IDAHO GRAIN

THE IDAHO GRAIN PRODUCERS ASSOCIATION MAGAZINE Fall 2007

Idaho State Wheat Growers Association

Idaho Grain Producers Association
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Views

BY TIM DILLIN, IGPA PRESIDENT

"A Kernel of Common Sense"

As this issue of the magazine goes to print, harvest is in full swing in most areas of the state. It's always good to see this time of year finally arrive. All of our efforts go toward this one opportunity and we all hope for the best. Reports vary from very poor to very good. Hopefully most will fall into the last category.

This year we have faced some major hurdles and your association has been working on all of them on your behalf. The 2007 Farm Bill is moving through Congress. The U.S. House of Representatives has passed its version and the Senate will take up their version in September. It's unclear at this time if we will get the Farm Bill completed by the end of September. We will be watching the process and adding our 2 cents worth where we can.

Closer to home, we are still facing two very important issues. Water continues to be a major problem facing growers. As someone from the end of the state with water to spare whose problem is to pump water off the fields, the lack of water most years is a foreign problem.

South Idaho saw a reprieve this summer when a curtailment order was issued but was adverted at the last minute. With continuing drought in the South, this is probably going to be a short lived reprieve. There doesn't seem to be an easy way out when you are dealing with a scarce and over-allocated resource.

The issue of crop residue disposal is still an ongoing issue. While growers believe that this could and should be a fast track fix, others feel the slow but steady approach is best. Negotiations with the state and the environmental group that brought the lawsuit are ongoing. The court ruled only on the EPA's process of evaluating the state's amended State Implementation Plan (SIP) for field burning.

We know that Idaho growers have never violated state nor federal clean air standards. We feel that a new plan should not require production agriculture to be treated differently than any other industry in the state. Threat of a new lawsuit shouldn't prevent a new and fair SIP from being put in place. To do so would set a bad precedent. It would only encourage more law suits against other agriculture producers and groups.

So what is agricultures next step? Some people see these and other issues as North vs. South. In doing so, it pits farmer against farmer. This is a no-win situation. Production agriculture is still Idaho's number one industry. With constantly changing state and local governments, people sometimes need to be reminded that if we don't stand up for agriculture, who will?

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WHEAT BARLEY WHEAT & BARLEY

Look for these symbols in headlines throughout the magazine to see at a glance whether an article pertains to wheat issues, barley issues, or both.

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Editor's Note

BY TRAVIS JONES

"The Winds of Change"

For many reasons it can be difficult adapting to something new. Maybe a new pair of jeans is too stiff, a new tractor outfitted with hi-tech bells and whistles too complicated, or a new concept hard to grasp. In most cases, dealing with something "new" just can't be avoided.

I'm probably considered very new to the rank-and-file of the IGPA membership. I've been on staff now for just over three months, but have dove headfirst into the many issues facing Idaho's grain producers. Just a small listing includes the Farm Bill (being debated by Congress as I write), field burning, transportation, ongoing drought, and revamping of the IGPA's communication and marketing strategy.

If you read further in this issue of "Idaho Grain", I will provide depth to some of these specific topics. But one observation I make over my short time as your Executive Director is already clear to me: the IGPA is celebrating its 50th anniversary this year because it continues to be a progressive organization consisting of members who embrace new ideas and proactively promote them.

Since the IGPA's founding by a group of selfless Idaho producers in 1957, many things have changed in the nation and the world. We have near record crop prices, but record input costs. At certain intervals in the last few years, the U.S. was a net importer of foreign food – the first time ever. The Farm Bill is now predominantly a nutrition and food stamp bill, barely connected to production agriculture.

Paradigm shifts such as these all directly affect the grain industry. I'm sure IGPA's founders never envisioned $6-$7 per bushel wheat or $3 per gallon gas. But fifty years ago they correctly predicted that new challenges to Idaho's grain producers would always arise, and they could effectively face those hurdles through an organized entity.

Even though I am a new face to the IGPA, I carry on an old, yet sound tradition.

GUEST EDITORIAL

Idaho's Renewable Agriculture Opportunities and Challenges

By Gordon W. Matlock

With Idaho largely dependent on outside resources to fuel its economy, much talk and debate has centered on Idaho's vast potential for renewable resources to mitigate this dependency. However, our dependency on outside resources isn't just from the oil fields in Venezuela and Saudi Arabia. 80 percent of Idaho's energy needs are reliant on resources from Washington, Montana, Utah and even Canada. A turn towards local resources is an absolute must to keep Idaho economically viable and secure.

Idaho's potential to be a leader in cellulosic ethanol and bio-diesel production is immense. Developing this local resource would alleviate the troubles associated with being the Northwest's highest consumer of energy and gasoline resources. Farmers and investors are chomping at the bit to create a lucrative, clean, and sustainable resource for Idaho consumers.

What remains to be seen, however, is whether policy-makers will foster an environment that attracts investment capital where Idaho agriculture producers and consumers can reap the benefits of this local resource.

First, policy-makers must make Idaho attractive to the capital necessary to build the resources.

With surrounding states already setting fuel standards, investment capital is flowing to other states to assist in the development of renewable resources. Regrettably, by the time Idaho establishes fuel standards or is forced to by the federal government, the current cost of these very technologies will pale in comparison to tomorrow's prices.

Second, infrastructure is necessary to use what we can produce.

Where Idaho manages to attract investment capital and the agriculture community seeks ways to generate new energy resources, will the appropriate secondary infrastructure be built in Idaho to fully utilize and consume local renewable resources? If not addressed, then Idaho will not reduce its dependency on out-of-state resources and those resources will continue to fund other state and provincial energy conversion.

Idaho must take an active lead in developing the renewable market. Fortunately, Idaho agriculture producers are sitting on vast natural resources, potential, and a willingness to move Idaho forward. The remaining question is whether policy-makers and stakeholders can strategically out-think and out-maneuver the leaders in other states who are laying the foundation to recruit, retain, and build sustainable renewable resources, and a workforce to boot. My bet is on the Idaho farmer.

Gordon W. Matlock is a Policy Advisor to the Seattle-based Athena Institute.

NRCS Announces New EQIP Rules

Beginning this fall, the USDA Natural Resources Conservation Service (NRCS) will offer grain growers a new and improved payment plan for installing management practices that improve soil quality.

This new measure is the result of a programmatic change in the Environmental Quality Incentive Program (EQIP). It allows growers the opportunity to sign up for a three-year EQIP contract to implement a direct seed or high-intensity conservation tillage system while redeeming the full payment amount after the first year of implementation. These funds will assist those producers who have not yet fully adapted to direct seed and high-intensity conservation tillage systems.

"Growers will no longer receive split payments throughout the length of their contract," said NRCS State Conservationist Richard Sims. "Instead, we're hoping that this new up-front payment plan will allow growers to better plan for their future seeding needs and the management of their entire operation to ensure sustainability."

Sign-up for the 2008 EQIP will end later this fall. Growers are encouraged to visit their local USDA Service Center for more information. More information on NRCS programs and services is available online at www.id.nrcs.usda.gov.

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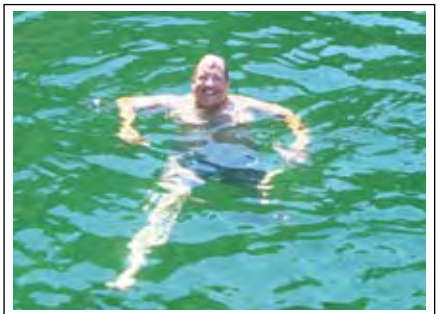


IGPA President Tim Dillin at play before harvest.

Fires Everywhere...but the Field

By Travis Jones

It might be ironic to some that while nearly all corners of Idaho are ablaze from wildfires, farmers within its beautiful boundaries are banned from using fire as a critical management tool in crop production.

The IGPA continues to lead the efforts of a diverse group of producers subject to a statewide ban on crop residue burning imposed by the State of Idaho earlier this year. The State ban was issued in response to a 9th Circuit Court of Appeals ruling invalidating the Environmental Protection Agency's approval of a modification to Idaho's State Implementation Plan (SIP) meant to accommodate crop residue burning.

Since the last report in the April 2007 edition of "Idaho Grain", much has developed. Idaho agriculture is now well-organized and working diligently with State officials, our congressional delegation, and others to defend the practice and crop residue disposal program. At the direction of Governor C.L. "Butch" Otter, growers have agreed to commence negotiations with the environmental group Safe Air For Everyone (SAFE) to find resolution without litigation.

