

IDAHO GRAIN

THE IDAHO GRAIN PRODUCERS ASSOCIATION MAGAZINE Spring 2007



**Idaho State Wheat
Growers Association**

Idaho Grain Producers Association
821 West State Street
Boise, Idaho 83702-5832
Address Service Requested

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U.S. POSTAGE
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Views

BY TIM DILLIN, IGPA PRESIDENT

Happy Anniversary.



This year, 50 years ago, the Idaho Grain Producers was created. A group of farmers in Lewiston got together with the purpose of promoting the interest of agriculture. A lot has changed and a lot has stayed the same. Today, the IGPA is still a grass roots organization working for the interest of farmers both in Idaho and also nation wide. If I could choose one word for this next year it would be change. There is new leadership in Washington. What that means for the prospects of a Farm Bill in 2007 is anyone's guess. We

have a new governor and many new faces in the state houses. All of these things mean change. Maybe good maybe bad. With the urbanization of both Idaho and the country as a whole, agriculture has a huge job to do. EDUCATION. Recently I was reminded of this when I testified before an agriculture subcommittee hearing. Afterwards, my wife commented that she didn't realize that the farm bill included food stamps, rural development, and other programs that aren't often associated with farming. Farming is becoming so far removed from the general public that they have no idea what we do. All they hear is the sound bites. Ted Turner gets a farm subsidy. The farm bill is half of the federal deficit. The big farms receive all the benefits. We have all heard these statements before. Repeated often enough, they become taken as gospel and the public demands something be done. Our job, everyone of us, is to educate our neighbors and legislators. When we hear these statements, we need to hold our heads high and set the record straight with conviction. When we are asked to participate in the Bread-in-the-Bag program in the schools, please say yes. We have got to dispel the rumors and stand up for what we do. Our farm program represents 1/2 of 1 percent of the Federal Budget. 1/2 of 1 percent! For this small price, the American public gets the safest, cheapest, most abundant food supply in the world. Both the National Barley Growers Association and the National Association of Wheat Growers have adopted farm bill proposals that will help to ensure the profitability of our growers. We are very fortunate to have such strong national leadership.

One of the biggest changes this year will be for the Idaho Grain Producers Association. After 16 years our executive director is moving on. Several months ago the University of Idaho offered Steve a position with the University. He has decided to accept. We are losing a fantastic asset, one that the university is very lucky to get. He will be sorely missed by Idaho and by the grain industry across the country. Over the years he has become known as one of, if not the most trusted and knowledgeable state executives in the country. Change happens and IGPA has moved quickly. We have established a search committee made up of members of the Executive Board, two past presidents, and a member of each Commission. Hopefully by the time you read this magazine, we will have a new executive in place.

As president of this organization, I work for you. If you have questions or concerns about the direction we are going, please contact me. Remember, we work for you.

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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.

Published quarterly by
Idaho Grain Producers Association

821 W. State St. • Boise, Idaho 83702-5832
208.345.0706

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Printing Production Coordinated by
Farm Progress Companies
191 South Gary Avenue • Carol Stream, IL 60188-2095
630.462.2272

Dale Hahn **Graphic Design**
Sharon Beaver **Production Manager**

For Advertising Information Call
Jeff Tennant **Advertising Sales**
919-861-7667

Printed in the USA.
Periodical postage paid at Salt Lake City, Utah
and additional mailing offices.

POSTMASTER: Send address changes to
Idaho Grain Producers Association
821 W. State St., Boise, ID 83702-5832

Change of address: Please send the old name and address as it appears on your label, as well as the new address to Idaho Grain Producers Association. Allow two months for change to become effective.



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Editor's Note

BY STEVE JOHNSON

Memories



How fast time goes by. Almost to the day 16 years ago I was given a chance by the IGPA Executive Board to become the Executive Director of this great organization. It was quite a change in 1991 to move from the farm where I grew up to Boise and an office job. Now after 16 years I'm going to make one more change. I have accepted a position with the University of Idaho as the Director of Alumni Relations.

In my last editorial for you I must acknowledge the officers that gave me the chance to serve you. Each one of them has continued to be a good friend over all these years. Don Suchan, who passed away and I will forever miss was IGPA President in 1991. Doug Scoville, Boyd Schwieder, Bill Flory and Jerry Bush were all members of the IGPA Executive Board. After interviewing me mid-afternoon and taking me to dinner they decided to return to Don Suchan's hotel room and talk farming for a couple more hours. After sweating bullets since mid afternoon Don Suchan finally said to me " By the way Johnson we're offering you the job ". They all thought they were very funny, and I was relieved. I did however recognize for the first time Don Suchan's wonderful low-key sense of humor that I would come to love and appreciate. As I left the room that night Don said "we got ya didn't we ". We all had a good laugh and I began a new job and an association with Idaho's wheat and barley growers that I will forever be thankful for.

