be ingesting? I don't either. However there are more and more who do and we in agriculture have been thrust to the forefront of a myriad of environmental issues.

I have spent my career thus far working on policy and regulatory issues on behalf of Idaho agriculture. Over that span, I have noticed that the percentage of my time dedicated to environmental issues has increased exponentially. It seems that every day there

is a new rule, proposed rule, regulation, legislation, law, or executive order that will impact farmers and ranchers.

The Clean Air, Clean Water and Endangered Species Acts were passed by Congress in the late 1960's and early 1970's. These Acts serve as the triumvirate of environmental law today. Nearly every part of modern agriculture is subject to one or more of these three measures. The laws have made some people very rich (lawyers) and others very poor (defendants). They are responsible for some really good outcomes, and also very detrimental ones.

So where does Idaho agriculture fall in the spectrum of winners and losers? In the day-in, day-out daily grind of owning and operating a farm and/or ranch, are we better off with these regulations and laws? How much do they help or hinder agricultural operations?

I can tell you that right now, I and your IGPA leaders are actively working on no less than five environmental issues with significant implications for Idaho grain farmers. You may be aware of some of these already, but some you may not. Here's a brief listing in no special rank:

**Waters of the U.S.** - Since its passage in 1972, the Clean Water Act (CWA) has caused a barrage of confusion and lawsuits involving how far the jurisdiction of the law extends. At the crux of the fight is a phrase in the law which says "navigable waters of the U.S." will be subject to regulation. But what exactly does that mean? Forty two years and many court cases later the Obama administration, through the EPA and US Army Corps of Engineers, is attempting to clarify the term.

**Interpretive Rule** - A section of the CWA exempts certain agricultural activities from its permit requirements. As an addition to the new "Waters of the U.S." proposal, the president's administration issued an Interpretive Rule to clarify that the exemptions for agriculture as listed in the CWA would still be honored and protected. However, the Interpretive Rule went a step further in its clarification efforts by stating that permitting exemptions for ag activities would not be recognized if they do not meet standards set by the USDA's Natural Resource Conservation Service (NRCS). Congress and farming groups around the country smelled a skunk and now the EPA is furiously backpedaling.

**Fugitive Emissions** - Passage of the Clean Air Act set into motion a process whereby states were required to develop a plan describing how they would implement the law's requirements. Referred to as a "State Implementation Plan" (SIP), the documents were reviewed and accepted by the EPA. Idaho's SIP includes a provision about fugitive emissions, defined as "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening." This rule had never caused problems in Idaho agriculture until an incident in 2013 involving a complaint to the Idaho DEQ about dust from a tub grinder alerted the IGPA and other farm groups. Seeing the potential for public abuse of the provision, we went to work. Through the DEQ's negotiated rulemaking process, we collaborated on new language clarifying that normally accepted agriculture practices are exempt from Idaho's SIP provision on fugitive emissions. We now must obtain the Idaho legislature's acceptance of the new rule in the 2015 session.

**Ozone & Crop Burning** - In 2007 a new program allowing farmers to burn crop residue was created through a negotiation of farmers, environmental advocates, and government regulators in response to a statewide ban on the practice. The program relies heavily on weather forecasts and a host of air quality measurements in order for growers to receive approval to burn. Timing is everything for growers needing to burn which can easily compound farmer frustration. A new look by the EPA at air quality standards related to ozone, a molecule that at certain concentrations can affect breathing, could threaten Idaho's crop burning program. The IGPA is actively monitoring any activity on the issue, and is represented by two capable farmers who are advising the Idaho DEQ on the burn program.

**Chemical Permitting** - eight years ago, a U.S. federal appeals court ruled that the EPA must require new, burdensome permits for anyone spraying chemicals on or near navigable waters of the U.S. Until this ruling, agriculture had traditionally been considered a non-point source exempt from Clean Water Act requirements if properly following chemical labels. This new determination changed that long-standing rule for farmers or their contract applicators spraying over or in a certain proximity to a canal, ditch or stream. Even the EPA showed reluctance to the new permit, and the issue was met with bipartisan hostility in Congress. Legislation seeking to repeal the requirement has nearly passed on Capitol Hill, but overarching political gridlock has halted its final approval.

Have you learned anything, or did you fall asleep in your La-Z-Boy while reading? I spared you from two or three other active environmental issues (i.e. climate change) your state association is engaged in. No thanks necessary (said facetiously).

Hopefully farmers and other readers get a good idea of what is out there in just one area of farm policy that directly impacts your ability to make a living. Needless to say, these issues are not going away with time. The IGPA will do its part to foresee and tackle these issues, but it's a team effort. I applaud the many Idaho farmers who have made the effort to educate themselves and speak up.

I've heard some in agriculture refer to farmers as the "first environmentalists". If we want people to believe that, then we cannot afford to be stupid about the environment. ■



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## Vancouver Terminal Standoff Could Slow Idaho Wheat Exports

By Governor C.L. "Butch" Otter

**W**HAT does labor unrest in the State of Washington and the federal government's unwillingness to be part of the solution have to do with grain producers in Idaho?

It's not a trick question; the answer is "Plenty." And from my point of view, it's wrong that Idaho producers who work so hard and efficiently to meet growing demand for their crop around the world could be victimized by an issue that's entirely out of their control.

The Port of Vancouver is one of only nine export terminals on the West Coast moving grain to the Pacific Rim from throughout the Northwest and across much of the Grain Belt. But a dispute there between United Grain Corp. and the International Longshore and Warehouse Union is putting a serious crimp in export shipments just as the harvest season is gearing up.

Export Grain Terminal in nearby Longview, Washington cut a deal with the union in 2012 that United Grain contends has put its larger Vancouver facility at a competitive disadvantage. So United Grain locked out union workers in 2013 in an effort to get a similar agreement.

The union responded by picketing the United Grain operation, so grain inspectors for the State of Washington had to get first local police and later state police escorts to cross the picket lines and conduct the necessary export inspec-



tions. That ended when troopers were pulled off escort duty in late June by Washington Governor Jay Inslee – a former congressional colleague of mine with a significantly different take on the proper role of government.

Now growers, commodity commissions, ports and politicians are calling on the U.S. Department of Agriculture to help by assigning federal grain inspectors to do the work usually done by state inspectors in Washington. Members of Idaho's congressional delegation joined those from Washington, Oregon and Montana recently in urging Agriculture Secretary Vilsack's agency to "meet its statutory obligation to inspect wheat exports."

So far, the pleas have fallen on deaf ears. And unless there's a breakthrough in negotiations between United Grain and the union, it figures to be a long and difficult harvest season for grain exporters and the communities they support.

Coming from a right-to-work state, it's particularly offensive to me when disagreements between labor and management escalate to the level of impeding the commerce of third parties. But we all know how the Obama administration feels about unions. And less than three months before the midterm elections, the last thing the White House wants to do is make them mad.

Of course there are other terminals on the coast. The Port of Portland, which gets the bulk of Idaho's business, is operating normally since USDA inspectors sign off on grain shipments there. But fewer terminals means busier terminals, and shipping delays can be extremely costly and damaging to business relationships.

There's a lot at risk for Idaho, where wheat is grown in 42 of our 44 counties and our 5,000 grain producers rang up farm gate receipts of over \$1 billion last year. Idaho ranks seventh among states in wheat production – our largest crop behind only potatoes. What's more, about half of Idaho's wheat crop is sold internationally in such markets as Japan, South Korea, China, Taiwan and the Philippines.

So I encourage members of the Idaho Grain Producers Association to let your voices be heard. Make sure your elected representatives know you're watching and that government's job should be helping to solve problems – not making them worse.

Finally, I was pleased to announce appointments to the Idaho Barley Commission and Idaho Wheat Commission recently. You should know that the Idaho Grain Producers Association is a big part of my process for identifying and choosing commissioners for these important appointments. Please welcome Scott Brown of Soda Springs as he succeeds Dwight Little of Newdale on the Barley Commission, and Joe R. Anderson of Genesee as he takes over for Paul "Joe" Anderson of Potlatch on the Wheat Commission.

## Commodity Indemnity Fund & Seed Indemnity Fund Update

By Dave Ogden  
Warehouse Bureau Chief, Idaho State  
Department of Agriculture



**CAN'T SAY IT ENOUGH SO I WILL SAY IT ONE MORE TIME: DEAL WITH LICENSED DEALERS.** A list of Idaho licensed dealers that buy commodities and seeds can be found on the web at: [www.agi.idaho.gov](http://www.agi.idaho.gov). Then choose "Warehouse" from the links on the left side of the screen, and then Licensed Warehouses, Licensed Commodity Dealers, or Licensed Seed Buyers in the middle of the screen. Or you can call (208) 332-8660 to talk to a live person to verify the status of an Idaho license.

At the time of writing this article, the Idaho Ag news stories included several new crop options being offered to Idaho producers. Some seem to be economically viable and beneficial in the production cycle, while others are just being tested or introduced to the area to see if they will work here. Some of the companies plying for acreage are large and seem to be well financed, while others are smaller and trying to carve out a profitable niche in a very competitive market.

If a new crop buyer is licensed by ISDA, then you know your exposure to loss due to non-payment is minimized due to the 90 percent coverage against loss protection provided by the indemnity funds. If the new buyer is not licensed, then you will need to do some credit checking on your own to determine if they are reputable and capable of paying for what they buy from you in a timely fashion. We are always interested to know if unlicensed contracting is going on in Idaho.

As of June 30, 2014, the CIF balance was \$11,961,216. The SIF balance was \$6,204,741. The maximum balance allowed by law for each fund is \$12 million.

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## Sessions and speakers include:

**Farm Bill 2014 lessons:** Barry Flinchbaugh is an acknowledged expert on agricultural policy and an award-winning professor of agricultural economics at KSU. Dr. Flinchbaugh will look at lessons learned from the historically long debate on the 2014 farm bill. Ag won some battles and lost some.



**The importance of sulfur:** Sulfur deficiencies are affecting more and more small grain programs. What does sulfur do for small grain production and should growers in the Northwest be concerned about it? Presented by Neal Kinsey, Kinsey Agricultural Services.

**Big Data ROI:** Big Data is a big topic these days, but how do you make money on it? Can you use Big Data to drive revenue, cut costs or answer tactical or strategic questions? This session shows you how, with real-life examples from a Big Data system used every day on a 30,000 acre U.S. row crop operation. Presented by Douglas Hackney, The Enterprise Group.



**Fuel containment compliance:** Each SPCC plan is unique, get the facts, how to upgrade your fuel systems for compliance, and what's involved with oil handling training. What are we going to do with lube oil tanks, poly totes, and nurse tanks? Presented by Kenneth Mattson, SPCC Consultant.