With the services of a professional mediator, the first negotiation session was held on July 6, 2007 in Boise, Idaho. Representing Idaho's producers were Nathan Riggers, Nez Perce Prairie Grass Growers; Wayne Meyers, North Idaho Farmers Association; and Wayne Hurst, IGPA. Both sides gave preliminary position statements as a staging point for more detailed discussion. Growers have agreed to a second negotiation session, possibly slated for September.

As negotiations move forward, the IGPA will continue to support affected producers through communication with the Idaho Department of Environmental Quality, the Idaho State Department of Agriculture, and retention of legal counsel. Additionally, the Association is developing policies to more effectively guide grower-representatives in this process.

Maintaining the controlled use of fire as a crop residue disposal tool for Idaho's bluegrass and grain producers is critical to achieving higher yields, ridding crops of pests and diseases, and reducing soil erosion while limiting the use of additional costly inputs. Studies conducted by the University of Idaho have shown that without the use of field burning, producers will observe a negative impact to yield and quality of the crops, and therefore to the growers' bottom line.

Removal of the burn ban is not anticipated for this year, suggesting that bluegrass and grain producers could feel the full impact on their operations on next year's crop. So while the State struggles with dousing the wildfires of today, Idaho's farmers are igniting their fight for fairness. ◆

Farm Bill Fandango: Dancing to a New Beat

By Travis Jones

Tim Dillin, U.S. Rep. Bill Sali (R-ID), Scott Brown, and Travis Jones

The Farm Bill beat is at a fever pitch. After much speculation of "if" and "how" the new 2007 Farm Bill may evolve, significant progress has been made. Not without difficulty, the U.S. House of Representatives passed their version (HR 2419) of the new five-year agriculture law 231-191 on July 27, 2007.

The House-passed bill looks to be very positive for Idaho's grain producers. Direct payment rates will remain the same as the 2002 farm law, but increases in target prices and loan rates for barley and wheat were strong successes in the commodity title. Provisions tightening sensitive commodity payment caps were included in the bill (see table).

Other programs important to grain producers also received significant attention. There will be no new sign-up periods for the Conservation Security Program (CSP), but the current 3-tiered structure of the program will be re-tooled and more funding provided after 2009. The Conservation Reserve Program (CRP) will be extended, with more flexibility given to landowners wanting to transfer CRP-contracted land to beginning farmers.

USDA's renewable energy programs received expanded funding and broader authorization allowing farmers to qualify and engage in this rapidly developing market. Idaho producers are poised to be a major player in this emerging industry, and access to federal programs will be critical.

The U.S. Senate has yet to initiate formal committee-level action on the Farm Bill, but activity is anticipated to launch in September. The 2002 Farm Bill September 30 expiration date looms large over these proceedings, and Congress will be hard-pressed to meet it. As the debate evolves, the IGPA will continue to work closely with Idaho's congressional delegation to promote the interests of grain producers across the State. Stay tuned! ◆

Major Payment Limit Provisions:

- Payments made via "direct attribution" — eliminates three-entity rule;
- No payments to producers with an "Adjusted Gross Income" (AGI) over $1 million;
- No payments if AGI is from $500,000 to $1 million, unless 66.66% of income derived from agriculture;
- Direct Payments cap boosted from $40,000 to $65,000 per individual;
- Counter-Cyclical payment limit kept at $65,000.

HR 2419: House Farm Bill Commodity Title Table for Wheat & Barley

Commodity	Direct Payment	Target Price	Change	Loan Rate	Change
Wheat	52¢/bu.	$4.15/bu.	+23¢	$2.94/bu.	+19¢
Barley:					
Malt	24¢/bu.	$2.73/bu.	+73¢	$2.50/bu.	+65¢
Feed	24¢/bu.	$2.73/bu.	+73¢	$1.95/bu.	+10¢

A Rocky Road: Transportation in Idaho

By Travis Jones

Remember "Rocky Road" candy bars composed of such sinful pleasures as chocolate, marshmallows, and nuts? Candy from our childhood typically invokes good memories. Unfortunately, the state of Idaho's transportation infrastructure is a different type of rocky road that does not leave a good taste in the mouths of most citizens, users, and highway officials.

In 1956, President Dwight Eisenhower signed the "Federal Aid Highway Aid", which launched the creation of the interstate system that all of us benefit from. However, very few could have foreseen the crisis now facing nearly all states.

The Idaho Transportation Department (ITD) projects that Idaho's transportation needs will total $20 billion over the next 30 years. With that realism facing taxpayers, one might best describe this issue as "severe" under the U.S. Department of Homeland Security's terror threat level scale.

Transportation is vital to Idaho's economic prosperity. Idaho's challenging geography, low population density, and distance between economic hubs requires an effective infrastructure that can move goods, services, and people. But new dynamics have placed even greater pressure on Idaho's aging transportation infrastructure.

Idaho now holds the title as the third-fastest growing state in the nation. Over two million people are projected to be Idahoans by 2030. The population boom has placed huge demands on highways, and congestion is now a daily occurrence in urban areas. Traditional methods to fund highway needs through fuel taxes and vehicle registration fees is no longer sufficient.

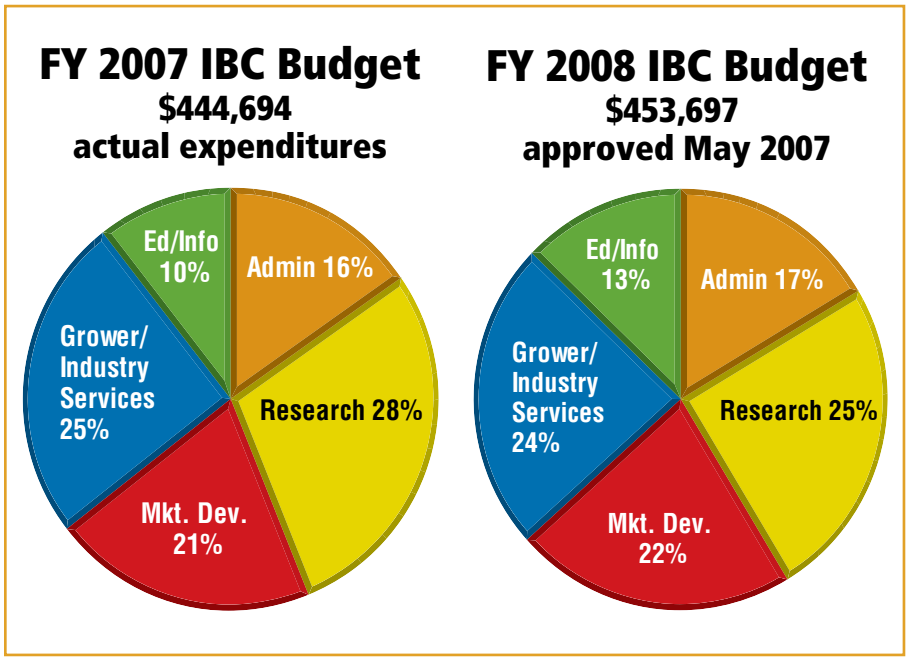
Federal funding for highway construction and improvements is flat to falling. Cars have become more fuel efficient and highway construction costs are skyrocketing. In short, highway revenues are not keeping up with growth and demand.

How can this crisis be averted? The ITD Transportation Board is working with stakeholders, legislators, and Governor C.L. "Butch" Otter to address the $200 million annual shortfall. The Board's proposal would implement a seven-percent fuel tax paid by the distributor, increase registration fees by seventy-five percent, and increase fees in other regulated sectors.

The ITD Board proposal will be one of many sure to face the State Legislature and other decision makers. As a major user of the highway system, Idaho agriculture has a significant stake in the outcome of this debate. The IGPA will contribute to the development of a plan that is fair, effective, and provides a long-term solution.

With the right approach, Idaho's rocky roads will be a thing of the past, much like the candy bar. ◆

Idaho Barley Commission – 2007 In Review



Meet the IBC Team

Dan Mader, Chairman, District 1

Dan Mader, Genesee, ID, was re-appointed to a second term by Governor "Butch" Otter in July 2007 to serve north Idaho producers. Dan serves on the IBC's two marketingorganizations: US Grains Council, based in Washington, D.C., which focuses on international market development and the National Barley Foods Council, based in Spokane, WA, which promotes barley food consumption. Dan has served as IBC chairman for the past two years.

Ron Elkin, District II Commissioner

Ron Elkin, a malting barley producer from Buhl, ID, was appointed to serve his 1st term on the IBC in July 1, 2006, representing barley producers in southwestern and south-central Idaho. Ron serves on the National Barley Improvement Committee, a national group which advocates for federal research funding for barley.