I leave this position with the knowledge that IGPA is in good shape financially, the association is respected and I know that we have done some good work along the way. I won't however take all the credit. IGPA's success is the result of a lot of people. Two of those folks are right here in the IGPA office. IGPA operates smoothly and efficiently because of the tremendous skill and dedication of Sue Megran, IGPA's Administrative Assistant. Legislators, the Department of Agriculture and other agriculture organizations continue to respect IGPA because of Dar Olberding's leadership and ability. The IGPA staff that serves Idaho's grain growers couldn't be any better and I'm honored to say I worked with them.

Over the course of 16 years you get to meet a lot of wonderful folks. I can't begin to include them all in this short space. I must however, say a special thanks to every one of the 16 presidents I have worked for. Each of you brought something special to the IGPA presidency, each one of you gave the job a whole year of your life, each one of you made the industry better and when the year was over we each had a friend for life. That's what made the job extra special.

The backbone of this organization will always be the IGPA board of directors and no review of this organizations accomplishments would be complete without recognizing the boards commitment to every wheat and barley grower in Idaho, their foresight to embrace change and to always ask the question is this a good decision for Idaho's wheat and barley producers. The faces around the IGPA board table have changed many times in the past 16 years but the one constant that makes this association so great is the willingness of its membership to step up and take a turn on the board and add some new ideas to the collective wisdom of a strong board. I stand in awe of your collective ability to reason and make good decisions for Idaho's wheat and barley producers.

In closing, I want to say with all sincerity, thanks for all the opportunities I had working for you. You provided this farm boy the opportunity to shake hands with four world presidents, participate in four farm bill negotiations, develop friendships in the wheat and barley industry worldwide and represent an industry I love. The best part, however, will always be traveling the roads of Idaho and meeting Idaho's wheat and barley growers. Thanks for the friendships and thanks for the memories.





IGPA Celebrates 50 Years Of Service

The Idaho Grain Producers Association heads into 2007 celebrating a huge milestone in its history. During the year 2007 IGPA will celebrate 50 years of service to Idaho wheat and barley growers. During the winter of 1957 a delegation from the Idaho State Wheat Growers Association already organized in northern Idaho met with a group of wheat growers in Pocatello, Idaho to discuss forming a statewide wheat grower's group. A meeting was scheduled for Boise in mid June of 1957 and from there the Idaho State Wheat Growers Association became a statewide organization. The first state convention was held in Boise at the Boise Hotel December 1- 4 1957. During the convention the following counties became members of the ISWGA and their representatives on the board of directors were declared.

COUNTY:	
Bannock	Orville Thompson
Benewah	Earl McClelland
Bonneville	Open
Boundary	Frank Vinion
Camas	Open
Caribou	Bill Lloyd
Cassia	Keith Amende
Clearwater	Fred Gertje
Franklin	Ben Johnson
Freemont	Open
Idaho	Art Grabsky
Kootenia	John Kuhlman
Latah	Harold Snow
Lewis	Harold Liedke
Madison	Dick Smith
Nez Perce	Chuck Gabby
Onieda	Open
Power	Mel Medows
Teton	Rex Ard

On December 4, 1957 the new Board of Directors of the Idaho State Wheat Growers Association elected the first slate of officers for the Association. Those growers elected were:

- President, Charles Gabby**
Lewiston, Idaho
- First VP, Harold Edwards**
Tensed, Idaho
- Second VP, Rex Ard**
Rexburg, Idaho
- National VP, Adrian Nelson**
Genesee, Idaho
- Sec/ Tres. Barthel Wittman**
Lapwai, Idaho

IGPA is fortunate to have the minutes from the first meeting of the Association. During that first meeting the board of directors set the following priorities.

- Hire a full time Secretary.
 - The President was directed to appoint someone knowledgeable to represent the association membership at a rail rate hearing in Seattle.
 - The Board authorized the production of an informational brochure.
 - The board had a long discussion on the best way to distribute a newsletter. It was decided that the county wheat organizations would be the best way to distribute information.
 - The board voted to pay \$500.00 for membership with the National Association of Wheat growers and then appointed delegates to attend the upcoming national convention in Spokane, WA.
- In 1987 the Idaho State Wheat Growers Association changed its name to the Idaho Grain Producers Association in order to represent barley growers.

Now fifty years later the Idaho State Wheat Growers Association doing business

as the Idaho Grain Producers Association continues to be an influential member of the Idaho agriculture community successfully representing Idaho's wheat and barley producers at both the state and federal levels.

Dillin Elected To Head-Up Idaho Grain Producers Association.

Tim Dillin, Porthill, Idaho has been elected President of the Idaho Grain Producers Association (IGPA). Tim and His father operate an 1800-acre grain farm just a few miles south of the Canadian border.