- Thomas Clemente, professor, Agriculture Biotechnology
- Farm bill implementation
- Barley update
- Transportation update
- Estate Planning
- Conservation/Ecology
- White House Climate Change Initiative
- RMA/Crop Insurance
- Waters of the U.S. rule
- OSHA Qualifications for Small Farm Status by Jill Cornejo
- Online tools - ARC vs PLC. How to calculate your best option



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## Mark Mayfield, MC



Known as "The Corporate Comedian," emcee Mark Mayfield has merged his corporate background as a lobbyist and his comedy background as a nightclub performer to create an extremely unique presentation style. He has received rave reviews sharing the stage with a wide variety of celebrities.

## Activities:

**Dinner and tour at Full Sail Ale:** Ever wonder what really goes on in a brewery? For a fun and informative evening, guides will lead you on a tour of the Hood River brewhouse.

**Catch and release sturgeon fishing:** OR or WA fishing license required. Licenses will be available for purchase on day of trip.

**Museum, wine tasting and dinner:** Western Antique Aeroplane and Automobile Museum, wine tasting at Marchesi Vineyards, and dinner at Three Rivers Grill.

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 Email \_\_\_\_\_ State Affiliation (circle) WAWG OWGL IGPA

## FULL REGISTRATION (INCLUDES MEALS)

	#ATTENDING	AMOUNT
Regular Registration	_____ x \$195 =	\$ _____
Spouse Registration	_____ x \$195 =	\$ _____
After 10/12/14	_____ x \$235 =	\$ _____
Non-Member	_____ x \$320 =	\$ _____

**\*Note FULL Convention Registration includes Wednesday, Thursday, Friday & Saturday meetings and all meals.**

## SINGLE DAY REGISTRATION

Tours-Wednesday

Full Sail Ale Brewery	_____ x \$35 = (includes dinner)	\$ _____	Wednesday
Museum Tour with Wine Tasting	_____ x \$35 = (includes dinner)	\$ _____	Wednesday
Fishing Tour	_____ x \$135 = (includes dinner)	\$ _____	Wednesday
Single Day	_____ x \$150 =	\$ _____	Thursday, Friday
Single Day	_____ x \$100 =	\$ _____	Saturday
Non-Member Single Day	_____ x \$200 =	\$ _____	Thursday, Friday, Saturday

## DINNER & AUCTION - HEADS & TAILS \*\*AUCTION FUNDRAISER\*\*

\_\_\_\_\_ x \$10 per person = \$ \_\_\_\_\_

## ADDITIONAL MEAL TICKETS \*AVAILABLE ONLY WITH A FULL REGISTRATION

___ Individual Breakfast	_____ x \$30 =	\$ _____
___ Individual Lunch	_____ x \$45 =	\$ _____
___ State Banquet	_____ x \$50 =	\$ _____
___ Dinner & Auction	_____ x \$70 =	\$ _____

## PLEASE INDICATE WHICH MEALS YOU WILL BE ATTENDING (FOR HEAD COUNT PURPOSES):

___ National Organization	___ Idaho Banquet (Thurs)	___ Luncheon - Barry Flinchbaugh (Friday)
___ Update Breakfast (Thurs)	___ Oregon Banquet (Thurs)	___ Dinner & Auction (Friday)
___ Idaho Lunch (Thurs) (Invitation Only)	___ Washington Banquet (Thurs)	___ Breakfast - Thomas Clemente (Saturday)
___ Oregon Lunch (Thurs)	___ Opening Breakfast - (Friday)	
___ Washington Lunch (Thurs)		

## PLEASE INDICATE ALL THAT APPLY:

___ Speaker	___ Committee Chairperson	___ Past Washington Wheat Commissioner
___ Exhibitor	___ Idaho Wheat Commissioner	___ Past Washington Barley Commissioner
___ Sponsor	___ Idaho Barley Commissioner	___ Wheat Foundation
___ Past President	___ Oregon Wheat Commissioner	___ First Time Attendee
___ State Officer	___ Washington Grain Commissioner	___ 15x40 Attendee
___ County President	___ Past Idaho Wheat Commissioner	___ WA Lifetime Member
___ Board Member	___ Past Idaho Barley Commissioner	
___ Executive Committee	___ Past Oregon Wheat Commissioner	

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# 2014 Tri-State Grain Growers Convention Agenda

## WEDNESDAY, NOVEMBER 12

9:00 am – 12:00 pm	Washington Grain Alliance Meeting (By invitation only)
12:30 – 2:30 pm	Tri-State Association Meeting (By invitation only)
12:30 – 4:00 pm	Tri-State Commission Meeting (By invitation only)
1:00 – 5:00 pm	<b>REGISTRATION OPEN</b>
1:00 – 5:00 pm	Tour Option (includes dinner) Columbia River fishing excursion
2:30 pm	Exhibit Hall Opens
3:00 – 5:00 pm	Welcome Reception with Exhibitors
4:00 – 5:00 pm	Oregon Executive Committee Meeting
5:00 – 6:00 pm	15x40 Orientation and Social Hour
6:00 – 7:30 pm	“Past, Present and Future Dinner” (By invitation only)
5:00 – 8:00 pm	Tour Options (including dinner) <ul style="list-style-type: none"> <li>• Full Sail Ale Brewery</li> <li>• Western Antique Aeroplane &amp; Automobile Museum / Wine Tasting</li> </ul>
8:30 – 9:30 pm	Viewing of The Great American Harvest film (Tentative)

## THURSDAY, NOVEMBER 13

7:00 am – 5:00 pm	<b>REGISTRATION OPEN</b>
7:00 am – 8:00 am	Idaho Executive Committee Meetings

## 8:00 – 9:30

### NATIONAL ORGANIZATION UPDATE

#### BREAKFAST

- US WHEAT - ROY MOTTER
- NAWG – BRETT BLANKENSHIP & KEIRA FRANZ
- NBGA – DOYLE LENTZ

#### TAPING OF THE US FARM REPORT (Tentative)

## 9:00 – 12:00

Shopping Excursion (registration required)

## 10:00

Exhibit Hall Open

## 9:30 – 11:30

Separate State Committee Sessions  
**Washington** – All WAWG Committee Meeting  
**Idaho** – Congressional, Legislative, Tax & Transportation; Research & Risk Management; Marketing, Grain Quality & Energy

## 9:30 – 12:00

**Oregon** – Workshop

## 12:00 – 1:30

#### SEPARATE WORKING LUNCHES

**Washington** – WA State Dept. of Agriculture Director Bud Hover; WA State Dept. of Ecology Director Maia Bellon (Invited); WA State Conservation Commission Director Mark Clark  
**Idaho** – Full Board Meeting (By invitation only)

## 12:15 – 2:00

**Oregon** – Working Lunch/Board of Directors Meeting

## 1:30 – 2:30

Washington State Program  
 Open forum with State Directors Bud Hover, Mark Clark and Maia Bellon; Jim Jesernig – Update on Ag Tax Preference Study

## 1:30 – 3:30

Idaho Committee Meetings  
 Conservation, Environmental & Crop Protection; Public Relations & Membership

## 2:30 – 4:00

Oregon Annual Meeting

## 2:30 – 3:00

Break with Exhibitors

## 3:00 – 4:30

Washington Resolution & Annual Meeting

## 4:30 – 5:30

Beer tasting Reception in Exhibit Hall

## 5:30 – 6:00

Social Hour – Oregon

## 6:00 – 6:30

Social Hour – Washington, Idaho

## 6:30 – 8:30

Individual State Banquets  
**Washington** – Awards Banquet  
**Idaho** – Annual Member & Awards Banquet

## 6:00 – 8:30

**Oregon** – Gala Celebration Dinner

## 9:00 – Midnight

Hospitality Room

## FRIDAY, NOVEMBER 14

### REGISTRATION OPEN

## 7:00 am

Early Bird Educational Breakout

## 7:00 – 8:00 am

- **Breakout 1:** “Shriveled grain, low protein, low starch — what growers should know and consider” – *Neal Kinsey, Kinsey Agricultural Services*
- **Breakout 2:** “What’s New for you in the 2014 Farm Bill?” – *Director Ben Thiel & Rick Williams, RMA; Gerri Richter & Judy Olson, FSA*
- **Breakout 3:** “Building Barley Markets in the Pacific Northwest”
- **Breakout 4:** “Climate Change Initiative & Regional Cereal Production” – *Dr. Sanford Eigenbrode, Project Director – Regional Approach to Climate Change PNW Ag; Beatrice Van Horne, Northwest Regional Climate Hub (Corvallis)*
- **Breakout 5:** “OSHA Qualifications for Small Farm Status” – *Jill Cornejo, OSHA Manager*

## HOW MANY DIGITS CAN YOUR YIELD MONITOR DISPLAY?

It takes years of research from North America’s largest breeding program to bring these AgriPro® brand wheat varieties to market. But you only have to wait for harvest to see what they can produce in your fields.

## SY OVATION

### Idaho’s Most Planted Soft White Winter Wheat

- Proven performer with a high yield record across the PNW
- Good stripe rust tolerance for current PNW strains
- Widely adapted with early maturity and heavy test weight
- Demonstrated good winterhardiness in 2013

Available as certified seed. For more information, visit [www.AgriProWheat.com](http://www.AgriProWheat.com) or contact your local AgriPro associate.