Evan Hayes, District III Commissioner

Evan Hayes, a barley producer from Soda Springs, is serving his 6th and final year on the IBC, representing eastern Idaho barley growers. He recently completed a two-year term as president of the National Barley Growers Association, a national advocacy organization for US barley producers, based in Washington, D.C. Evan continues to serve on the NBGA board until July 2008. Hayes also represents the U.S. barley and wheat industries as an executive board member of Alliance for Rail Competition (ARC), which works with Congress to improve U.S. rail policies and provide remedies for captive rail shippers. Evan also serves on the Governor's Motor Carrier Advisory Committee.

Steve Balster, Industry Representative

Steve Balster, Director of U.S. Barley Operations for Busch Agricultural Resources, Inc., in Idaho Falls is serving his 6th and final year as the commission's Industry Representative. Steve assumed his current Idaho Falls position in July 2003 and has worked for Anheuser Busch Co. for more than 20 years.

Kelly Olson is the IBC Administrator and is based in the Idaho Grain Center office in Boise, ID.

Andrea Woolf is the IBC Project Coordinator/Fiscal Officer and is based in the Idaho Grain Center office in Boise, ID.

Grower Services & Research

2007 Farm Bill – IBC is an active member of the National Barley Growers Association and District III Commissioner Evan Hayes completed a two-year term as president of the NBGA in June 2007. Evan has worked tirelessly to promote barley's priorities in the 2007 Farm Bill, including equity in program crop support levels. We believe U.S. barley has lost significant competitiveness in our traditional growing regions – acreage has declined by 70% in the past 20 years – due in large part to planting distortions triggered by farm program inequities. The House of

Representatives passed the 2007 Farm, Nutrition and Bioenergy Act (H. R. 2419) on July 26. It provides for badly needed rebalancing of loan rates and target prices for barley.

	2002 Farm Bill	H.R. 2419
Direct Payment	$ .24/bu	$ .24/bu
Loan Rate	$1.85/bu	Feed $1.90/bu Malting $2.50/bu
Target Price	$2.24/bu	$2.73

2007 crop loss survey underway – IBC worked with IGPA and county extension on a crop survey in late summer to determine the extent of 2007 crop losses resulting from excessive heat and drought this year. We have requested the Idaho congressional delegation use this information to help secure an extension of disaster assistance that was approved last winter to cover spring planted crops.

Risk management education marks 6th year – Since 2001, the IBC has received more than $60,000 in USDA/CSREES grant funding through the Western Center for Risk Management Education at Washington State University to conduct grain risk management education programs. This year we conducted three Winning the Game: Pre-Harvest Grain Marketing workshops in Craigmont, Genesee, Bonners Ferry. We have additional workshops planned for Burley and Idaho Falls in November. Also, we have collaborated with the RightRisk Project in Colorado to develop a computerized grain marketing simulation game geared to Idaho production scenarios that will be widely available for producers to use this fall.

Food barley variety development takes center stage – This year, IBC has allocated considerable resources to accelerate the development of barleys with end use traits that are desired by food manufacturers and consumers. We are engaged in a collaborative research effort with public (USDA ARS in Aberdeen) and private (WestBred in Bozeman, MT) barley breeders to commercialize better yielding waxy barleys with high beta-glucan content. One of these new varieties – Salute – is being grown commercially in northern Idaho this year. We have worked with WestBred to expand seed production of two of their waxy food barleys – Salute and BG Barley 006 – for expanded commercial production in 2008.

Numerous human and small animal feeding studies have shown barley beta-glucan fiber reduces bad cholesterol and lowers the risk of heart disease. Based on these scientific findings, the US Food and Drug Administration approved a health claim in May 2006 that allows barley food products that contain at least .75 grams of this soluble fiber per serving to claim a reduction in the risk of heart disease.

Mealybug / foot rot disease get renewed attention – IBC initiated a new study with the University of Idaho in 2007 to help evaluate the technical and economic feasibility of using seed and foliar treatments to control mealbugs and foot rot in barley. Research project objectives include: (1) evaluating agronomic performance of barley utilizing two different insecticide treatments at three different times; (2) evaluating agronomic performance of barley utilizing two different fungicides; (3) investigating potential biocontrol agents; (4) improving mealy bug and foot rot control strategies in commercial barley fields in eastern Idaho.

Idaho hosts Japanese barley trade team

On August 2-3, the Idaho Barley Commission hosted a seven-member barley trade team from Japan in the Lewiston and Genesee area. The purpose of the trade team visit was to provide participants with an overview of 20007 Idaho barley crop, including varieties, quality, and IP handling systems on Idaho farms and local commercial grain elevators. The team visited IBC Chairman Dan Mader's farm in Genesee, as well as grain handling and barge loading facilities operated by Columbia Grain, Genesee Union Warehouse and Primeland Cooperatives.

Food barley was a new focus for this year's team because one of the Japanese participants – Hakubaku - contracted production of Salute food barley with Genesee Union Warehouse this year. This is the first-ever contracted production of food barley with a Japan customer anywhere in the U.S. Hakubaku also purchased some Salute barley earlier in the year from a southern Idaho grain company.

Japanese barley trade team meets with Sam White and Heath Barnes with Genesee Union Warehouse in Genesee to discuss the 2007 Idaho barley crop.

Japan is the largest export customer for U.S. barley, buying more than 355 TMT from the U.S. in MY 2006-07 (all feed barley), more than double the previous year. Japan has taken additional steps to liberalize their barley imports, which has worked to the favor of U.S. suppliers. Beginning with 2007 imports, the Japanese Government has approved all their feed barley imports and a portion of food barley imports to be handled under their liberalized Simultaneous Buy Sell import system.

Nitrogen Losses from Wheat Foliage

By Brad Brown, UI Extension Crop Specialist

Wheat plants lose nitrogen (N) from foliage in several ways, including the escape of NH3 gas. These losses, reported over the last 25 years, occur particularly when available N exceeds the immediate needs of the plant, which occurs frequently when N is applied in one application to satisfy the season's N requirements.

We don't know how significant these foliar N losses are for Idaho's wheat. Elsewhere they were 21 lb N/A or 20% of the N applied, or ranged from 11 to 25 lb N/A depending on the available N. Foliar losses occur during all growth stages but are clearly greatest after flowering and when leaves begin to senesce. Higher temperatures and drought conditions exacerbate losses.

Foliar NH3 losses undoubtedly occur from Idaho wheat. Idaho conditions likely contributing to these losses include higher N rates used for irrigated wheat. Losses could probably be minimized if available N more closely matched wheat N uptake requirements, as normally occurs with split

N applications. Soil testing is useful in identifying readily available N and minimizing the excessive N that can exacerbate volatile N losses from foliage.

Fortunately, foliar N losses after flowering probably have little effect on yield. The effect of these losses on grain protein has not been determined. There is much we don't know.

UI Enterprise Budgets Available On-Line

Farming demands controlling costs and accurately estimating potential returns before the crop goes in the ground. The University of Idaho Extension helps growers tackle both ends of the equation by developing enterprise budgets for 90 crops and 18 budgets for livestock.

Available online, budgets project net returns to growers based on crop and livestock prices and yields. Economists also publish custom rates for agricultural operations covering differences in regions and farming practices.

Find reports under the resources column at www.ag.uidaho.edu/AERS/resources.htm.

University of Idaho
Open Space. Open Minds.

Biotech Country Meetings — Keeping Up the Dialogue

Leaders from the National Association of Wheat Growers (NAWG) and US Wheat Associates (USW) recently met informally with representatives of several grower and commercial wheat industry organizations in Australia to discuss the status of transgenic wheat technology in both countries.

The effort to reach out to producers in Australia and Canada specifically on the question of biotechnology is at the direction of both the NAWG and USW boards. After meetings earlier this year, U.S. leaders found more common ground with their Canadian counterparts than just on the future of transgenic wheat. The same was true in Australia.

"We believe there is an understanding in Australia that new technology is one possible option to help reverse the steady decline in world wheat production," says Leonard Schock, USW's Immediate Past Chairman, who participated in the Australian conferences. "We share concerns about meeting the growing global demand for high-quality wheat foods and this is a great way to begin examining that effort together."