Dillin was elected at the recent IGPA annual convention. He told association members that his major focus would be ensuring that Idaho producers were well represented during the 2007 farm bill debate that will take place this year. He also told the membership that this was a year to reflect on the foresight of those wheat growers who created the Idaho State Wheat Growers Association in 1957. "As grain producers who benefit from such a strong organization we need to step back and thank those farmers who saw the need for a strong voice for wheat and barley growers and then created the organization that still serves us today" Dillin said.

IGPA Elects Scott Brown to Executive Board:

Scott Brown, a Soda Springs, Idaho grain producer has been elected to represent District 5 on the IGPA Executive Board. Scott told *IDAHO GRAIN* that, "farming is a dynamic and ever changing industry, it is important that farmers engage in the legislative process, and to stay abreast of technology, research and marketing information that affects our industry. I'm excited and honored to represent the grain produc-

ers of Idaho and carry their message to Congress, the State Legislature, allied businesses and partner organizations," Brown concluded.

Scott and his wife, Diane, have five children and one grandson. Scott and his Dad, Clarke, raise wheat and barley on 5,100 acres on their Caribou county family farm. Scott is

a CPA and has a Masters of Accountancy. Diane and all five children are also college graduates, and when time allows still help out on the farm during the busy season.

IGPA sets priorities for 2007:

Congressional-Legislative-Tax-Transportation-Risk Management Committee:

CONGRESSIONAL: (FEDERAL ISSUES)

- IGPA's highest priority this year will be the 2007 farm bill. IGPA adopted policy that supports the farm bill position of the National Association of Wheat Growers.
- IGPA will work to assure that counties continue to receive property taxes on land purchased by federal entities not required to pay property taxes.
- IGPA continue to seek federal funding for the USDA/ ARS Small Grain Research Facility in Aberdeen.
- IGPA will continue to seek federal legislation that provides for a workable guest worker program.

LEGISLATIVE: (STATE ISSUES)

- IGPA highest priority for this legislative season is to work with other agriculture groups and insure that water issues are resolved in grain grower's best interest.

TRANSPORTATION:

- IGPA highest priority in transportation continues to be federal legislation that will insure rail competition that will benefit Idaho shippers.

Conservation-Environmental-Crop Protection Committee:

CONSERVATION:

- IGPA will support CSP as a consistent, equitable and fully funded stand-alone conservation program administered by FSA. IGPA will oppose all efforts to shift commodity program funding into increased CSP funding in the 2007 farm bill.

Marketing-Grain Quality-Energy Committee:

MARKETING:

- IGPA supports the commercialization of transgenic wheat and has placed a high priority on gaining customer approval for acceptable tolerance levels.

ENERGY:

- IGPA has set a high priority on federal and state incentives for the production and utilization of biomass in industrial products.

RESEARCH:

- IGPA's highest priority for research is the establishment of a National Hard White Wheat Initiative designed to provide needed research that will expand the utilization of Hard White wheat domestically and internationally.



Peterson: Farm Bill to Be Completed by September

House Agriculture Committee Chairman Collin Peterson (D-Minn.) said recently that he wants to complete new farm legislation before the expiration of the 2002 Farm Bill on Sept. 30.

In laying out his timeline, Peterson said he wanted the House and Senate to finish their bills by August, so the conference can be completed and the



new bill can be on the President's desk before the 2002 Farm Bill expires. Peterson said Sen. Tom Harkin (D-Iowa), the Senate agriculture chair, is also interested in meeting the Sept. 30 deadline.

Peterson has indicated a number of times that the new farm bill will be similar in many areas to the 2002 Farm Bill and will be driven by renewable fuels considerations.

Recent news reports indicate that Peterson would add another subcommittee to the committee's five-subcommittee structure and break them out as follows:

- Energy, credit and research
- Rural development, specialty crops and foreign agriculture programs
- Livestock, dairy and poultry
- Horticulture and organic agriculture
- Department operations
- General farm commodities

Peterson has said he intends to have subcommittees start the mark-up of the 2007 bill. It is, as of yet, unclear who will sit on which subcommittee.



Tri-State Convention Photo Album



Tim Dillin wins 50 hours of use on the John Deere tractor.



IGPA Executive Board participate in a Joint tri-state meeting of the grain commissions and grain associations.



Evan Hayes IBC Commissioner presents the 2006 Idaho Barley Commission Distinguished service award to Clark Kauffman.



IGPA President Wayne Hurst presents IGPA's "Lifetime Achievement Award" to Larry Smith the NezPerce County Extension Educator. This is IGPA highest award that recognizes the recipients life committment to the grain industry.



IWC Chairman Hans Hayden presents IGPA member Dar Olberding the Idaho Wheat Commissions Distinguished Service award.