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TM



8:00 – 10:00 am	<b>OPENING CEREMONY BREAKFAST</b> Emcee MARK MAYFIELD KRYSTA HARDEN, USDA ( <i>Invited</i> ) BRANDON WILLIS – Administrator RMA-USDA
10:00 am	Exhibit Hall Opens
10:00 – 12:00	Washington Wheat Foundation Annual Meeting
10:00 – 10:30	Break with Exhibitors (Coffee & Beverages)
10:30 – 11:45	Educational Breakouts <ul style="list-style-type: none"> <li>• <b>Breakout 6:</b> “Precision Technology – Who owns the data &amp; what is my return on investment?” <i>Douglas Hackney, Enterprise Group, Ltd.</i></li> <li>• <b>Breakout 7:</b> “Ask the Professionals – Real Life Farm Transition Stories From Those Who Deal With Them” <i>Michael Stolp, Certified Family Business Advisor, Northwest Farm Credit Services</i> <i>Adam Little, Financial Advisor, Merrill Lynch</i> <i>David Enquist, CPA, CliftonLarsonAllen</i> <i>Gerry Rein, Attorney, Lukens &amp; Annis</i></li> <li>• <b>Breakout 8:</b> “How Conservation Compliance Relates to the New Farm Bill” <i>Washington - Roylene Rides at the Door</i> <i>Oregon - Loren Unruh</i> <i>Idaho - Jeffery Burwell</i></li> <li>• <b>Breakout 9:</b> “Tools you can use to calculate your best option between ARC, PLC &amp; SCO”</li> <li>• <b>Breakout 10:</b> “Sulfur deficiencies and what does sulfur do for Small grain production and should PNW be concerned” <i>Neal Kinsey, Kinsey Agricultural Services</i></li> </ul>
12:00 – 2:00	<b>AGRIBUSINESS LUNCHEON</b> Emcee MARK MAYFIELD BARRY FLINCHBAUGH – Economist at KSU
2:00 – 2:45	Break with Exhibitors
2:00 – 5:00	Cathedral Ridge Winery Tour (registration required)
2:45 – 4:00	Educational Breakouts <ul style="list-style-type: none"> <li>• <b>Breakout 11:</b> “SPCC Fuel Containment Compliance” <i>Kenneth Mattson, SPCC Consultant</i></li> <li>• <b>Breakout 12:</b> “What’s New for you in the 2014 Farm Bill?” (Repeated) – <i>Director Ben Thiel &amp; Rick Williams, RMA; Gerri Richter &amp; Judy Olson, FSA</i></li> <li>• <b>Breakout 13:</b> “Ecology &amp; Agriculture, Working Together” – <i>Keira Franz, NAWG, Dennis McLerran, EPA (Invited)</i></li> <li>• <b>Breakout 14:</b> Tools you can use to calculate your best option between ARC, PLC &amp; SCO” (Repeated)</li> <li>• <b>Breakout 15:</b> “Rail Capacity and the Impact on the River System” (panel) <i>Amer Badawi, Columbia Grain</i> <i>Gregory Guthrie, BNSF</i> <i>Heather Stebbings, PNWA</i> <i>Terry Whiteside, Whiteside &amp; Assoc.</i></li> </ul>
4:00 – 5:00	Break with Exhibitors (Cash Bars set up)
4:00	Silent Auction Items on Display and Available for signup
5:00	Exhibitor Hall CLOSED
5:30 – 6:00pm	Social Hour
6:00 – 9:00	<b>DINNER AND AUCTIONS</b> Emcee MARK MAYFIELD AUCTIONS – ID, OR, and WA ENTERTAINMENT - MICHAEL & AMY DUELING PIANOS SHOW
9:00 – Midnight	Hospitality Room

**SATURDAY, NOVEMBER 15**

7:30 – 9:00	<b>BREAKFAST</b> Emcee MARK MAYFIELD THOMAS CLEMENTE – Professor, Agriculture Biotechnology
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Northwest FCS Relationship Manager Colter Brown with customer Ryan Lankford.

It’s a fact. Most of our employees come from a farming or ranching background. We understand the cyclical nature of ag and know the issues producers face. Talk with a Northwest FCS relationship manager to see for yourself. We have knowledge, expertise, and the financing you need to grow your business.

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# Idaho Wheat Commission Fiscal Year 2014 Annual Report

## Market Development Overview

**I**DAHO'S annual wheat harvest is one of the most consistent among wheat-growing states. The reason is two-fold: First, roughly 60% of our harvest is grown under irrigation, and, as long as snow packs the mountains in winter, southern and eastern Idaho growers can grow their crops in the summer. Idaho has a higher proportion of its wheat grown under irrigation than most wheat-growing states.

Second, the rolling hills of the Palouse and the prairies of northern Idaho receive "just right" levels of rainfall most years, usually not too much or too little. Just enough rain makes it past the heavy rain zones on the coast and over the Cascades to make these farms relying on natural rainfall some of the most productive in the world.

### Domestic Sales Continue to Grow

Due to its consistency and quality, more than half of Idaho's wheat harvest is already committed to customers prior to harvest each year, either by contract or handshake agreement. More than 10% of the state's annual harvest is milled in-state at GrainCraft's Blackfoot mill. Domestic users tend to be concentrated in the western U.S. states of California, Utah, Arizona, Oregon, Washington, and Colorado, but loyal customers as far away as Georgia and New York also exist. Domestic customers in 25 states source their wheat ingredient needs to Idaho. The far-flung buyers of Idaho wheat pay much more in transportation costs but they prefer the low moisture, high extraction and consistency of wheat grown in Idaho.

California has more wheat milling capacity than any other state yet they grow only three-quarters of the wheat needed to supply their mills. So a significant portion of Idaho wheat has always gone to California. The extreme drought over the past couple of years has increased even more the proportion of Idaho wheat being used by California customers.



KFC likes certain waxy wheats from Idaho for their biscuits.



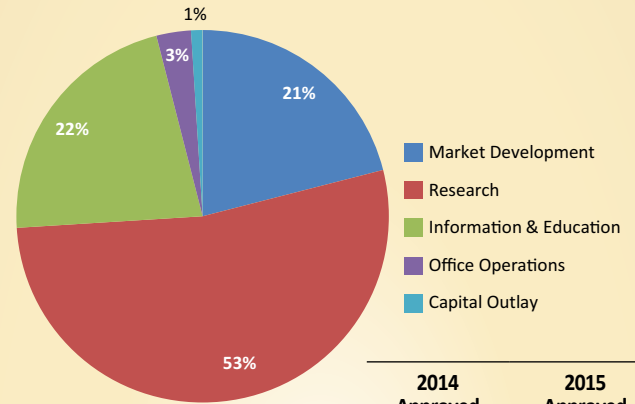
### Export Market Important to Idaho

Nearly all of the wheat grown north of the Salmon River in Idaho goes to Portland and is exported to Asian and Latin American markets. Soft white wheat is the largest class of wheat exported, although some hard red winter wheat also finds its way to the export channels. Idaho's six largest export markets for the 2013-2014 marketing year are shown below:

Top Six Importers from the Pacific Coast (TMT)					
	Total	HRW	HRS	SW	Other
Japan	2846.1	894.0	1063.0	888.4	0.6
Philippines	2037.4	34.9	1174.8	827.7	0.0
Korea	1300.3	209.3	370.9	720.1	0.0
Indonesia	1136.1	118.4	548.0	469.7	0.0
Taiwan	979.1	264.6	580.9	133.0	0.0
Thailand	644.6	117.4	319.5	207.8	0.0

Idaho growers have a presence in more than 100 overseas markets through their support of U.S. Wheat Associates. Farmers in 19 wheat-

## Idaho Wheat Commission FY2015 Approved Budget \$3,216,681



	2014 Approved	2015 Approved
<b>MARKET DEVELOPMENT</b>	<b>632,195</b>	<b>670,428</b>
FOREIGN MARKET DEVELOPMENT INCLUDES ALL USW PROJECTS & TRADE TEAMS	286,800	334,200
DOMESTIC MARKET DEVELOPMENT	10,000	10,000
TRANSPORTATION	22,400	22,400
ADDITIONAL PROJECTS	204,771	194,895
SALARY/TRAVEL/EXPENSES	108,224	108,933
<b>RESEARCH</b>	<b>1,677,739</b>	<b>1,720,905</b>
VARIETY DEVELOPMENT- U of I	486,882	566,322
PEST MANAGEMENT-- U of I	98,989	130,638
PRODUCTION PRACTICES/TECH	82,905	150,916
CAPITAL OUTLAY	83,411	87,000
ENDOWMENTS	300,000	300,000
ADDITIONAL PROJECTS	477,555	333,236
SALARY/TRAVEL/EXPENSES	147,997	152,793
<b>INFORMATION &amp; EDUCATION</b>	<b>729,785</b>	<b>717,949</b>
PRODUCER INFO & EDUCATION	552,700	545,700
CONSUMER INFO & EDUCATION	45,000	37,700
SALARY/TRAVEL/EXPENSES	132,085	134,549
<b>OFFICE OPERATIONS</b>	<b>83,338</b>	<b>80,399</b>
OFFICE OVERHEAD	41,350	36,600
SALARY/TRAVEL/EXPENSES	41,988	43,799
<b>CAPITAL OUTLAY</b>	<b>27,000</b>	<b>27,000</b>
<b>TOTAL BUDGET</b>	<b>3,150,057</b>	<b>3,216,681</b>

growing states pool their money to qualify for matching funds from USDA's Foreign Agricultural Service and Market Access Program.

Over the past two years, Idaho has worked with Oregon and Washington to develop a market in Latin America for PNW soft white wheat. Most flour tortillas are made in the traditional way with hard red winter wheat. However, research has shown that 10-20% soft white wheat flour blended with hard red winter wheat flour results in a higher quality tortilla. Through soft white wheat marketing efforts in Latin America, we have

Japan uses soft white wheat from Idaho for fine deserts.



# Idaho Wheat Commission Fiscal Year 2014 Annual Report

made significant inroads into mills in Colombia, Mexico, Peru, and Chile.

Some of the research for the blending of flours for tortillas was done at the Wheat Marketing Center. The Wheat Marketing Center is partially funded by Idaho growers and WMC is doing ongoing research on other products using PNW wheat that can be sold in overseas markets. A new cookie-cracker line is helping develop snacks specifically targeted to Asia.

## New Hard White Winter Variety Launched

Idaho continues to rank first nationally in production of hard white wheat with approximately 10 million bushels produced annually. Most of the available spring wheat irrigated acreage is already in hard white wheat, so growth of this class hinges on winter varieties. Dr. Jianli Chen, wheat breeder in the Aberdeen research station, has released a new dry land winter variety called UI Silver and certified seed will be available for fall planting in 2014. A new winter variety of hard white wheat for irrigated acre-

**WHEATSELECT**  
WHITE SPRING HARDBL WHEAT

Ardent Mill in Ogden makes Wheat Select flour from Idaho hard white spring wheat.

age is about a year behind UI Silver.

North Idaho is also now growing more hard white wheat, with 500,000 bushels harvested in 2013 and nearly 750,000 expected for 2014. Markets for hard white grown in north Idaho include ADM, Pendleton Mill in Oregon, and California.

Nearly all hard white wheat grown in Idaho goes to the domestic market, but strong demand by overseas customers also exists. Korea, for example, uses hard white wheat for noodles. Unable to find hard white wheat in the U.S., Korean millers have turned to Australia to fill their need. Once our second largest export market behind Japan, Korea now ranks third. Taiwan is also a loyal buyer of wheat from the U.S., but has begun importing hard white wheat from Australia to make noodles. We hope new winter varieties will enable us to grow enough hard white wheat to supply ever increasing domestic demand and begin to supply export customers.

Korea and Taiwan need hard white wheat for noodles.



## Research

**I**DAHO wheat producers are continuing to feel the pressure of limited resources like land and water, ever rising costs of inputs, and the pressures to adopt new management practices to stay in the game. Growers are looking for help from scientists to guide them in balancing production economics and environmental concerns with sustainability. For growers sustainability means continuing to farm, make a living do it and hopefully leave the business to the next generation. These pressures provide the framework for allocation of 53% of the IWC budget to research in FY2014.