Tug boats position a container ship to dock at the Port of Portland's Terminal 6, the Columbia River's only deep-draft container terminal. Container ships like these calling at Terminal 6 carry hundreds of thousands of containers to and from our region's businesses each year. *Photo courtesy of Port of Portland*

U.S. Wheat Container Exports Are Growing

By Joe Sowers, USW Market Analyst

Shipping by container is one way to meet the increasing expectations of end users overseas and offers a way to ensure identity preservation. Such shipments could hold the key for wheat growers to open sales in niche markets.

As profit margins tighten and freight costs climb, buyers are looking for practical alternatives in selecting and shipping the perfect wheat for their products. Although container exports represent a relatively small percent of total U.S. wheat exports, their volume is up substantially over the past five years.

MY 2006/07 saw the volume nearly triple compared to the previous year (see chart). Some buyers see many advantages in container shipments including identity preservation, improved inventory management and great results from the high-quality U.S. wheat classes.

Market Forces at Work

Several market factors are driving this trend. First, container shipping is currently very competitive with bulk freight rates that are now at all time highs. The 2006/07 average rate for Pacific Ocean bulk grain shipping, for example, was 48% higher than the previous year. It costs about $60 per metric ton (MT) to ship wheat from the U.S. west coast to China. Container rates are currently about $21 per MT to China, $26 to Vietnam and $35 to the Philippines. The high cost of bulk ocean freight rates versus the cheap return container carriage to Asia makes this now look viable in the longer term.

Asian nations are taking nearly all the growth in container shipments. The shipping companies need to position containers for Asian exports to the US; instead of taking empty containers back to Asia, many shippers now fill them with grain. The largest increases in container shipments have been to Indonesia, Malaysia, Vietnam, the Philippines and Korea.

While containers are being loaded throughout the country, 6 'trans-loaders' (rail

to container) are operating in the Seattle/Tacoma area and one is under development in Portland.

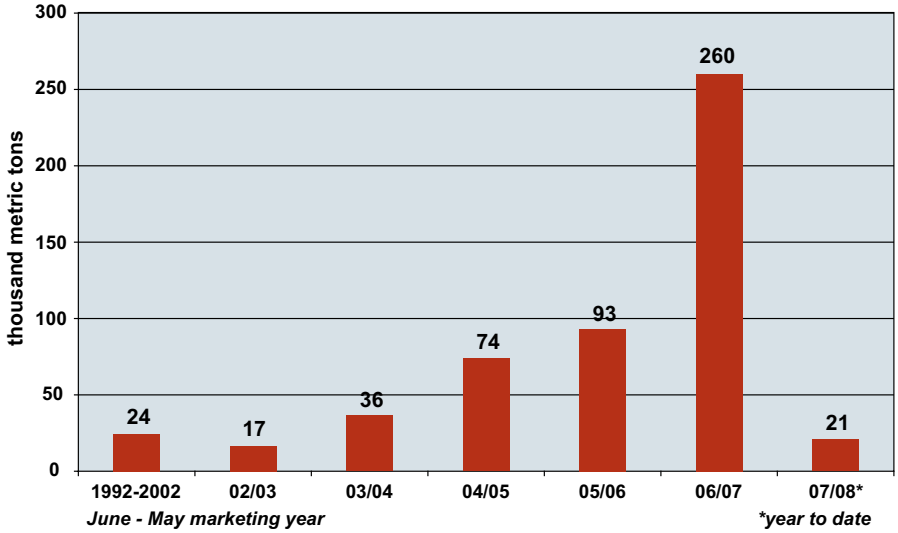
The current shortage of exportable wheat stocks in Australia also favors U.S. container shipments. An anticipated rebound in wheat supply after the fall harvest will benefit Australia in Asia. However, U.S. wheat container shipments will likely continue to compete because of the container volume crossing between Asia and the U.S. and because of satisfaction with U.S. wheat.

Australia does ship a substantial quantity of wheat in containers, a system that was recently freed from the Australian wheat export monopoly. Predictions are that container exports will increase under the new system.

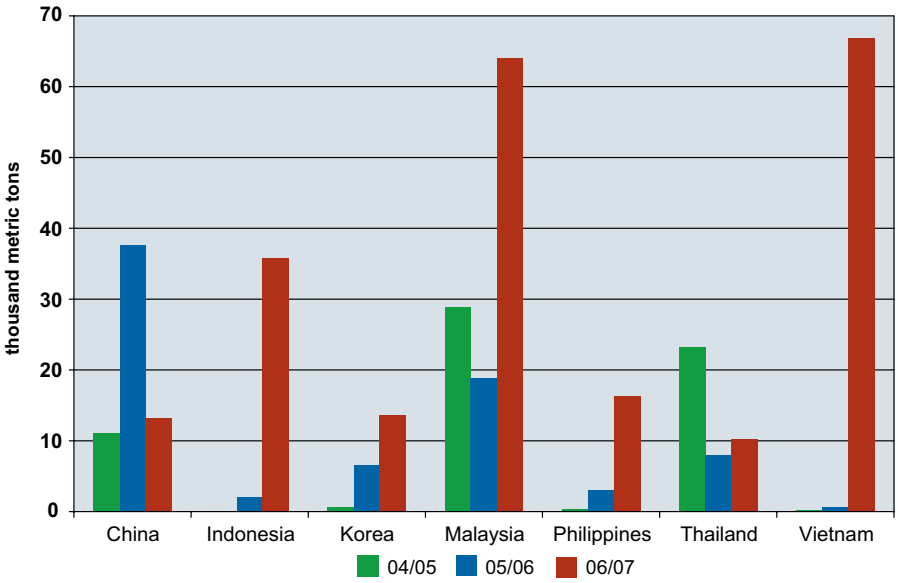
Mark Samson, USW Vice President for South Asia, says some customers, especially new mills with smaller capacity, also see advantages. "Containers generally arrive more quickly than bulk shipments," he notes. "This allows mills to buy wheat as they need it and control large inventory carrying costs." The containers themselves offer a reasonable storage environment and are allowed to be used free of charge for 14 days after they are off-loaded from the container ship.

Samson says container buyers like what they see of U.S. wheat. "For example," he says, "HRS and SW have found a niche market in several Vietnamese mills and I expect they will continue to buy it." ◆

U.S. wheat exports by container in the last marketing year were more than 10 times greater than during the decade from 1992 to 2002.



Asian nations lead the rise in U.S. wheat container shipment purchases.



WIN A TRIP TO SPOKANE FOR THE IDAHO GRAIN CONVENTION

The Idaho Wheat Commission is sponsoring an essay contest for Idaho wheat and barley growers under the age of 40. The 5 best essays will be chosen and winners will receive travel, food, lodging and registration costs to the 2007 Grain Convention in Spokane, Washington, November 28-30.

The essay should focus on "What brought me back to the farm and what research/issue would help me the most to stay there." The essay should be no more than 500 words and is due on November 1.

Please mail your essay to:
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Or e-mail your essay to:
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Call the Idaho Wheat Commission at
(208) 334-2353

Going with the Flow — Pancakes and Arabinoxylans

Viscosity is something we're all familiar with – honey, concrete, lava, water - each has a different viscosity. The lower the viscosity the more easily it pours.

In the world of wheat, batter viscosity plays a crucial role in the end-use quality of products such as cakes, pancakes and batter coatings. Batters for coatings must be thick enough to cling to the product without clumping. Pancake or donut batter must be thick enough to retain leavening gases without being so thick it inhibits flow and spread.

Art Bettge , R, discussing quality tests used in variety development.

At the recent IWC Wheat Quality Workshop held at the Western Wheat Lab in Pullman, WA, participants tested and observed the impact of oxidative gelation on batter viscosity.

"Manufacturers print product labels only once," explained Art Bettge, Food Technologist at the ARS Lab, "so flour must perform according to the recipe on the bag. Variation in flour quality can lead to, for example, pancakes that don't flow and are like a hockey puck or flow too much and are like a crepe. Neither is desirable when a pancake is the goal."

Viscosity is important also in retention of gas bubbles from leavening. Traditionally, gluten proteins have been understood to contribute to batter viscosity, but protein alone does not explain everything about viscosity. Arabinoxylans appear to play an important role, having about as much importance to viscosity as gluten protein.

Arabinoxylans are long chains of carbohydrates (arabinose and xylose) that can chemically cross-link among themselves and with proteins through a process called oxidative gelation to form a large matrix which leads to vastly increased viscosity. This is part of Bettge's research at the Lab.

"I may not remember the name (arabinoxylan cross linking) said Dennis Behler, a wheat grower from Cul de Sac, " but I'll never look at pancakes the same. A lot of research goes into developing new varieties."