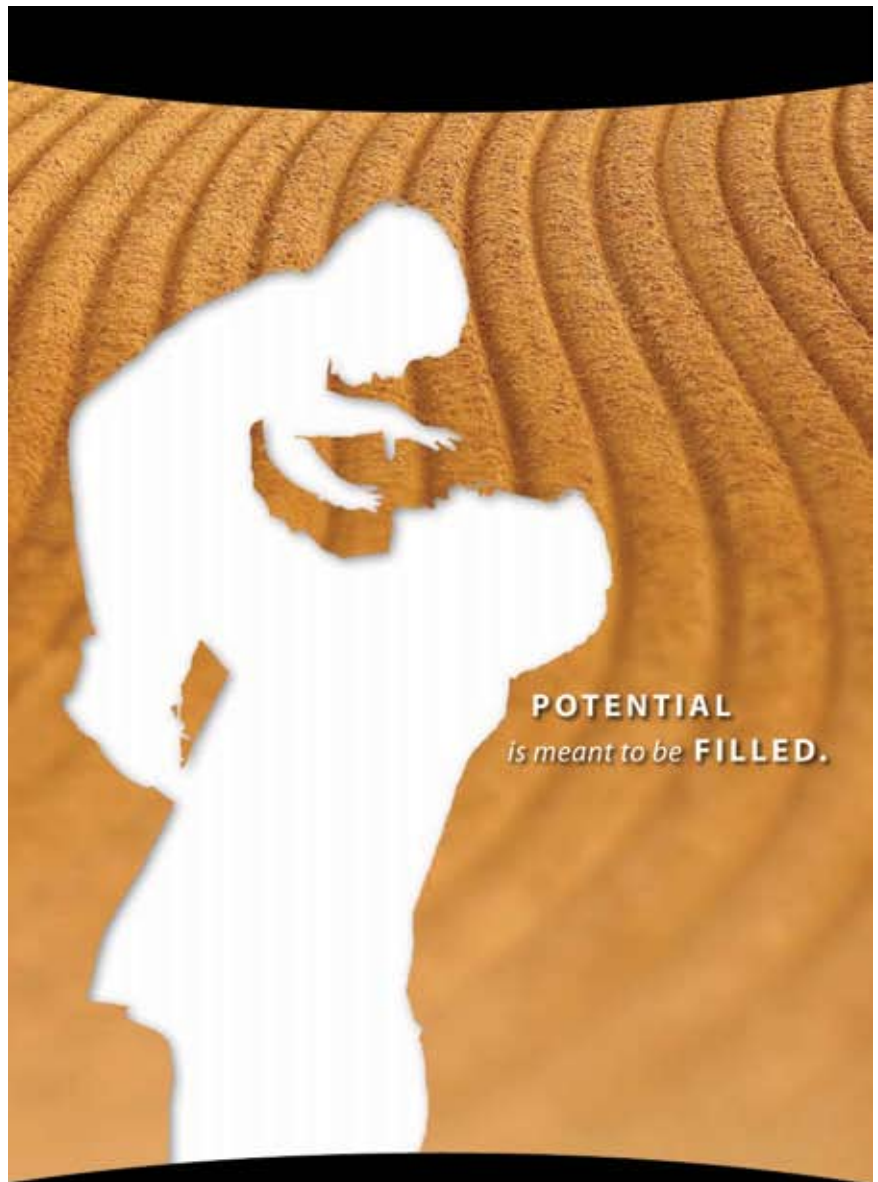
Newly elected IGPA President Tim Dillin, left, presents 2006 IGPA President Wayne Hurst a 'thank you' plaque for his year of service.



Jeff Tee's son drawing the winner of 50 hours of use on the IGPA/John Deere tractor raffle.



Tim Dillin presents the Idaho Grain Producers Association Excellence in Extension Award to Boundary County Extension Educator Sarah Howe.



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Export Tour Explores the Importance of Wheat Quality



In the 1880s, the Northern Pacific and Union Pacific transcontinental railroads arrived in the Pacific Northwest.

Wheat farmers benefited from the reduction in transportation costs and began growing more wheat to ship to the Portland terminal for export to European ports.

Wheat export markets continue to be a significant source of revenue for Pacific Northwest wheat growers. Today 37% of U.S. wheat exports are shipped out of Portland and utilized by nearly 40 countries. Many of those markets have an expectation of specific "end use qualities" when they purchase wheat. Those expectations and the functionality of wheat were explored by Idaho wheat growers during the 2007 Pacific Northwest Wheat Marketing Tour held in Portland in January.