Wheat farmers grow more than wheat because they know crop rotation is best practice but it can be very challenging to do it in their operation. Cropping systems research can help producers make decisions balancing benefits, cost, labor, and time that results in profit at the end of the day. Cropping Systems research is focused on complex interactions in the plant x environment x management practices system. Cropping systems research will provide much needed guidance for Idaho's wheat farmers. To that end, IWC has been actively involved with the University of Idaho (UI) in the hiring of three new cropping systems scientists based at Aberdeen, Moscow and the Parma Research and Extension centers. IWC funded three winter wheat projects from contingency funds, in summer of 2013, to ensure winter wheat research trials were planted fall of 2013. This allowed the new cropping systems scientist to gain a season. These trials are focused on nitrogen x variety interactions, the efficacy of biostimulants, and managing soil acidity.

UI's hiring of an entomologist, also stationed at Aberdeen, has allowed the IWC to participate in developing a long term research project focused on wireworms, a serious pest in many of Idaho's dryland production areas. The initial survey project, funded by IWC, will provide baseline data for future proposals which can compete for national funding. This approach leverages grower dollars to bring in the funding necessary for long term, complex, systems based research initiatives needed to study the wireworm problem. Wireworm control will not be achieved with a chemical or a single management practice; it will take a conscientious systems approach.

Earlier this year, IWC commissioners approached UI-College of



Limagrain Cereal Seeds wheat breeder Jean-Bruno Beaufume describes the 2 gene IMI registration and trialing process. These genes confer tolerance to the active ingredient "imazamox" used in herbicides. ID DH-10 is expected to be advanced for registration this fall as a Clearfield Plus® variety.



Doug and Julie Huffman (center) with UI professor Jack Brown (center right) gather their children around 03-29902A soft white winter variety at the UI & LCS filed day. The variety was named UI Huffman in honor of their late son Brad, a key member of the canola and wheat breeding program's support staff. The Huffman's farm near Cavendish, ID.

# Idaho Wheat Commission Fiscal Year 2014 Annual Report

Agriculture and Life Sciences, with a proposal to fund a Wheat Molecular Geneticist position to focus on wheat genomics, trait development and various aspects of pre-breeding and parental line development. The commissioners are convinced these research areas will be crucial to keeping Idaho's wheat industry at the forefront of innovation and UI-CALS wheat research programs relevant to industry and future generations. IWC committed to 5 years of funding the faculty salary and operating expenses, after which time the UI-CALS will take over financial responsibility for this tenure-track faculty position based on campus in Moscow. The position will provide much need teaching support for the Plant, Soil, and Entomological Sciences Department (PSES) in plant physiology and plant molecular biology.

Summer 2014 field days highlighted a first look at some very interesting new variety releases from UI wheat breeding programs. UI Huffman was introduced at the UI-CALS/Limagrain wheat field day at Kambitsch farm near Genesee, ID. UI Huffman was named and dedicated in memory of Brad Huffman, a young man who had been involved in the wheat variety development program for many years; first on his family's farm, then as a student, and later a support scientist in the program. Brad was a key person working in the program when he died suddenly from unknown causes at the age of 22. UI Huffman is a joint release with WSU, developer of one of the original parental lines, and UI-CALS where the crosses to Idaho lines and subsequent selections were made. UI Huffman will be marketed exclusively through Limagrain Cereal Seeds (LCS) with royalties split between UI, WSU and LCS. The developer's portion of the UI-CALS royalty will support a scholarship in memory of Brad Huffman. UI Huffman is an excellent yielder in dryland conditions, has good tolerance to *Cephalosporium* Stripe, as well as Yellow Stripe Rust. Seed is available through Limagrain Cereal Seeds' network of seed distributors.

Several hard white wheat varieties have been released from the Aberdeen breeding program including UI Silver, a high yielding hard white winter dryland variety with excellent end-use qualities. It was released a few years ago as a public variety but foundation seed has not been available until this crop year. UI Platinum, a spring hard white wheat variety, will be released this fall with foundation seed available 2015. UI Platinum is expected to be licensed with a royalty attached. It is

competitive in yield with current hard white spring varieties in the market and has highly desirable end-use qualities which have drawn the attention of some of the largest US millers and grain suppliers.

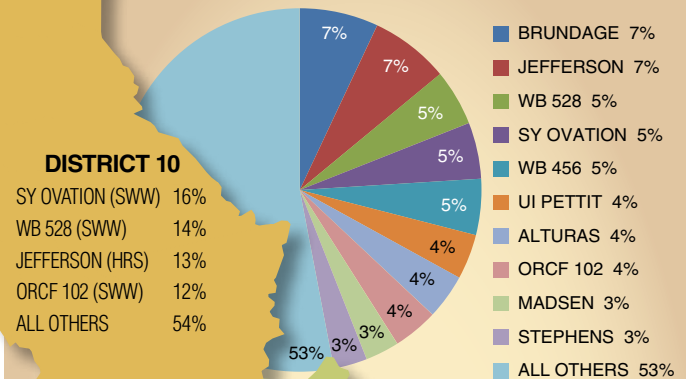
But, the real "game changer" is a soft white winter (SWW) double haploid variety with 2-gene imidazolinone herbicide resistance. Tested this year in the regional herbicide tolerance trials as DH-10, it has topped many of the 2 gene IMI trials for



IWC is helping to connect PSES researchers with the genomic tools available through IBEST.

The IBEST Genomics Resources Core provides researchers at the University of Idaho access to the technology, experience, and expertise in molecular biology methods and bioinformatics needed to acquire, analyze, and visualize data generated from high throughput technologies used in genomics research.

## 2013 Leading Wheat Varieties



### DISTRICT 10

SY OVATION (SWW)	16%
WB 528 (SWW)	14%
JEFFERSON (HRS)	13%
ORCF 102 (SWW)	12%
ALL OTHERS	54%

### DISTRICT 70

STEPHENS (SWW)	46%
BRUNDAGE (SWW)	35%
WB 456 (SWW)	9%
ALTURAS (SWS)	4%
ALL OTHERS	6%

### DISTRICT 80

GARLAND (HRW)	22%
KALSIC (HWS)	19%
BRUNDAGE (SWW)	15%
SNOW CREST (HWS)	15%
ALL OTHERS	29%

### DISTRICT 90

WB 456 (SWW)	17%
UI PETTIT (SWS)	16%
BRUNDAGE (SWW)	13%
JEFFERSON (HRS)	13%
ALL OTHERS	41%

### PERCENTAGE OF WHEAT CROP BY DISTRICT

	WINTER	SPRING
DISTRICT 10	31%	15%
DISTRICT 70	6%	<1%
DISTRICT 80	6%	4%
DISTRICT 90	21%	17%

### ESTIMATED WHEAT PRODUCTION BY DISTRICT

Average yield = 82 bu/ac

DISTRICT 10	46,395,600 bu
DISTRICT 70	6,555,900 bu
DISTRICT 80	10,086,000 bu
DISTRICT 90	38,326,800 bu
Total	101,364,300 bu

### IDAHO WHEAT CROP 2013

TOTAL ACRES HARVESTED	1,230,000
WINTER WHEAT ACRES	720,000
SPRING WHEAT ACRES	510,000

yield. It has no herbicide damage from imidazolinone (Beyond) herbicide even with the MSO adjuvant added. The variety is highly uniform, short, with good straw strength, high yield potential and stripe rust resistance. It is expected to be on the market in 2016, as a licensed variety with a royalty. The identification of DH10 and its rapid advancement through the demanding trialing and registration process for Clearfield® Plus varieties, was an unanticipated benefit received from the UI-LCS collaboration. DH10 is strictly a UI-CALS development but it was the LCS breeder who identified its potential and fast tracked it through production and the registration

# Idaho Wheat Commission Fiscal Year 2014 Annual Report

process. Without the off-season production capabilities and extensive trial network of Limagrain Cereal Seeds, this variety might have missed its opportunity to be one of the first soft white wheat Clearfield® Plus varieties on the market.

Facilitating new collaborative projects remains a high priority for IWC commissioners and research staff. Recently, IWC began collaborating with UI-CALS' Consumer Sciences Department, on a project to scientifically investigate consumer preferences for products made from different classes of wheat, in particular, whole wheat products made from hard white wheat compared with hard red wheat. Partnership with Consumer Sciences offers

opportunities for Idaho's wheat industry to learn how to engage consumers in dialogue about the vital role of Idaho's wheat industry and wheat's nutritional value. Another new collaborative effort engages The Institute of Bioinformatics and Evolutionary Studies (IBEST) with the research faculty of UI-CALS PSES Department. Initial discussions with IBEST lead to several ideas for future collaboration and the realization the IBEST team could provide immediate and valuable expertise, tools and support for the newly funded wireworm project. Facilitating these opportunities has and will continue to pay big dividends to Idaho's wheat producers whose assessment dollars graciously support the IWC's research grants and activities.

## Information & Education

**THE** IWC supports a wide variety of programs aimed at providing information to growers, state and federal legislators, and the general public. The IWC receives information from the Idaho Grain Producers Association, the National Association of Grain Growers, U.S. Wheat Associates, and other organizations, regarding farm programs, trade issues, transportation, and environmental concerns. Information is communicated back to the producers through the Idaho Grain magazine, cereal schools, webinars, newsletters and workshops. The IWC is committed to educating the public through programs like Bread in the Bag, Ag in the Classroom, and the Wheat Foods Council.

### Domestic Marketing Tour

The Domestic Marketing tour takes place every-other year. This two-day event facilitates networking between southern and eastern Idaho wheat growers, while providing the opportunity to meet industry representatives from companies that purchase Idaho wheat. While on the tour, growers learn about consumer trends, sustainability, trucking and rail issues, hard white wheat movements, importance of consistency, challenges millers and bakers face, potential niche areas for growers and what we can do to keep Idaho's wheat industry viable into the future.

### Direct Seed Workshop and Field Day

This annual workshop is held the second week of March in Idaho Falls. The workshop provides a great opportunity for growers to network with other



Direct Seed Field Day hosted by Idaho Wheat Commissioner Gordon Gallup in Ririe, Idaho

growers and industry representatives.

This one day workshop focuses on crucial issues affecting direct seed growers such as; managing water, yields, chem fallow, best management practices in a drought year, cover crops, converting air seeder to liquid fertilizer, varieties and fertility interactions, and the value of crop residue.

Growers can attend a Direct Seed field day each July east of Ririe, where they can view recent research on production systems, including cover crops and wheat varieties for dryland grain. During the field day growers have their questions answered by other growers and University of Idaho extension personnel.

### Webinars

Webinars have become a popular educational tool made available by a computer and high-speed internet connection.