"Manufacturers use enzymes to "chew up" arabinoxylans and reduce all flours to the same, predictable level of potential viscosity," explained Bettge. "This allows recipes on bags to work more consistently, however enzymes are very expensive."

Millers and bakers are in business to make money. If the process of oxidative gelation, via arabinoxylan cross-linking, is better understood, much of the money spent for enzymes and processing would not be needed.

A clearer understanding of what leads to viscosity variation may help breeding programs produce wheat that will perform better in these end-use applications. This can potentially enhance the market for wheat varieties with desirable "built-in" levels of arabinoxylans. Plus consumers appreciate shorter food labels with ingredients they recognize. ◆

Say No to PPO

During the Wheat Quality Workshop participants (l to R) Doug McIntosh, Eric Ward, Fran Maki and Larry Smith get a short course on how different wheat varieties affect Asian noodle color from Tracy Harris, WSU Wheat Quality Program.

Polyphenol oxidase (PPO) is the main culprit in wheat that turns the noodle dough brown, making it unacceptable to consumers. It is the same chemical that turns apples brown once they are cut.

PPO, along with other enzymes, forms a defense mechanism in the wild that protects the plant from pest pathogens, however the gene responsible can be selectively removed from the kernel through breeding and the plant can still defend itself.

In the PNW public wheat variety development programs new crosses are tested early for presence of PPO.

Asian Buyers Concerned About Price, Availability of Wheat

The biennial South Asia Buyer's Conference was held in Indonesia in July. Millers and other wheat customers from the Philippines, Thailand, Singapore, Indonesia, Malaysia, India, and Viet Nam attended. Several of these markets are consistently among Idaho's largest export markets. Traveling to the Buyer's Conference from Idaho was Sam White and Heath Barnes of Genesee Union Warehouse, Genesee, Idaho. Total attendance was approximately 230 people and included millers, wheat food processing executives, procurement managers, and wheat technicians.

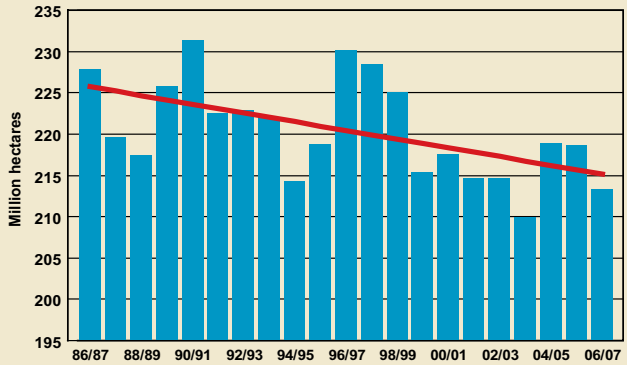
Attendance at this year's Buyers Conference was higher than normal. Driving the increased attendance is a concern by many Asian wheat buyers about the tight world supply picture and the higher prices being paid. As noted by Vince Peterson, U.S. Wheat Associates Vice President, in his comments during the conference, "World stocks are at their lowest level in 30 years. We should keep in mind that we only have 66 days of supply at the end of this production year (May/June 2007)."

A timely backdrop for the conference was the news that U.S. wheat export sales have exceeded U.S. Department of Agriculture (USDA) estimates by 39% for the current marketing year. Montana wheat producer and immediate Past Chairman of U.S. Wheat Associates, Leonard Schock noted that participants in Bali were concerned about world wheat prices but more concerned about supply. "Buyers and end users here are happy to learn the U.S. continues to have a reliable supply of quality wheat at competitive prices." For now, the United States is the only nation with large amounts of wheat for sales abroad, according to traders. U.S. wheat weekly exports sales have recently hit levels not seen since 2003.

With wheat prices rocketing to high levels and with the governments in many countries stepping in to stop or limit their exports, the U.S. has been able to reinforce its reputation of being a reliable supplier. This intervention by foreign governments, and the reliability of wheat exports from America have opened up new and hopefully long-term opportunities for the U.S. wheat industry.

Providing a small cushion for the higher world wheat prices is the fact that the value of the U.S. dollar is at its lowest point in 20

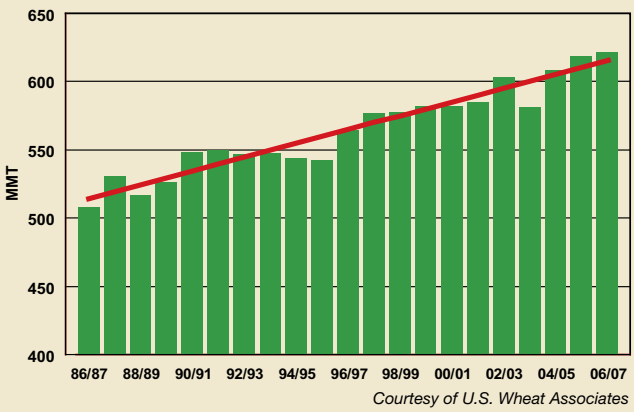
World Wheat Growing Area Down



Courtesy of U.S. Wheat Associates

World wheat harvested area has been declining over past 20 years...

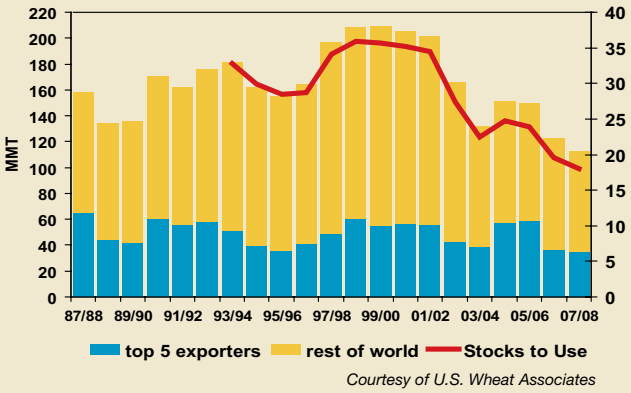
World Wheat Consumption Up



Courtesy of U.S. Wheat Associates

...while world wheat consumption has been increasing during the same time period. Increased wheat consumption has been driven by higher standards of living and economic growth in developing parts of the world

Something Has To Change

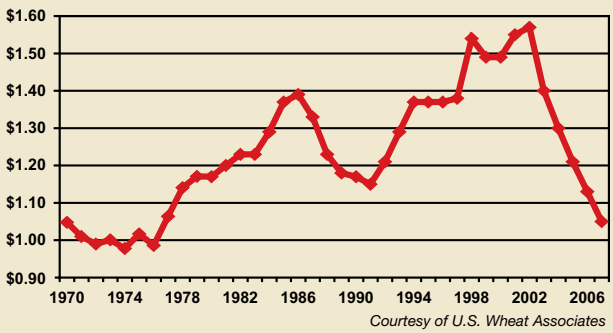


Courtesy of U.S. Wheat Associates

World wheat stocks have declined to 18%, a record low. World wheat consumption has exceeded production for seven of the last ten years.

Canadian $ per US $, 1970-2007

(Source: Joe Guenther, University of Idaho)



Courtesy of U.S. Wheat Associates

The U.S. dollar has weakened against the Canadian dollar for the past five years, to an exchange rate last seen 30 years ago. The net effect is that foreign wheat buyers can get more bushels of U.S. and less bushels of Canadian wheat in constant currency than they could five years ago.

years. Although bad for the U.S. consumers it helps the U.S. wheat producers and exporters. A weaker U.S. dollar and stronger Canadian dollar boosts American wheat exports and hampers Canadian wheat exports (see chart below).

Tight world wheat supplies also provided important context for a presentation on transgenic, or TG, technology in wheat by USW's Vice President and West Coast Director John Oades. He noted that as global maize production grew by 12 percent last marketing year, harvested wheat area fell 6 percent and world wheat consumption has exceeded production for seven of the last 10 years. In the U.S., alternative crops with TG technology are replacing wheat, especially in higher rainfall regions. Drought tolerant TG maize is coming soon and will likely impact dry land wheat production in the U.S. Plains.

Transgenic technology holds promise as an important tool to ensure the world continues to have a healthy, abundant wheat supply. At the same time, Oades said, the U.S. wheat industry remains committed to meeting its customers' needs and supports development of an orderly marketing system to assure delivery of non-transgenic wheat within reasonable tolerances to markets that require it.

The advantages of a weak dollar are somewhat erased by record high ocean freight rates, and wheat customers in south Asia are feeling the pinch. Trade with China continues to drive up demand and shipping costs for both bulk and container vessels. According to a recent Bloomberg report, China's exports rose 27% last year, while imports climbed 20%, all of which translates into a lot of ocean freight in and out of the country. Prices are currently twice as high as last year and market observers anticipate the climb will continue in the foreseeable future.