The tour began at the Wheat

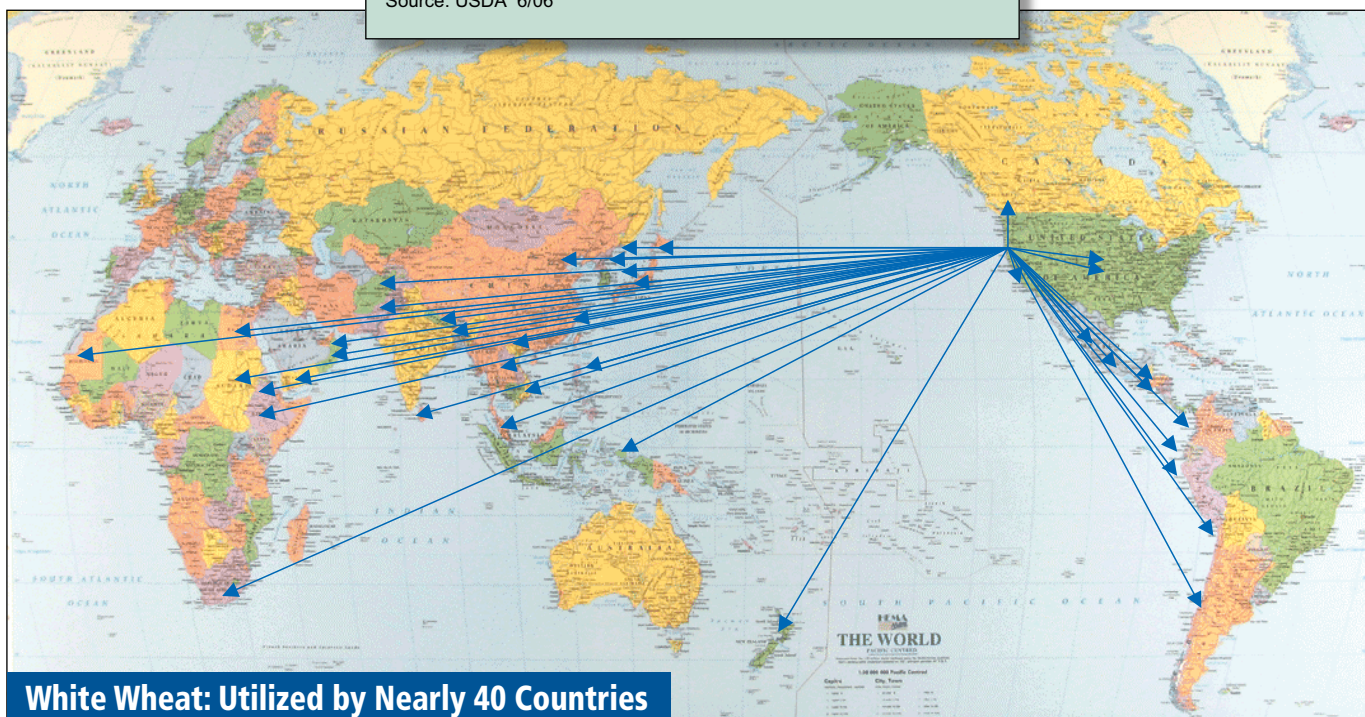
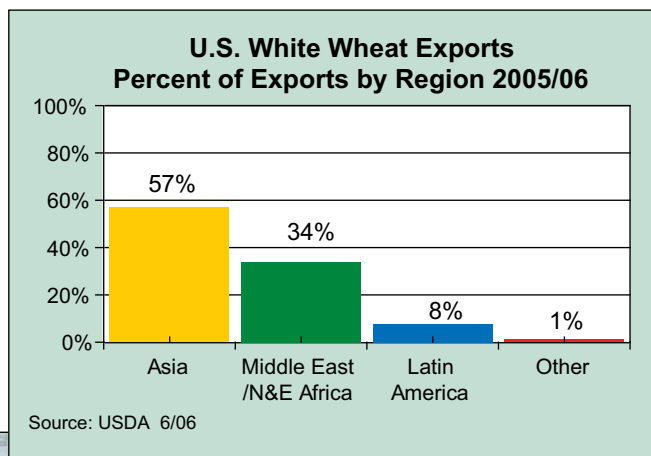
Marketing Center, a technical lab where wheat and flour are analyzed through standardized testing procedures. Results from these tests have a direct relationship to finished product quality. Wheat Marketing Center's staff demonstrated through a variety of tests how wheat and flour characteristics determine if the end product (bread, noodles, cakes, cookies) will turn out with the right taste, texture and volume.

The Wheat Marketing Center works in partnership with U.S. Wheat Associates in

hosting foreign trade teams to help evaluate and test U.S. wheat varieties for specific wheat foods and to educate them on how the U.S. wheat export system works. The American grain marketing system is complicated, so U.S. Wheat Associates provides comprehensive assistance to U.S. wheat buyers, millers, bakers and government officials around the world. U.S. Wheat Associates is a single purpose organization, responsible for export market development on behalf of US Wheat producers.

While in Portland, Idaho wheat growers learned that a portion of their wheat check-off dollars helps fund U.S. Wheat Associates. Those dollars are then matched from the USDA's Foreign Agriculture Service to help develop and maintain overseas markets.