A Webinar is a way to attend a conference without leaving home. Using your computer, you can hear a presentation and also see the presenter's slides, all from the convenience of your home.

The Idaho Wheat Commission hosts a series of webinars each year during the months of January, February and March. A partial list of topics covered in 2014 includes: Barley Yellow Dwarf Virus, Acid Soils, Farm Taxation, Glyphosate Product Performance, and Planting Date Importance.

These webinars are posted on the Idaho Wheat Commission website: <http://www.idahowheat.org/media/webinars.aspx>.



Over 120 growers participated in the 2014 Direct Seed Workshop in Idaho Falls.

# Idaho Wheat Commission Fiscal Year 2014 Annual Report

## County Fairs

Contests for best wheat-based products (baking contests), are a popular draw at county fairs across the state. Idaho Wheat Commission's participation at county fairs provides consumer outreach by helping promote home baking through baking sponsorships.

Idaho Wheat Commission is one of 55 exhibitors each year in the Ag Pavilion which travels to the Western Idaho Fair and Twin Falls County Fair. Visitors to the Pavilion learn about Idaho's agricultural commodities and industries. The Ag Pavilion's goal is to educate urban populations about where food comes from, and the contribution agriculture has to Idaho's economy.



The IWC display booth promotes wheat food consumption to consumers.

## FFA Teacher Education

A recent story in USA Today highlighted an increase in students seeking degrees in agriculture careers like cereal sciences, biotechnology, economics and marketing.

In an effort to continue encouraging students to consider a career working in Idaho's wheat industry, the Idaho Wheat Commission developed a new outreach program in conjunction with Idaho's FFA Association. A workshop was created to showcase careers in cereal sciences, international marketing, grain trade/logistics, and ag business.

FFA teachers from across the state spent time in Portland, Oregon in August for a one-day hands-on-workshop at the Wheat Marketing Center. Teachers also met with US Wheat Associates, Columbia Grain, TEMCO representatives, and an entrepreneur who runs a successful bakery in Portland.

This workshop provided FFA teachers the opportunity to learn about Idaho's wheat industry by showcasing careers of which teachers may not have been aware, and providing teachers the opportunity to earn a college credit!

Trent Van Leuven, who teaches Botany/Plant and Soil Sciences in Mackey, Idaho said, "Thank you so much for making this all possible—this was by far one of the best professional development opportunities I have ever had. The wheat tour was incredible. It gave me an opportunity to see the chemistry and marketing of wheat. My mind is now buzzing with ideas to improve what I teach in order to make it more relevant to the real world." ■



FFA Teachers from across the state at the WMC in Portland. Left to Right: Teresa Waterman (IWC), Josh Evans (Preston), Steve Wilder (Meridian), Laura Wilder (FFA Executive Director), Pat Dixon (Nampa), Don Curry (Cottonwood), Trent Van Leuven (Mackay), Rick & Doritta Waitley (Ag in the Classroom).



David Shelton, WMC Executive Director demonstrates noodle strength characteristics to FFA teacher, Pat Dixon.



FFA Teachers learn about grain handling as they watch a barge loading at TEMCO.



# FOCUS: Aberdeen Wheat Breeding Program



Dr. Jianli Chen, University of Idaho wheat breeder in Aberdeen, takes time to inspect her field trials.

By *Cindy Snyder*

**R**ELEASING seven new varieties in her first seven years in Idaho is an accomplishment, but Jianli Chen has higher goals. She wants those new varieties to be grown and milled into flour. Until growers plant those new varieties, they can't reap the benefits of improved pest resistance or end-use quality.

Of the varieties she has released so far, Chen lists UI Platinum, UI Stone and UI Silver as having the greatest potential long-term impact for southern Idaho production.

UI Silver is a hard white winter wheat that Chen released in 2009. It was developed from parent material that performed well under dryland conditions but did not have the baking quality that end users were looking for.

Growers and millers have been slow to embrace UI Silver, but Chen has been working with a flour company to showcase UI Silver's good baking qualities. Now that an end user is interested in Silver, growers can take advantage of its complex disease package that offers stem rust, stripe rust and dwarf bunt resistance. Last winter also proved Silver is more winter hardy than some of the other hard white wheat

varieties growers have been planting.

"Silver came into the light last year," Chen said. "Now that they know Silver is good, I think it will take off."

UI Stone is a soft white spring wheat released in 2012. It is a high yielder with excellent end use quality. It has good, though not great, tolerance to stripe rust and cereal nematodes. Where it excels is in Fusarium Head Blight (FHB) resistance. UI Stone is the only SWS variety in the Pacific Northwest with tolerance to Fusarium Head Blight, also known as Scab.

Even though it is the only variety that UI recommends planting following corn, Chen has been disappointed that more growers don't plant it. UI Stone is exclusively marketed under the LCS brand.

She is very excited about UI Platinum, which was just released in July. "Several flour mills are interested in Platinum," she said. "It has the end use qualities that the market needs now."

Platinum is a hard white spring variety that is shorter and earlier variety than other hard white springs. It can be grown under intensive irrigation management. She sees it replacing Klassic thanks to its excellent stripe rust re-

sistance, but – like all other hard white spring wheats – Platinum has no Scab resistance.

UI is in the process of licensing UI Platinum which will provide the incentive for a company to increase seed and make it widely available to growers.

She has another hard white winter wheat variety in the pipeline with good stripe rust resistance and high yields. It would also be the first hard white wheat for irrigated production areas. However, Chen is hesitant to release it because the end use qualities are not as good as UI Silver.

Even if she decides against releasing this particular line, Chen is working on several other possibilities. Using marker assisted selection and doubled haploid breeding techniques, she can bring new varieties to growers quickly and efficiently.

"I can see the future," Chen said. "The work I have invested in the last seven years will help growers by solving production problems. Licensing varieties helps the UI by putting money back into the breeding programs."

## FASTER BREEDING

Chen begins each selection thinking about specific pest or management challenges facing



Aberdeen using the falling numbers test. That test measures damage to the starch component of a wheat kernel which makes the resulting flour 'too weak' for commercial bakers.

Chen is also part of the T-Cap project at Aberdeen. This U.S. Department of Agriculture project is evaluating nitrogen use and water use efficiency for growing crops.

Chen's team is using canopy spectral reflectance to estimate yield and nitrogen efficiency in plots. One student can now quickly evaluate 200 to 300 plots per day using a hand held device measuring how much reflection comes from plant leaves.

Dropping aquifer levels today and the possibility of a warmer climate in the future points to drought tolerance as a critical trait in wheat for Idaho growers, Chen said.

Juliet Marshall, UI cereals cropping systems agronomist and pathologist, has worked with Chen on the falling numbers project and also variety trials. That collaboration benefits growers by letting them know which varieties are susceptible to pest problems and which new varieties have resistance.

Chen's grasp of the importance of disease resistance, especially in dryland production is one of her greatest strengths as a breeder. The other is her work ethic.

"I can't imagine anyone who works harder than Jianli," said Juliet Marshall. "I don't know where she gets all her energy."

For her part, Chen credits grower support for making the Idaho wheat breeding program at Aberdeen so successful. "I cannot do anything without the growers," Chen said. "I enjoy working with the growers to learn more about the environment in Idaho. I want to help the growers make money." ■



Idaho wheat growers. "The growers' problems are in my heart," she said. "I put my effort towards that."

She has made FHB resistance the cornerstone of her breeding program since coming to UI at Aberdeen in 2007. While she continues to evaluate material for scab resistance in hard white wheats, Chen is also screening materials for resistance to emerging pest problems like wireworm, cereal nematode, and drought resistance.

Marker assisted selection allows Chen and her team to screen parent lines for alleles that are associated with certain traits, such as scab resistance. The material with the greatest potential can then be crossed using the double haploid method.

Doubled haploid is a fairly new technique in wheat breeding. Chen admits it is hard to describe the process to non-plant breeders. Essentially, breeders develop a line that is completely uniform at the genetic level using a technique to double the chromosomes from one parent. In this process there is no genetic contribution from another parent.

Plants are initially pollinated using a haploid inducer that causes plants to produce seeds with one chromosome from each chromosome pair instead of two chromosomes. The resulting haploid embryos, with one chromosome from each pair are treated with a special compound that causes the single chromosome to double by making an exact copy of itself. That copy is genetically identical to the

original chromosome. Now the plant has a full set of chromosome pairs but each chromosome in the pair is identical to its partner.

The plant grown from that seed is called a doubled haploid. The genes on the right side of the chromosome are genetically identical to the ones on the left, and now breeders have a new stable inbred that is a genetically uniform stable line.

What limits progress now is the screening protocol to find new traits. "We have the tools to reduce the breeding cycle," Chen said. "If I can find good traits in two years, growers can see new varieties in ten years."

### INVESTIGATING EMERGING PROBLEMS

In addition to developing new varieties, Chen also works with other UI extension specialists to make sure those varieties will work in Idaho production systems.

One of those efforts is the falling numbers project funded by the Idaho Wheat Commission for the last two years.

Chen is using a growth chamber purchased by IWC to test varieties for late maturity alpha-amylase that can be caused by pre-harvest sprout induced by frost damage. Wheat heads are harvested and then treated to induce sprout or simulate frost damage. The heads are then placed in the growth chamber to provide ideal environmental conditions for sprout. Kernel damage is measured at the Idaho Wheat Quality Research Laboratory in





# Impacts of Noxious and Invasive Weeds

By Roger Batt



**O**F all the problems plaguing Idaho's economy, one of the least fashionable is the annual and cumulative impacts of the 68 varieties of noxious weeds now found in the Gem state. The irony is that state noxious weed managers say noxious and invasive weeds carve a hole in Idaho's economy to the tune of at least \$300 million annually in total impacts. This number includes the costs of fighting fires resulting from invasive weeds such as cheatgrass taking over productive rangelands. The number

doesn't include the \$40 million annual bill to farmers, ranchers and other private landowners who have to step up control and management efforts because a neighbor does not do their part to control weed infestations.

How bad is the noxious weed problem? State officials estimate more than 8 million acres of Idaho lands, approximately 15 percent of the entire state, are now infested with noxious weeds. More worrisome: the number of acres continues to expand every year. It's a real problem that appears to get worse, never better. For example, in 1963, Rush Skeletonweed, a rangeland weed, occupied less than 40 acres near Banks, Idaho.



Rush skeletonweed

Today, weed experts say it is found across 4 million acres and continues to spread.

It is the initial casual appearance of noxious weeds that lies at the heart of the noxious weed problem in Idaho. Many small, initial infestations appear to be harmless wild flowers or vegetation. They often appear to be useful



Water Hyacinth, one of Idaho's newest noxious weeds, only found in geothermal waters.

ground cover in areas of disturbed soil, along waterways, roads and other public areas. Many are planted as ornamentals in private landscapes only to escape and proliferate into new areas.