The silver lining in high freight rates is that shipping wheat by container becomes competitive (see related story on container shipping in this issue of Idaho Grain.) A number of buyers at the conference expressed their interest in receiving wheat by container.

Genesee Union already ships wheat in container to some of their Asian customers and Sam White, Grain Merchandising Manager, confirmed an increase in interest of receiving wheat by containers. "We made a lot of good contacts and expect to follow-up with a number of buyers who can receive wheat by container," he said.

A final topic discussed at the conference was food price inflation. Wheat is not the only commodity in short supply and being hit by price increases. Rice has a shrinking supply and sharply higher prices. Rice prices have increased by 70% in the last five years. The prices of other major food commodities are also increasing. Analysts don't expect a quick end to high prices. With the strong economic and population growth, especially in India and China, demand is expected to continue to rapidly expand. ◆

Idaho Grain Poducers Association...
Oregon Wheat Growers League...
and Washington Grain Alliance Present...

2007 Pacific Northwest Grains Conference

November 28 - 30, 2007

Doubletree Hotel • Spokane City Center

BREAKOUT SESSIONS

- Farm Bill Forum with Barry Flinchbaugh
- The New Conservation Title
- Energy Title (Renewable Energy)
- Transgenic Wheat - Update for the Future
- Ag Taxation & Succession Planning
- Tri-State Wheat and Barley Research Updates
- Transportation Issues - Panel of Experts
- Marketing
- NRCS's Focus on Air Quality for Ag Producers
- Ethanol Impacts
- RMA Update
- NRCS Contracts
- Technology for the Farm
- Tax Code Update and CSP Scoring
- Soil Fertility in Direct Seed
- Leadership Track – Training Professionals for Today's Farms and Agri-Businesses

Most workshops will be repeated.

KEY SPEAKERS

Dr. Barry Flinchbaugh

As promised in 2005, Dr. Flinchbaugh returns to provide his insight on the new 2007 Farm Bill and its provisions for PNW agriculture.

Mike Krueger, "The Money Farm"

Mike works with individual farmers and country elevators as a grain marketing advisor, radio and television program host, and commodities broker.

REGISTRATION

Register online at www.idahograin.org or print the form for mailing. Early Bird Registration is $195 through November 5th. Onsite Registration is $245.

NOTE: (Idaho Only) The first 125 full registrations that reside in Idaho will receive $100 refund from the Idaho Grain Producers Association. Reimbursement will be issued after the completion of the conference.

For complete program information, registration, exhibitor and sponsor informaiton visit: http://www.idahograin.org

Flights

New this year! Planning to fly to the conference? Receive a 10% discount on Horizon Flights from November 23 - December 4th. Present the Group ID #1235 to your travel agent, or enter the e-certification code: ECCMT1235 to book online.

Child Care

Child care will be available Thursday evening, from 6:00 – 11:00 pm, and includes the child's evening meal. *Available onsite for a nominal fee. Pre-registration Required.*

HOTEL ACCOMMODATIONS

Located at the intersection of civilization and nature. On one side, the rushing waters of the Spokane River. On the other, the Convention Center, Sports Arena and easy access to the heart of downtown.

The hotel offers full guest ammenities and activities, and their famous warm cookies at check-in! Take a virtual tour of the hotel at their website, www.doubletree.com and choose Spokane,WA; then call 1-509-455-9600 for reservations.

Ask for the **Pacific NW Grains Conference group rate,** still just $99 for standard, $119 Executive Class per night (+ taxes). Call *by November 5th* to receive this rate.

Idaho's Newest Wheat Breeder Brings Needed Experience

By Cindy Snyder

Idaho's newest wheat breeder brings experience working with a disease that hasn't plagued growers here — at least not yet.

Idaho's desert climate has meant fusarium head blight is generally not a problem, but with corn acres on the increase in southern Idaho, the fungal disease is becoming more common. What head blight is found in southeast Idaho is caused by a Fusarium fungus (Fusarium culmorum) that is also associated with foot rot. Corn is a host for a different Fusarium species (Fusarium graminearum) that could lead to devastating amounts of head blight and small grain experts are worried that more corn acres will mean a greater incidence of the disease.

Jianli Chen (whose first name is pronounced JEN-lee) has been working on fusarium since 1985. For the past 11 years she has provided technical protocol for evaluating the disease in the eastern U.S. and has developed germ plasm for fusarium blight resistance. A resistant variety she developed at Virginia Polytechnic Institute and State University in Blacksburg, Va., will be released next year. *...continued on page 23*

Jianli Chen stands between UI Cataldo and UI Alturas varieties during the Grain Field Day at Aberdeen. Chen is excited to have quality materials, such as these two released varieties to work with, as the new UI wheat breeder. *Photo by Cindy Snyder*

JIANLI CHEN IN BRIEF

- Chen is from the Shaanxi Province of China, one of the primary wheat growing regions of China.
- She received her bachelor's degree in agronomy from Shaanxi Academy of Agricultural Sciences in 1983; master's degree in plant breeding and genetics from Shaanxi Academy of Agricultural Sciences in 1988; doctorate in plant breeding and genetics from Virginia Polytechnic Institute and State University in December 2005.
- She was a visiting scholar to the USDA-ARS Forage and Range Research Laboratory in Logan from 1993-1994 and returned in 1996-97 as a visiting scientist.
- Chen was the principal investigator overseeing, coordinating and implementing the scab resistance program in Virginia from 1997 to 2007.

2006 Idaho Winter Wheat Variety Performance Tests and 2004-2006 Yield Summaries

Stephen Guy, Juliet Windes, and Brad Brown — Extension Specialists, Department of Plant, Soil and Entomological Sciences, University of Idaho

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 on 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 resources. Individual plots were planted as 7 rows spaced 7" apart for 20' to 25' in length and replicated 3 or 4 times in a randomized complete block design.

Information Summarization

Agronomic performance data for 2006 winter wheat tests are summarized by Idaho districts in Tables 1-5. District I is northern, District II is southwest, District III is south-central, and District IV is southeast Idaho. Yield data is given for individual sites while other agronomic data is averaged over all the sites of each table. Bushel/acre yield results are based on 60 lb/bu at 11% moisture. Lodging ratings are the percent of a plot area lodged. Kernel hardness is on a 0-100 scale with most soft wheat below 30 and hard wheat above 50. Average values are presented at the bottom of listings and are followed by a least significant difference (LSD) statistic at the 10% level.

Yield averages from variety performance trials for 2004-2006 are presented in Table

Table 1. Dryland Winter Wheat Variety Performance in District I near Craigmont, Lewiston, Genesee, Moscow, and Bonners Ferry, 2006.

	Yield										
	Craigmont	Lewiston	Genesee	Moscow	B. Ferry	Average	Protein	Kernel Hardness	Test Weight+	Plant Height	Lodging*
	bu/acre						%	0-100	lb/bu	inches	%
Soft White											
Brundage 96	48	95	82	86	100	82	12.2	22	59.2	32	1
Concept	43	95	87	84	105	83	12.1	20	59.4	32	21
Finch	40	103	89	88	110	86	12.2	24	59.6	35	2
Hubbard	48	99	82	84	116	86	11.9	27	60.4	39	5
IDO 587	51	93	81	77	98	80	12.4	27	59.2	31	11
Lambert	45	106	75	72	114	82	12.0	31	59.3	34	14
Madsen	41	93	81	80	116	82	12.8	28	59.0	33	4
Masami	43	94	85	88	116	85	11.9	27	57.4	33	15
Mohler	47	102	92	84	119	89	12.1	25	60.0	34	20
ORCF-101	48	96	88	77	105	83	12.5	25	59.2	33	4
ORCF-102	57	99	100	83	114	91	12.0	28	60.2	35	4
Simon	48	99	85	78	108	84	12.1	28	59.5	33	5
Stephens	49	98	81	78	103	82	11.9	26	59.5	31	3
Tubbs 06	53	96	91	86	115	88	11.9	29	58.8	35	7
WestBred 528	48	108	82	73	121	86	12.2	26	61.1	32	8
Hard Red											
MDM	40	80	87	86	107	80	12.8	52	59.2	36	44
Boundary	44	99	80	77	103	81	12.2	58	60.9	32	4
Bauermiester	42	70	94	89	104	80	12.2	57	58.9	36	50
Club											
Chukar	41	99	86	88	108	84	11.6	30	58.1	33	18
Coda	42	88	84	79	106	80	12.5	31	60.6	34	14
Rohde	45	88	79	79	107	80	12.4	30	61.9	31	10
Average+	**46**	**95**	**85**	**82**	**109**	**83**	**12.2**	**31**	**59.6**	**33**	**13**
LSD (0.10)	**4**	**9**	**6**	**7**	**10**	**3**	--	--	--	--	--

+Test weight averages do not include Craigmont data that averaged 48.5 lb/bu
*Lodging data are the average of Craigmont, Lewiston and Bonners Ferry

6 for all districts. These data are the results from 3-15 site/years and should be a good indication of long term adaptability of a variety to a region.