For more information about U.S. Wheat Associates and the work they are doing for Idaho



White Wheat: Utilized by Nearly 40 Countries

wheat growers visit their website at www.uswheat.org.

Without transportation wheat growers would be unable to get their grain to market. There are many issues that impact the cost of transportation, particularly when dealing with the railroads. The next portion of the tour explored transportation issues affecting Idaho wheat growers. During the transportation forum industry representatives for rail discussed pending legislation to re-introduce rail competition, which should bring better service and lower rates.

A presentation was then given on Columbia River transportation. Dredging and environmental issues are ongoing, but shippers are generally enjoying stable, competitive barge rates. The transportation forum concluded with an overview of ocean shipping to international destinations. Strong economic demand has led to a relative shortage of ocean going freight vessels, and competition from coal, ore, and container sectors has led to modestly higher freight rates.

In the 2005/2006 marketing year, the American public used over 31 MMT and 27.5 MMT were exported. About half the wheat produced in Idaho is utilized by domestic markets. U.S. millers are equally concerned about quality, so as part of the tour, Idaho growers visited two bakeries, Franz Bakery and Pearl Bakery.

Franz Bakery uses 175 pounds of flour per minute and makes 1 million buns and 80,000 loaves of bread per day in its Portland Bakery, which was built in 1907. Some of their customers include McDonalds, Wendy's, Arby's, Olive Garden and Albertson's.

Pearl Bakery uses flour milled in California from Klasic wheat grown mostly in Cassia County. Pearl bakers also use White Satin sugar for many of their artisan bread products, which are made in the tradi-



Pearl Bakery artisan baker, Tim Healea describes the flour quality he looks for in wheat used for artisan breads, which requires extensibility found in high gluten wheats.

tional French manner, taking three days between mix and lamination to bake. Both bakeries source their flour for specific end-use qualities.

The bottom line for wheat growers is profitability, which means high yielding wheat. At the same time it is important that wheat grown has good end-use qualities or customers will source their wheat from our competitors. While the U.S. exports more wheat than any other country, our market share in global trade is only 24%, evidence that the U.S. wheat industry has strong competition.

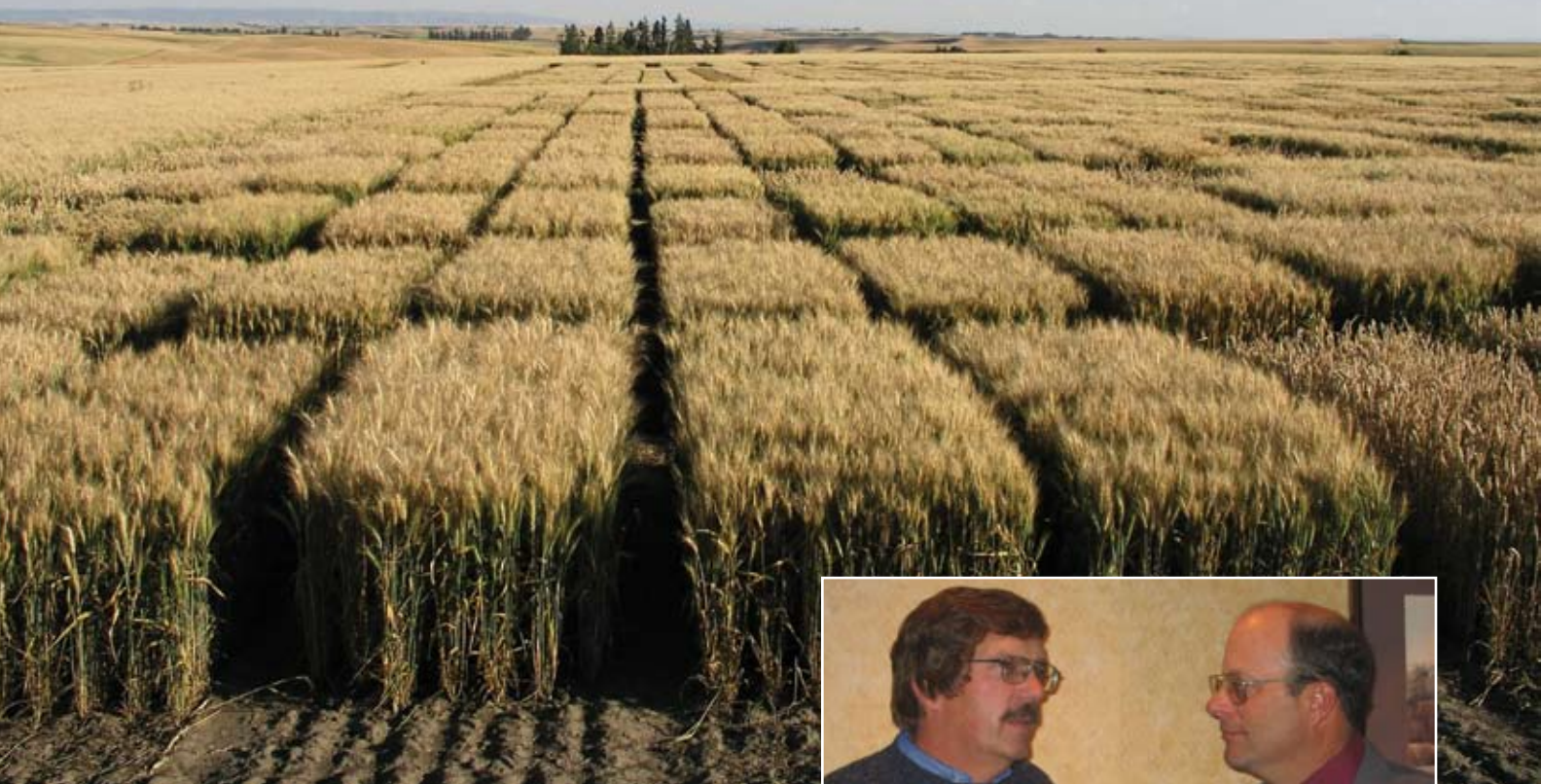
The export tour focused on educating Idaho Wheat growers on what happens to their wheat after it leaves the farm. Wise variety selection is made not only on the basis of yield, but also considers meeting the