With time it becomes painfully clear that those noxious invasive plants are in the process of eliminating native vegetation, impacting our farms and ranches, reducing recreational use of lands and waterways, and serving as a barrier to productive uses of the land. For example, a pasture infested with Yellow Starthistle cannot be used for horses. A field full of Canada Thistle cannot maximize yields of crops. A pasture full of Leafy Spurge cannot be grazed by livestock. Additionally, noxious weeds can be poisonous, even deadly, for people, livestock, and wildlife, robbing game animals of their natural habitat or forage, destroying fish habitat, and reducing grazing opportunities for farm animals.

Noxious weed infestations are now showing up with ominous regularity in Idaho's pristine wilderness backcountry areas. The long term future economic and recreational threat poses for Idaho's invaluable recreational tourism and outdoor activities, plus its danger to Idaho's big game species cannot be understated.

The aquatic noxious and prolific weed called



Eurasian Watermilfoil can bog down water craft, destroy fisheries, and even entangle and drown swimmers. It has infested numerous waterways and lakes across Idaho. Several of Idaho's most scenic lakes, including Payette, Pend Oreille, Hayden and Spirit, have already been invaded by Eurasian Watermilfoil. Weed control experts are doing their best to reduce populations of this aquatic invader.

For more than four decades now, Idaho has battled to hold back the growing tide of noxious and invasive weed invaders. Idaho has stepped up these efforts considerably over the past twenty years. Just a decade ago, weed experts had identified 36 species of noxious weeds. Today there are 68. Each noxious weed is a threat to Idaho's economic wellbeing. But when combined into a cumulative economic assessment, it poses a challenge of immense proportion.

One of the challenges with noxious weeds is that the topic of "noxious weeds" itself is not flashy and inherently attention-getting to the public.

"It's pretty difficult to get ordinary citizens fired up about innocuous looking plants with names like Rush Skeletonweed, Hoary Cress, Yellow Toadflax, or Houndstongue. But that changes quickly when they begin to grasp the distressing impact those and the sixty-four other species of noxious weeds are having every year on our State," said Roger Batt, spokesperson for the Idaho Weed Awareness Campaign. The Campaign was set up in 2001 to create public awareness, outreach, and education to help Idahoans understand the economic and



Eurasian Watermilfoil can be found in these bodies of water: Payette, Hayden, Pend Oreille, Spirit Lake, and the Snake River.

environmental impacts of noxious and invasive weeds. Since that time, the Campaign has educated approximately 1 million Idahoans and reached out to Idaho's six bordering states to inform the public about the serious threat of noxious weeds and how to manage them to stop their spread.

As public awareness has increased, so has public participation in the battle. More and more landowners are meeting their obligation under Idaho law to control or eradicate noxious weeds on those lands. More of our youth under-

stand the noxious weed problem. More of our citizens are acquiring Idaho's noxious weed book to reference plants they have on the lands they own. More are going to our website ([www.idahoweedawareness.com](http://www.idahoweedawareness.com)) to learn about Idaho's 68 noxious weeds and how to control and manage them. More than three dozen cooperative weed management areas have been established from public and private partnerships to jointly battle noxious weeds across county borders. Idaho also has 42 County Weed Superintendents the public can go to for technical expertise.

An aggressive public outreach and educational effort has illuminated the problem and helped foster innovative approaches. These include herbicide treatments using newer chemistries, herds of goats that devour acres of noxious weeds, and the use of biological agents such as an insect, a fungus, or any other organism that can retard the weed's growth and/or reproduction.

How the battle will eventually turn out is yet to be known. But one thing is clear. The battle has been joined by many of Idaho's citizens and because of that, Idaho has a good chance of winning the war against noxious weeds. And that seemingly benign flowering plant in the pasture, along a river or canal, or in the campground of your favorite recreation area will from now on be scrutinized just to make sure it does not represent the advance of a dangerous foreign invader. ■



# Trade Promotion Authority

## What's at Stake for Idaho Agriculture?

Idaho's agricultural exports reached an estimated \$2.4 billion in 2012, up from \$1.7 billion in 2008. Idaho's exports help boost farm prices and income, while supporting about 15,800 jobs both on the farm and in related industries such as food processing, transportation, and manufacturing. Export sales accounted for approximately 32 percent of total Idaho farm receipts in 2012.

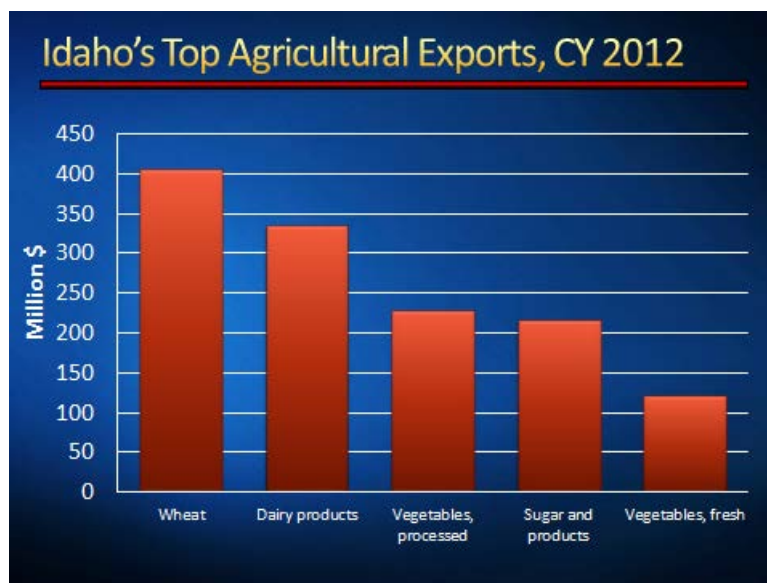
Idaho's top agricultural exports in 2012 were:

1. Wheat – \$405 million
2. Dairy products – \$335 million
3. Vegetables, processed – \$229 million
4. Sugar and products – \$217 million
5. Vegetables, fresh – \$122 million

Nationwide, U.S. food and agricultural exports reached a record \$140.9 billion in fiscal 2013, supporting nearly one million American jobs. Global demand for these products is growing but so is competition among suppliers.

### Trade Promotion Authority

Trade Promotion Authority is a critical tool in our efforts to seek approval of trade agreements that support and create U.S. jobs while helping American agriculture to compete more successfully in an ever-expanding global marketplace. Right now, the United States is negotiating two critical trade agreements – the Trans-Pacific Partnership (TPP) and the Transatlantic Trade and Investment Partnership (T-TIP). Trade Promotion Authority will help ensure that America's farmers, ranchers, and food processors receive the greatest benefit from these negotiations.



### Agriculture Benefits from Free Trade Agreements

In countries where the United States has free trade agreements, exports of U.S. food and agricultural products have grown significantly. Examples include our pacts with Colombia, Panama, and South Korea that took effect in 2012; CAFTA-DR, under which our free trade relationships with five Central American countries and the Dominican Republic began between 2006 and 2009; and the U.S.-Chile free trade agreement, which entered into force in 2004.

- **Wheat** exports to Central America and the Dominican Republic grew from \$257 million in 2005 to almost \$530 million in 2013. Wheat exports to Chile increased from \$36 million in 2003 to almost \$185 million in 2013.
- **Dairy** exports to Korea, Colombia, and Panama grew from \$264 million in 2011 to almost \$378 million in 2013. Dairy exports to Central America and the Dominican Republic increased from \$68 million in 2005 to more than \$170 million in 2013. Dairy exports to Chile rose from \$3 million in 2003 to almost \$54 million in 2013. In addition, U.S. dairy exports to Singapore increased from \$8 million in 2003 to more than \$90 million in 2013 thanks to the free trade agreement that took effect in 2004.
- **Fresh and processed vegetable** exports to Korea, Colombia, and Panama grew from \$132 million in 2011 to \$195 million in 2013. Exports to Central America and the Dominican Republic went from \$28 million in 2005 to \$98 million in 2013.

For more information, contact the U.S. Department of Agriculture Foreign Agricultural Service, 202.720.7115 or [LPA@fas.usda.gov](mailto:LPA@fas.usda.gov)

# Governor Re-Appoints Jerry Brown to Idaho Wheat Commission

**J**ERRY Brown, Soda Springs, was re-appointed for another 5-year term to the Idaho Wheat Commission (IWC). Brown represents wheat producers of District Five, which includes Bannock, Bear Lake, Caribou, Franklin, Oneida, and Power counties.

Brown and his family own and operate dry land and irrigated farms where they raise winter and spring wheat, and barley. Jerry has farmed for over 40 years, and holds a bachelor's degree in Accounting, a Master of Accounting from Utah State University, and is a Certified Public Accountant.

Jerry is currently serving as a member of the US Wheat Associates board of directors (USW is the industry's market development organization working in more than 100 countries). He is also actively involved in the Caribou County Grain Growers, the Idaho Grain Producers Association, and a board member of the Caribou Memorial Hospital.

"Being a wheat farmer has provided a unique opportunity for Robyn and me to raise a family and teach them how to work," said

Brown. "Our two sons are returning to the farm following their education. Both of them bring skills and education vital to the continuation of our operation. It is exciting to see this transition. One of my goals is to help provide a transition, not only for my boys, but the youth of Idaho who wish to make agriculture their career. Agriculture should provide an environment whereby the youth can be attracted and earn a competitive living."

Brown is excited to be a part of the much needed research in wheat. He has come to the realization that farmers must grow what our customers want to buy. Improvement in quality and reliability can only happen through continued research. Brown wants to continue to develop marketing opportunities in this country and the world for the high quality wheat produced in Idaho. As research is performed and markets are developed it is essential that our growers are educated and made aware of new advances.



Jerry Brown greets Chinese Trade Delegation members at a grower dinner in Shelly, Idaho.

Ned Moon, chairman of the Idaho Wheat Commission said, "The commission and staff look forward to continuing to work with Jerry as he begins his second five-year term. Jerry's analysis of issues, and business experience, has been invaluable to the commission, we know from working with him that he is an effective leader for Idaho's wheat producers."

Commissioner Brown also works full time as a CPA in Soda Springs. Jerry and his wife Robyn have been married for 38 years and have six children. The Browns enjoy spending time with their family, working together managing and operating the farm, camping, fishing, and backpacking.

# Genesee Joe Anderson Appointed to Idaho Wheat Commission

**G**OVERNOR C.L. "Butch" Otter recently announced his appointment of "Genesee" Joe Anderson, to the Idaho Wheat Commission (IWC). Joe will represent the wheat producers of District One, which includes Boundary, Bonner, Kootenai, Benewah, Latah, and Shoshone counties.