Information Interpretation

Average past performance of a variety is the best indicator available to predict future performance potential. Variety performance can vary from location to location and year to year. The site results reported in this article are for 2006 trials; 1995 to 2005 results can be found in fall 1995 through 2006 issues of Idaho Grain. Average performance over locations and years more accurately indicates varieties' relative performance. Try to evaluate as much information as you can when selecting varieties. Yield is a primary characteristic used to select varieties, but disease resistance, maturity, lodging tendency, winter hardiness and quality characteristics such as protein, test weight and kernel hardness are also important variety selection considerations.

Reported small yield differences among varieties and other characteristics are usually of little importance due to chance differences in tests. An aid in determining true differences is the LSD statistic. If differences between varieties are greater than the 10% LSD value, the varieties are considered "significantly different." This means that there is a 9 in 10 chance that the apparent difference between varieties is a true difference and not due to other experimental factors. If no significant differences are determined for a trial, n.s. is used in place of the LSD.

Further Information

Variety characteristic information can be found in an Extension publication: "2007 Idaho Certified Seed Selection Guides for Some Varieties of Winter Wheat and Winter Barley". End use quality ratings for most Idaho grown wheat varieties can be found on the Idaho Wheat Commission website: http://www.idahowheat.org/market/varieties.asp Please visit our Extension web-site for more detailed information about variety performance and other agronomic practices at: http://www.ag.uidaho.edu/cereals ◆

Table 2. Irrigated Winter Wheat Variety Performance in District II at Parma, Weiser, and Grandview, 2006.

Variety	Yield					Protein	Test Weight	Plant Height	Lodged
	Parma early	Parma late	Weiser	GrandView	Average				
	bu/acre					%	lb/bu	inches	%
Soft White									
Goetze	127	103	111	118	115	10.7	60.7	29	0
Malcolm	134	108	110	122	119	10.2	61.3	33	0
ORCF-101	124	99	126	120	117	11.3	60.5	33	1
ORCF-102	132	114	132	127	126	10.5	61.6	35	0
Simon	120	106	133	115	118	10.5	61.0	34	0
Stephens	135	121	131	124	128	10.4	60.5	33	0
Tubbs	125	108	127	130	122	10.2	60.6	35	0
Tubbs 06	147	128	118	145	134	10.5	60.6	36	0
WestBred 528	127	115	131	134	126	10.7	62.3	33	0
Average	**130**	**112**	**125**	**126**	**123**	**10.5**	**61.0**	**33**	**0**
LSD (.10)	**14**	**11**	**13**	**15**	**8**	**0.5**	**1.0**	**1**	**--**
Hard									
Hoff	114	102	119	107	111	11.1	62.5	35	0
Ivory[W]	115	109	119	145	122	10.8	61.6	35	0
Lochsa[WS]	--	91	--	--	--	--	--	--	--
Moreland	109	100	117	119	111	11.9	61.8	31	0
NuHorizon[W]	116	100	127	118	113	11.5	63.5	30	0
Vandal[S]	--	64	--	102	--	--	--	--	--
WestBred 936[S]	--	85	--	124	--	--	--	--	--
Average	**114**	**93**	**121**	**119**	**114**	**11.3**	**62.4**	**33**	**0**
LSD (.10)	**17**	**17**	**13**	**18**	**10**	**0.5**	**1.0**	**1**	**--**

[W]White wheat
[S] Spring wheat

Table 3. Dryland Winter Wheat Variety Performance in District II at Emmett, 2006.

Variety	Yield	Protein	Test Weight	Plant Height
	bu/acre	%	lb/bu	inches
Soft White				
Eltan	83	14.0	58.7	34
Hubbard	91	13.8	59.6	37
IDO 587	80	13.6	56.9	33
Malcolm	82	13.7	57.8	33
Simon	92	13.7	58.7	34
Stephens	76	14.1	56.3	32
Tubbs	88	14.3	55.1	35
Average	**86**	**13.9**	**57.6**	**34**
LSD (.10)	**11**	**0.3**	**1.4**	**1**
Hard				
Boundary	76	14.1	56.3	32
Buchanan	71	13.6	59.8	39
Darwin[W]	89	12.9	64.3	40
Finley	79	13.0	64.3	41
Gary[W]	83	12.9	62.3	37
Ivory[W]	84	12.6	62.1	34
Juniper	81	14.0	63.7	47
Moreland	82	13.3	61.4	31
Promontory	84	12.8	64.3	34
Utah 100	79	13.2	60.0	37
Average	**81**	**13.1**	**62.2**	**37**
LSD (.10)	**6**	**0.3**	**1.2**	**2**

[W]White wheat

2006 Idaho Winter Wheat Variety Performance Tests and 2004-2006 Yield Summaries ...*continued*

Table 4. Irrigated Winter Wheat Variety Performance in District III and IV at Kimberly, Rupert, and Aberdeen, 2006.

Variety	Yield				Protein	Test Weight	Spring Stand	Heading Date	Plant Height	Lodging
	Kimberly	Rupert	Aberdeen	Average						
	bu/acre				%	lb/bu	%		inches	%
Soft White										
Beamer	134	107	127	122	11.9	59.6	94	5/31	35	19
Bruehl (club)	122	112	105	113	12.6	56.8	95	6/5	37	20
Brundage	130	133	111	124	11.0	62.1	95	5/26	32	0
Brundage 96	128	125	120	124	11.4	59.5	95	6/2	32	0
Clearfirst	121	107	114	114	12.0	59.6	96	6/3	34	0
Daws	135	129	123	129	11.9	60.5	94	6/3	36	8
IDO 587	130	108	116	118	11.7	58.3	94	5/31	33	0
Lambert	135	121	121	126	12.2	59.9	95	6/1	38	17
MacVicar	135	130	126	131	11.7	59.7	95	6/1	36	0
Madsen	134	128	127	130	11.9	59.8	95	6/4	34	5
Malcolm	139	116	127	128	11.8	58.7	95	6/1	35	0
Masami	129	101	115	115	11.6	57.3	95	6/5	36	13
Mel (club)	126	109	112	116	12.1	60.5	94	6/5	34	18
Mohler	147	121	130	132	11.8	59.8	95	6/2	36	6
ORCF-101	128	106	121	118	11.7	59.6	96	6/1	34	0
ORCF-102	129	119	126	128	11.6	60.4	95	6/2	36	4
Simon	134	123	129	129	11.8	59.9	96	6/2	35	0
Stephens	135	125	122	127	11.7	59.5	94	5/31	34	14
Tubbs 06	133	106	134	124	11.7	58.9	96	6/2	37	8
WestBred 470	132	128	118	126	11.7	63.9	95	5/26	34	1
WestBred 528	149	129	126	135	11.4	62.1	96	5/25	33	14
Average	**133**	**117**	**120**	**124**	**11.8**	**59.7**	**97**	**6/1**	**35**	**10**
LSD (.10)	**9**	**17**	**12**	**6**	**0.2**	**0.3**	**1**	**1**	**1**	**4**
Hard Red Wheat										
Agripro Paladin	135	105	114	118	13.4	62.8	94	5/29	34	0
Bonneville	131	90	95	105	15.0	63.1	96	6/3	43	23
Boundary	125	106	100	110	12.5	61.4	93	5/31	34	5
Deloris	138	100	109	116	13.3	62.4	95	6/1	41	15
Dumas	130	112	88	110	13.0	63.6	95	5/24	36	6
DW	137	103	106	115	13.4	61.8	95	5/31	36	26
Garland	127	109	104	113	13.4	60.0	95	6/2	26	0
Manning	125	102	101	109	13.3	61.5	95	5/31	32	40
Moreland	133	91	105	110	13.7	60.4	95	5/25	33	0
Neeley	132	104	92	109	14.0	61.9	94	6/3	39	8
Promontory	137	130	121	129	12.5	63.5	94	6/1	37	7
Survivor	117	89	80	95	14.7	61.7	92	6/1	42	62
Utah 100	139	116	111	122	12.9	60.8	95	6/3	42	0
Weston	129	88	87	101	14.4	63.3	95	5/29	42	31
Yellowstone	141	119	121	127	12.5	62.4	95	5/31	36	6
Hard White Wheat										
Gary	134	95	108	112	13.0	60.5	95	6/1	39	31
NuFrontier	142	107	98	117	13.0	64.0	95	5/26	38	4
NuHills	134	111	86	110	14.3	63.5	95	5/23	33	9
NuHorizon	132	117	98	116	12.9	63.7	94	5/26	37	11
Palomino	135	102	97	111	13.6	61.4	94	5/24	31	0
Golden Spike	145	107	112	121	13.0	61.7	95	6/2	39	19
Average	**134**	**106**	**103**	**114**	**13.4**	**62.2**	**95**	**5/30**	**35**	**11**
LSD (.10)	**9**	**14**	**11**	**7**	**0.3**	**0.3**	**1**	**1**	**1**	**3**

Table 5. Dryland Winter Wheat Variety Performance in District IV at Ririe, 2006.