Bon Lee from the Wheat Marketing Center, demonstrates how the Extensigraph measures dough extensibility. The resistance to extension accurately predicts the suitability of the dough for use in various products.

quality demands, which the market requires. If you would like more information about quality varieties that are available to grow in your area, visit www.idahowheat.org/market/varieties. ♦

DNA Markers – Making Sure What you See is What you Get



Cutting-edge technology and 'Hollywood's spin doctors' have created a series of popular television shows about Crime Scene investigations called CSIs. Although it may seem like a world away, wheat breeders are using some of the same techniques to find certain 'individuals', only these individuals are wheat plants.

By decoding portions of the wheat genome, breeders are using DNA markers to identify traits in specific plants, then using that information to help develop new, and improved wheat varieties.

This national effort to transfer new developments in wheat genomics and biotechnology through Marker Assisted Selection (MAS) will lead to improved wheat yields, disease resistance and quality traits.

Bob Zemetra, Wheat breeder, University of

Idaho, provided an overview of this technology during the annual meeting of the Idaho Wheat and Barley Commissions and the Grain Producers Association.

The following exchange with Dr. Zemetra is based on his presentation.

Why do we need molecular markers?

When you look at a plant what you see is the phenotype of the plant. From year to year the phenotype may differ due to both genetic factors and environmental influences.

A good example is stripe rust resistance. In a year where there is no rust, all cultivars appear to have the same phenotype and be resistant. However, in a year where there is



Dr. Bob Zemetra discussing DNA markers with Hans Hayden, IWC Chairman.

rust, as in 2005, some cultivars are resistant while others, thought to be resistant, like Zak spring wheat and Moreland winter wheat, are actually susceptible.

The bottom line is that what we see in the field (phenotype) of an individual can be misleading. Traditionally, wheat breeders have relied on visible traits to select varieties. What we need to do is select at the DNA level (genotype) to insure we're selecting the plants with the traits we want.

What are the advantages of using molecular or DNA markers?

By being able to 'see' the genotype of an

individual, we can eliminate the effect of the environment and the masking of the genotype by other genes.

Using conventional methods to track a trait, such as insect or disease resistance, through a cross and subsequent generations, required growing the plant in conditions with heavy pressure from that insect or disease. If one plant survived better than others, breeders continued to work with it.

By using DNA markers we can select for disease resistance without having the disease present. The marker is like having a flag just before the trait. We see the 'flag' and we know the gene we want is also there so we don't have to grow the plants through their life cycle and wait for evaluations. Hundreds of seedlings, with the desired trait, can be selected by a single person. We can accelerate the breeding cycle and select single plants in early generations rather than in time consuming and costly field trials. This can take years off the development of a new variety.

What are some of the traits you are currently working on?

The soft white winter wheat breeding



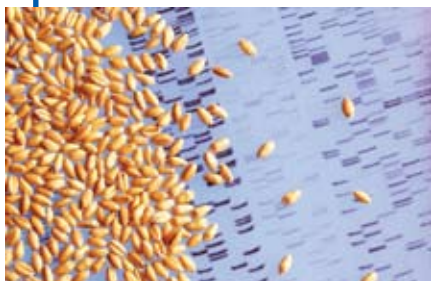
Jenny Hansen, University of Idaho research scientist, loading DNA into an agarose 'gel' to identify disease resistant plants using molecular markers.

program at UI is currently using MAS to simultaneously select for Cercospora foot rot resistance and Cephalosporium stripe tolerance in early-mid generation germplasm. Being able to select for multiple traits at the same time is a major time saving technique.