Anderson has been operating the family farm with his brother Jay since 1983. The Anderson brothers farm about 4400 acres of owned and rented land in Latah and Nez Perce counties. They raise winter wheat, spring wheat and barley, pulse and oilseed crops.

Anderson earned a Bachelor of Science degree in Ag Econ, and a Bachelor of Science



degree in Ag Mechanization from the University of Idaho. Joe has two grown daughters and three granddaughters.

Commissioner Anderson has been involved in a number of leadership positions. He just completed a 5-year term as a member of the Idaho Grain Producers Association executive board, he is a member of the Latah County Grain Growers, a 1994 graduate of Leadership Idaho Agriculture, and a graduate of the Wheat Industry Leaders of Tomorrow program. He has also served on the Genesee Union warehouse board from 1994-1999 and was

an associate supervisor on the Latah Soil and Water Conservation District.

Idaho Wheat Commission Chairman Ned Moon congratulated Anderson on his

appointment. "Joe has been an industry leader and a team player for decades. His involvement with Idaho's wheat industry and his knowledge of the issues will allow him to hit the ground running. We're extremely fortunate to have Joe as an Idaho Wheat Commissioner."

As Anderson steps into his new role as an Idaho Wheat Commissioner, he will focus his attention on working to keep the wheat industry viable by providing an environment where growers can access new technology on their farms. "The technological landscape is changing quickly," said Anderson. "Technology in farming is wide ranging from drones to double haploid breeding. I want to ensure that policies and funding are in place for Idaho wheat growers to have access to all the advances in technologies they need to reduce their input costs to increasing yields to help keep them competitive."

When not working on the farm, Anderson enjoys motorcycling, skiing, hiking, exploring Idaho and traveling to new places.



# 2012-2013 Idaho Winter Wheat Variety Performance Tests and 2011-2013 Yield Summaries

By Juliet Marshall and Kurt Schroeder, Extension Specialists, Department of Plant, Soil and Entomological Sciences, University of Idaho, and Mike Flowers, Extension Cereal Specialist, Oregon State University

## Variety Testing

Idaho winter wheat varieties are evaluated each year to provide performance information to help growers select superior varieties for their growing conditions. The tests are conducted using farmer fields or university experiment stations, and the varieties are grown under conditions typical for crop production in the area. Varieties are included in these tests based on their potential adaptation in an area and commercial use of a variety. The number of entries is limited due to resource

constraints. Individual plots were planted as 7 rows spaced 7" apart or 5 rows spaced 10" apart for 14' to 25' in length and replicated 3 or 4 times in a randomized complete block design. Agronomic performance data for winter wheat are summarized by state districts in Tables 1-6. Northern District results are presented in Table 1 and Western Idaho results are in Tables 2 and 3. Southern and Eastern Districts results are presented for irrigated trials in Table 4 and for dryland trials in Table 5.

## Information Summarization

Yield data are reported for individual sites while other agronomic data are averaged over all sites of each table. Bushel/acre yield results are based on 60 lbs/bu at 11% moisture. Lodging ratings are the percent of a plot area lodged, and in some tables not reported due to minimal lodging. Average values are presented at the bottom of listings and are followed by a least significant difference (LSD) statistic at the 5% level.

Average yield data from variety performance trials in 2011, 2012, and 2013 are presented in Table 6 for all districts. These data represent results of 3-18 site/years and can be a good indication of long-term performance of a variety.

More detailed lodging information is available on the new URL for UI cereals website <http://www.uidaho.edu/extension/cereals/>.

## Information Interpretation

Average past performance of a variety is the best indicator available to predict future performance potential.

**Table 1. Dryland Winter Wheat Variety Performance in the Northern District near Lewiston, Genesee, Moscow, Bonners Ferry, Nezperce and Tensed, 2012-2013.**

Variety	Seed Yield						Average			
	Lewiston	Genesee	Moscow	Bonners Ferry	Nezperce	Tensed	Yield	Test Weight	Plant Height	Protein
	bu/acre						bu/A	lb/bu	Inches	%
<b>Soft White Winter</b>										
ARS-Amber	94	99	103	101	86	142	104	59	34	10
ARS-Chrysal*	86	91	102	101	80	118	96	59	35	11
ARS-Crescent*	114	86	98	--	97	137	106	59	35	10
ARS-Selbu	102	98	84	111	72	139	101	60	34	11
Bitterroot	96	97	100	97	78	124	99	59	36	11
Bobtail	115	101	97	90	92	156	109	56	32	10
Brundage-96	93	101	104	89	80	140	101	59	33	10
Bruneau	110	105	103	94	94	146	109	59	34	10
Cara*	105	84	100	48	70	126	89	58	33	11
Cashup	96	83	95	78	65	106	87	59	32	11
Kaseberg	101	104	101	102	80	152	107	58	32	10
LCS-Artdeco	117	107	101	93	84	157	110	58	31	10
Madsen	95	95	99	78	88	148	101	59	34	11
Puma	113	95	97	86	83	153	105	59	36	11
Rosalyn	98	102	104	104	84	159	109	57	32	10
Stephens	86	99	96	97	77	133	98	59	34	11
SY-Ovation	110	95	100	92	79	176	109	60	34	11
UICF-Brundage	98	106	99	83	87	135	101	58	32	10
UI-WSU Huffman**	113	106	101	102	81	142	108	60	35	10
WB-1066CL	93	91	87	99	75	141	98	61	37	12
WB-1070CL	99	96	97	86	67	135	97	62	32	12
WB-1529	116	94	95	107	76	145	106	61	33	11
WB-1604	96	84	98	91	72	132	96	60	31	11
WB-456	99	98	85	81	71	143	96	61	32	12
WB-523	99	89	93	98	78	145	100	60	33	11
WB-528	99	90	100	111	72	145	103	60	34	11
WB-Junction	93	90	102	75	74	158	99	60	32	11
WB-Trifecta	101	105	104	84	74	147	103	61	33	11
<b>Trial Average</b>	<b>101</b>	<b>96</b>	<b>98</b>	<b>92</b>	<b>79</b>	<b>142</b>	<b>102</b>	<b>59</b>	<b>33</b>	<b>11</b>
<b>LSD (0.05)</b>	<b>15</b>	<b>16</b>	<b>13</b>	<b>27</b>	<b>14</b>	<b>21</b>	<b>10</b>	<b>0</b>	<b>1</b>	<b>--</b>
<b>Hard Winter</b>										
Boundary	107	77	134	107	86	127	106	59	34	11
Eddy	89	90	101	113	83	114	98	61	34	11
Genesis	104	102	131	84	83	145	108	60	29	11
LCS-Azimut	113	98	132	61	88	137	105	57	29	11
LCS-Colonia	124	99	138	122	94	168	124	58	33	11
Norwest-553	101	90	126	98	81	147	107	61	31	12
UI-Silver (W)	78	103	123	71	82	143	100	61	36	11
UI-SRG	81	79	113	90	86	146	99	60	41	12
WB-Arrowhead	87	91	123	105	85	152	107	61	37	11
WB-Keldin	106	100	132	119	88	153	116	61	36	11
WB-Rimrock	103	100	132	94	82	104	102	60	35	11
<b>Trial Average</b>	<b>99</b>	<b>94</b>	<b>126</b>	<b>97</b>	<b>85</b>	<b>140</b>	<b>107</b>	<b>60</b>	<b>34</b>	<b>11</b>
<b>LSD (<math>\alpha = 0.05</math>)</b>	<b>16</b>	<b>14</b>	<b>17</b>	<b>34</b>	<b>9</b>	<b>17</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>--</b>

\* Club Wheat

\*\* IDN-03-29902A

(W) = White

**Table 2. Irrigated Soft White Winter Wheat Variety Performance at Parma, 2013.**

	Yield	Test	Heading	Height (in)	Lodging %	Protein (%)
	Average bu/acre	Weight lb/bu	date			
AP 700 CL	164	61	144	42	0	10
AP Badger	173	58	143	35	0	9
Bobtail	156	59	144	35	1	10
Bruneau	162	61	147	41	29	10
Cara	156	58	153	40	15	11
Goetze	162	60	138	35	0	10
Kaseberg	156	60	142	38	0	9
Ladd	160	60	147	36	0	11
LCS Artdeco	159	60	139	34	0	9
Legion	153	59	145	41	27	10
Mary	166	61	142	35	0	10
ORCF-101	156	61	146	37	0	10
ORCF-102	164	61	146	42	8	10
ORCF-103	153	60	148	41	20	10
Rosalyn	171	58	144	37	0	9
Skiles	163	61	146	37	1	11
Stephens	143	60	140	36	20	10
SY 107	165	61	143	37	0	10
SY Ovation	151	61	142	38	0	10
Tubbs 06	154	60	145	43	10	10
WB 1070 CL	156	62	137	34	0	10
WB 456	165	62	139	34	0	11
WB 528	148	61	142	37	0	10
WB 1529	160	62	140	37	15	11
WB 1604	159	61	139	36	0	10
WB Junction	146	61	140	36	0	9
WB Trifecta	161	61	141	37	3	11
<b>Average</b>	<b>160</b>	<b>60</b>	<b>145</b>	<b>38</b>	<b>5</b>	<b>10</b>
<b>LSD (<math>\alpha = .05</math>)</b>	<b>18</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>21</b>	<b>1</b>

Variety performance can vary from location to location and year to year. The results reported in this article are for 2013 trials; previous results can be found in the 1992 to 2012 issues of Idaho Grain Magazine or at the UI cereals website. Average performance over locations and years more accurately indicates varieties' relative performance. Try to evaluate as much information as you can prior to selecting varieties. Yield is a primary characteristic used to select varieties, but disease resistance, maturity, lodging tendency, and quality characteristics such as test weight and plumpness are also important variety selection considerations. Also consider that plots are managed according to the average expected yield, latest varietal maturity, and / or performance of the surrounding crop in a grower's field, whether it be wheat or barley. Varietal performance may not reflect actual performance in your field when a specific variety is managed for optimal economic performance.

Reported small differences among varieties in yield and other characteristics are usually of little importance due to chance differences in tests. Utilize the LSD statistic to determine the true difference between varieties. If differences between varieties are greater than the 5% LSD value, the varieties are considered "significantly different." This means that there is a 9.5 in 10 chance that the reported difference between varieties is a true difference and not due to other experimental factors or chance variation. If no significant differences are determined for a trial, n.s. is used in place of the LSD.