Variety	Yield	Protein	Heading Date	Test Weight	Plant Height	Spring Stand
	bu/acre	%	Fr. Jan 1	lb/bu	inches	%
Soft White						
Beamer	32	12.7	6/12	59.2	22	92
Bruehl (club)	37	13.2	6/17	58.5	23	94
Brundage	35	12.3	6/11	61.4	20	94
Brundage 96	38	13.1	6/12	57.6	21	94
Clearfirst	32	14.3	6/14	58.2	21	92
Daws	37	12.0	6/12	61.5	23	95
IDO 587	32	14.0	6/11	56.5	21	91
Lambert	33	11.4	6/8	60.1	25	93
MacVicar	34	13.0	6/13	59.4	22	92
Madsen	35	13.7	6/15	58.1	21	96
Malcolm	37	13.3	6/12	58.9	23	93
Masami	37	13.8	6/17	56.5	21	93
Mel (club)	29	14.2	6/15	61.9	19	92
Mohler	33	11.9	6/11	59.7	23	91
ORCF-101	34	13.9	6/14	57.9	22	87
ORCF-102	36	12.5	6/12	59.8	22	92
Simon	37	12.2	6/9	59.7	23	88
Stephens	33	13.7	6/11	58.0	21	94
Tubbs 06	35	13.5	6/14	57.1	24	89
WestBred 470	36	13.3	6/11	62.2	21	94
WestBred 528	40	13.0	6/12	60.6	21	95
Average	36	13.0	6/13	59.1	22	92
LSD (.10)	3	--	2	0.9	2	7
Hard Red Wheat						
Agripro Paladin	34	15.2	6/11	62.5	22	94
Bonneville	36	15.6	6/15	62.0	27	95
Boundary	32	14.2	5/22	59.5	20	91
Deloris	38	14.4	6/13	60.9	25	92
Dumas	31	15.0	6/12	63.3	22	94
DW	38	14.0	6/11	61.2	23	93
Garland	31	14.9	6/14	59.0	16	92
Juniper	41	14.7	6/12	62.1	30	96
Manning	36	14.2	6/11	61.5	24	96
Moreland	39	14.4	6/12	60.4	22	93
Neeley	36	14.2	6/11	61.3	24	91
Promontory	35	14.1	6/10	62.9	24	94
Survivor	36	14.8	6/13	61.1	25	90
Utah 100	47	13.9	6/12	60.8	27	94
Weston	36	14.8	6/10	62.5	28	93
Yellowstone	38	14.4	6/11	60.8	23	92
Hard White Wheat						
Gary	36	13.7	6/12	60.7	24	94
Golden Spike	33	14.9	6/12	60.2	24	93
NuFrontier	35	13.7	6/10	62.8	22	94
NuHills	34	16.0	6/12	62.8	21	94
NuHorizon	35	13.6	6/11	63.3	22	93
Palomino	34	15.3	6/12	61.6	20	94
UI Darwin	34	15.3	6/10	62.6	25	94
Average	**36**	**14.6**	**6/11**	**61.5**	**23**	**93**
LSD (.10)	**6**	**--**	**2**	**0.8**	**1**	**3**

Table 6. 2004-2006 Winter Wheat Variety Average Yield Performance.

Site/years —	District I Dryland 15	District II Irrigated 11	District II Dryland 3	District III Irrigated 6	District IV Irrigated 3	District IV Dryland 3
	bu/acre					
Variety						
Soft White						
Brundage	--	--	--	125	125	44
Brundage 96	98	--	--	119	123	45
Concept	95	--	--	--	--	--
Clearfirst	--	--	--	110	107	--
Daws	--	--	--	118	126	37
Eltan	--	--	51	--	--	--
Finch	96	--	--	--	--	--
Hubbard	96	--	--	--	--	--
IDO 587	97	--	50	119	121	38
Lambert	100	--	--	130	129	41
MacVicar	--	--	--	127	132	39
Madsen	94	--	--	121	124	40
Malcolm	--	132	49	126	129	39
Mohler	103	--	--	127	124	40
ORCF-101	95	127	--	117	118	--
ORCF-102	101	134	--	122	126	--
Simon	96	130	55	120	127	42
Stephens	99	139	48	126	125	37
Tubbs	--	134	54	--	--	--
WestBred 528	102	137	--	133	127	42
WestBred 470	--	--	--	125	124	-
Club						
Chukar	96	--	--	--	--	--
Coda	93	--	--	--	--	--
Mel	--	--	--	108	112	--
Rhode	96	--	--	--	--	--
Hard Red						
Agripro Paladin	--	--	--	119	117	--
Boundary	91	--	45	121	120	38
Buchanan	--	--	43	--	--	--
Deloris	--	--	--	121	117	41
Dumas	--	--	--	112	108	39
DW	--	--	--	124	118	34
Finley	--	--	45	--	--	--
Garland	--	--	--	119	109	--
Hoff	--	125	--	--	--	--
Juniper	--	--	44	--	--	40
Moreland	--	118	46	119	116	38
Neeley	--	--	--	119	119	36
Promontory	--	--	40	129	128	40
Utah 100	--	--	40	125	127	41
Hard White						
Gary	--	--	50	121	113	35
Golden Spike	--	--	--	127	119	36
Ivory	--	134	46	--	--	--
NuFrontier	--	--	--	120	119	38
NuHills	--	--	--	106	108	--
NuHorizon	--	134	--	120	118	38
Palamino	--	--	--	114	116	--

Idaho's Newest Wheat Breeder Brings Needed Experience *...continued from p. 19*

Jianli Chen evaluates wheat in a variety trial near Rupert.

"Fusarium is an emerging disease of the Pacific Northwest, especially for southern Idaho where we have irrigated land," Chen said. In her first two weeks in Idaho, she had already found head blight in three wheat fields.

One of her research priorities is to develop wheat varieties with fusarium resistance with good quality characteristics that will fit southern Idaho production systems. "We need to introduce fusarium head blight resistance genes to Idaho wheat backgrounds in case the disease is near."

Research Goals

Chen will concentrate on accelerating the hard white wheat breeding program using a combination of traditional, molecular marker assisted selection and double haploid breeding methods. Developing hard white spring and winter wheat varieties with the top quality characteristics demand by bread and Asian noodle customers is a priority. She also hopes to develop specialty varieties with improved human nutritional value.

High grain yields and durable resistance to stripe rust, fusarium foot rot dwarf bunt, Cephalosporium stripe and Hessian fly are among her major objectives.

While working with five classes of wheat is a challenge, it is one that Chen is looking forward to. "I see great opportunities to use current technology to make a contribution to the Idaho farmer and to the Pacific Northwest. I am looking forward to doing this."

Hans Hayden, a grain producer from Arbon Valley and a member of the Idaho Wheat Commission, said Chen's enthusiasm is contagious.

"She is very excited about learning about all the classes of wheat in Idaho," Hayden said. "Her lab skills are excellent and she is very good with marker assisted selection. She is really excited about doing something to help Idaho's grain industry."

Chen is also looking forward to the arrival of her husband and son in Aberdeen.

Chen is very eager to help Idaho grain farmers. At the grain field days she attended in early July, she asked growers to complete a short questionnaire about their problems and concerns, and what growers would like to see in new wheat varieties. If you were unable to attend a field day, but would like to provide input please email your thoughts to jchen@uidaho.edu. ◆