**Further Information**

Variety performance information for winter wheat and winter barley has been published in the fall issues of Idaho Grain Magazine and on the University of Idaho Cereals website: <http://www.uidaho.edu/extension/cereals/>. Additional information is available on the University of Idaho catalog website: <http://www.cals.uidaho.edu/edcomm/catalog.asp>

(Look for publications as pdf files under "Other Cereals Publications"). In addition, publications are free through the University of Idaho Agriculture Publications (ph. 208-885-7982) or contact your county Extension Office. ■



**Table 4. Irrigated Winter Wheat Variety Performance in Eastern and Southern Districts at Kimberly, Rupert, Aberdeen, 2012-2013.**

Variety	Yield				Test	Spring	Heading	Lodging	Protein	
	Kimberly	Rupert	Aberdeen	Average	Weight	Stand	date			Height
	bu/acre				lb/bu	(%)		(in)	%	
<b>Soft White Winter</b>										
AP Badger	106	73	145	108	57	100	6/2	33	4	13
AP700 CL	97	69	141	102	58	100	6/2	38	2	13
Bitterroot	97	74	151	107	59	99	6/4	37	2	13
Bobtail	126	73	175	125	56	99	6/2	34	0	12
Brundage	96	83	139	106	60	100	5/29	34	0	12
Brundage 96	97	66	142	102	58	98	6/2	35	0	12
Bruneau	118	91	154	121	59	99	6/4	38	6	12
Cara*	101	57	139	99	56	98	6/6	36	3	14
Eltan	106	69	133	103	57	100	6/5	37	13	13
Kaseberg	115	66	154	111	57	99	6/2	35	3	12
Ladd	87	83	144	105	59	100	6/4	33	5	13
LCS Artdeco	126	79	141	115	56	100	5/31	35	1	11
Madsen	102	88	142	111	59	100	6/4	36	7	13
Mary	86	70	158	105	58	99	5/31	32	0	14
ORCF-101	106	65	146	106	58	100	6/2	35	0	14
ORCF-102	122	65	142	110	58	99	6/4	38	6	13
Rosalyn	112	65	157	111	56	99	6/3	33	1	12
Skiles	114	76	151	113	59	99	6/4	36	2	14
Stephens	133	64	133	110	56	99	6/1	35	7	12
SY Ovation	93	81	154	109	59	99	6/1	36	2	12
UICF Brundage	124	74	149	116	57	99	6/2	33	0	12
WB 1529	102	76	148	108	60	100	5/30	34	3	12
WB 1604	96	71	155	108	58	33	4	12	99	5/29
WB 456	88	73	129	97	59	99	5/29	33	0	13
WB 528	110	74	153	112	59	97	6/1	35	11	12
WB-1070CL	97	74	132	101	60	100	5/28	33	10	13
WB-Junction	95	79	157	110	59	100	5/28	35	0	12
<b>Average</b>	<b>107</b>	<b>74</b>	<b>147</b>	<b>109</b>	<b>58</b>	<b>99</b>	<b>6/2</b>	<b>35</b>	<b>4</b>	<b>13</b>
<b>LSD (α = .05)</b>	<b>27</b>	<b>23</b>	<b>17</b>	<b>13</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>2</b>
<b>Hard Red and White (W) Winter</b>										
Eddy	96	96	128	106	62	100	5/30	35	16	14
Golden Spike (W)	96	96	106	95	59	99	6/4	38	38	14
Greenville	95	95	135	102	58	100	6/1	32	23	15
Judee	99	99	123	105	62	100	5/31	36	24	15
Juniper	103	103	111	101	62	98	6/3	49	23	15
Keldin	125	125	143	127	62	99	5/31	36	23	14
LCS Azimut	107	107	139	107	55	97	5/30	30	7	14
Manning	90	90	124	98	60	96	6/2	37	48	14
Moreland	108	108	142	105	59	98	5/31	35	4	15
Norwest 553	136	136	149	125	61	100	6/1	33	0	14
Promontory	129	129	123	110	61	98	5/31	38	27	14
Utah 100	116	116	139	120	60	96	6/4	43	8	14
WB-Arrowhead	119	119	146	119	62	100	6/1	39	20	14
Whetstone	97	97	126	112	61	97	5/27	37	15	15
Yellowstone	117	117	157	122	61	98	5/31	39	5	14
<b>Average</b>	<b>109</b>	<b>109</b>	<b>132</b>	<b>111</b>	<b>60</b>	<b>98</b>	<b>6/1</b>	<b>37</b>	<b>20</b>	<b>14</b>
<b>LSD (α = .05)</b>	<b>24</b>	<b>24</b>	<b>21</b>	<b>13</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>18</b>	<b>1</b>

\*Club wheat

**Table 3. Irrigated Hard Red Winter Wheat Variety Performance at Parma, 2013.**

	Yield	Test	Heading	Lodging	Protein	
	Average	Weight	date			Height
	bu/acre	lb/bu	(in)	%	(%)	
AP 503 CL2	150	64	5/15	36	15	10
Azimut	149	58	5/16	30	0	10
Genesis	149	60	5/17	32	0	10
Keldin	154	63	5/20	38	1	10
Norwest 553	139	62	5/19	33	0	11
UI Silver (W)	134	63	5/22	41	21	11
UI SRG	142	62	5/19	45	54	11
WB-Arrowhead	143	63	5/19	41	0	11
WB-Rimrock	141	62	5/20	38	8	10
Whetstone	140	63	5/16	38	0	11
<b>Average</b>	<b>144</b>	<b>62</b>	<b>5/20</b>	<b>38</b>	<b>8</b>	<b>10</b>
<b>LSD (α = .05)</b>	<b>12</b>	<b>1</b>	<b>1/2</b>	<b>2</b>	<b>24</b>	<b>0</b>



# 2012-2013 Idaho Winter Wheat Variety Performance Tests and 2011-2013 Yield Summaries

**Table 5. Dryland Winter Variety Performance in Southern Idaho, 2013**

	Rockland	Ririe	Average	Test Weight	Spring Stand	Heading Date	Height	Protein
	bu/acre			lb/bu	(%)	Julian	(in)	(%)
<b>Soft White Winter Wheat</b>								
AP700 CL	---	11	11	57	96	6/21	20	15
Bitterroot	---	18	18	60	98	6/23	20	16
Bobtail	---	12	12	56	96	6/22	17	12
Brundage	---	11	11	60	99	6/14	18	12
Brundage 96	---	9	9	56	94	6/19	17	13
Bruneau	---	16	16	59	98	6/22	20	14
Cara*	---	12	12	56	97	6/24	17	14
Eltan	---	17	17	60	100	6/24	18	14
Kaseberg	---	14	14	58	97	6/19	17	13
Ladd	---	9	9	57	96	6/22	17	16
Madsen	---	15	15	58	97	6/21	18	15
Mary	---	12	12	56	97	6/17	18	14
ORCF-101	---	12	12	58	97	6/20	18	15
ORCF-102	---	12	12	59	98	6/23	19	14
Rosalyn	---	11	11	57	98	6/22	20	12
Skiles	---	15	15	57	95	6/21	16	16
Stephens	---	11	11	58	99	6/17	19	14
UICF Brundage	---	12	12	56	98	6/20	18	13
WB 456	---	14	14	57	97	6/15	18	15
WB 528	---	13	13	61	98	6/19	19	15
Average		13	13	58	97	6/21	18	14
<b>LSD (α = .05)</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>		
<b>Hard Winter Wheat</b>								
AP503CL	12	13	13	61	89	6/6	20	13
Bearpaw	14	17	16	61	92	6/7	19	13
Curlew	11	18	14	61	92	6/7	24	14
Deloris	24	16	20	61	88	6/12	25	14
Golden Spike (W)	21	14	17	61	92	6/11	22	13
Greenville	19	11	15	61	86	6/9	19	13
Judee	19	15	17	62	89	6/9	22	13
Juniper	20	16	18	61	95	6/9	27	14
Keldin	23	15	19	61	90	6/7	22	13
Lucin-CL	22	13	18	61	91	6/11	25	13
Manning	16	17	16	61	93	6/8	22	13
Moreland	16	14	15	59	87	6/8	19	13
Norwest 553	18	15	16	61	92	6/10	20	15
Promontory	20	14	17	62	90	6/8	24	14
UI LHS (W)	20	13	16	61	86	6/13	21	14
UI Silver (W)	22	13	18	62	88	6/10	22	13
UI SRG	26	18	22	61	93	6/8	26	13
UICF Grace (W)	21	23	22	60	92	6/8	28	12
Utah 100	24	18	21	61	91	6/8	26	13
WB-Arrowhead	16	20	18	61	91	6/8	24	14
Weston	18	19	19	62	93	6/8	27	13
Yellowstone	16	17	17	61	93	6/8	23	13
<b>Average</b>	<b>18</b>	<b>16</b>	<b>17</b>	<b>61</b>	<b>90</b>	<b>6/9</b>	<b>22</b>	<b>13</b>
<b>LSD (α = .05)</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>1</b>	<b>8</b>	<b>2</b>	<b>2</b>	<b>2</b>

\*Club wheat

(W) = white



**Table 6. 2011-2013 Winter Wheat Variety Average Yield Performance**

Site/years	Northern District	Southern/Eastern District	
	Rainfed	Irrigated	Dryland
	18	9	3 soft, 6 Hard
	Yield (bu/A)		
<b>Soft White Winter</b>			
AP Badger	--	124	--
Bitterroot	104	124	17
Brundage	--	119	13
Brundage 96	101	121	14
Bruneau	108	134	17
Cara*	103	--	--
Madsen	104	124	15
ORCF-101	--	121	15
ORCF-102	--	126	16
Skiles	--	124	14
Stephens	--	127	13
SY Ovation	--	134	--
UICF Brundage	102	126	15
WB-1066CL	96	--	--
WB 456	--	115	--
WB 523	101	--	--
WB 528	105	126	15
WB-Junction	104	130	--
<b>Average</b>	<b>103</b>	<b>125</b>	<b>15</b>
<b>LSD (α = .05)</b>	<b>9</b>	<b>7</b>	<b>3</b>
<b>Hard Red and White (W) Winter</b>			
Boundary	98	--	--
Curlew	--	--	21
Deloris	--	--	22
Eddy	--	120	--
Golden Spike (W)	--	123	20
Greenville	--	121	21
Juniper	--	125	21
Lucin-CL	--	--	22
Manning	--	124	--
Moreland	--	123	--
Norwest 553	104	127	17
Promontory	--	123	18
UI LHS (W)	--	--	19
UI Silver (W)	100	--	21
UI SRG	99	--	23
UICF Grace (W)	--	--	22
Utah 100	--	128	23
WB-Arrowhead	--	124	--
WB-Rimrock	97	--	--
Weston	--	--	20
Whetstone	--	120	--
Yellowstone	--	128	22
<b>Average</b>	<b>100</b>	<b>124</b>	<b>21</b>
<b>LSD (α = .05)</b>	<b>9</b>	<b>7</b>	<b>2</b>

\*Club wheat

(W) = White

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