Another area we're looking at involves wheat straw. If the lignin in straw can be reduced while not affecting other traits such as lodging, this could lead to quicker breakdown of straw. This would be an advantage for growers using direct seed, and growers in

Wheat CAP— Coordinated Agricultural Project (CAP) for Wheat is a multi-state, multi-institution project dedicated to the genetic improvement of US wheat.

The primary goal of the Wheat CAP is to establish marker assisted selection (MAS) in public wheat breeding programs and use this technology to continue improving wheat yield, disease resistance and wheat quality.



This nation-wide effort to identify im-

portant wheat genes is funded from Cooperative State Research, Education and Extension Service (USDA-CREES) through the National Research Initiative. There are four regional genotyping laboratories located in Kansas, North Carolina, North Dakota and Pullman, Washington. Each lab focuses on local wheat classes and different traits.

DNA	DNA: the genetic code that controls the structure and function of wheat.
GENE	Gene: a specific segment of DNA that codes for a certain characteristic.
SELECTION	Selection: when individual plants are chosen because they have beneficial characteristics.
MARKER	Marker: a specific DNA segment that is tightly associated with a gene of interest and can be used as a flag to track the gene.
MAS	Marker Assisted Selection: when individual plants are chosen using markers as flags to track genes.

areas where straw production is heavy. Having straw that breaks down quickly would also be a benefit for use in cellulose ethanol production.

How do you see this technology helping our growers in the coming years?

We are still in the beginning stages of using this technology. If successful we'll be able to use molecular markers to increase our efficiency and be able to release new cultivars faster at less cost.

This technology is especially good for wheat growers since we can develop improved varieties that are not classified as 'genetically modified'. Many countries still do not accept GM wheat. Varieties developed with this technology originate from traditional or classical crossing of two or three other related varieties with desirable traits. Since the molecular markers are only used for selection, these varieties don't fall into the GM category.

Wheat Maps: International Wheat Genome Sequencing Consortium (IWGSC)

In 2005 efforts began to sequence the wheat genome. The rice genome has been sequenced and the maize genome is in progress. Due to its complexity and length, which is five times longer than the human genome, the wheat genome will be the last major crop to be sequenced.

The short term goal is to develop a physical map for common wheat that is linked to the genetic map and assess alternative approaches for sequencing wheat. A genetic map is a broad overview that shows the order of genes. A physical map shows the actual distance between genes.

Using a driving analogy:

A *genetic map* is like an Interstate map and the *physical map* is like a local street map. Use of common genetic markers as landmarks allows for integration of the two types of maps. Aligning the genetic map with the genome sequence greatly helps scientific efforts to determine the function for each gene and how it influences traits.

As MAS technology becomes cheaper and easier to use, and our knowledge of the wheat genome increases, growers will be able to get cultivars with improved genetics sooner. The Wheat Coordinated Agricultural

Project (CAP) is helping the development of this technology by bringing wheat genetics and breeding programs together to move MAS from the lab to the field as rapidly as possible. ♦

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Spring Wheat Contracts Available



Idaho wheat producers increased their Hard White wheat acreage by 50% last year and the market still wanted more. Consumer demand for whole grain foods surged when the USDA revised their food guide pyramid, which encouraged more consumption of whole grain in their diet.

Millers in Idaho, Utah, California, Arizona, and Mexico are contracting with Idaho grain handlers to have Hard White wheat and Durum wheat grown for their needs.

Varieties Being Contracted

- Alzada and Kronos Durum varieties, \$5.00 per bushel, 13% minimum protein.
- Snowcrest, Klasic, or Blanca Grande Hard White varieties. \$.10 premium to market, 12% minimum protein.
- WB 936, Jefferson, and Jerome Hard Red varieties, contract price based on futures market
- WB 470 Soft White variety, \$.10 premium to market
- Alturas Soft White variety, contract price based on futures market



Idaho Grain Handlers Offering Contracts

- AgriSource, Burley
- General Mills, Idaho Falls
- Pasley Grain, Idaho Falls
- Ririe Feed & Grain, Ririe
- Johnson Grain, Ririe
- Scoular Grain, American Falls
- Trost Feed & Seed, St. Anthony
- AgriSource, Newdale
- General Mills, Blackfoot
- AgriSource, Mountain Home

DuPont™ Affinity®* BroadSpec

herbicide

with
TotalSol™
soluble granules

backed by
Crop Protection Plus®**



The miracles of science™



Photo entries invited for 2007 USW calendar

U.S. Wheat Associates invites U.S. wheat growers, buyers, and users to submit pictures for possible use in the USW 2007 calendar. We encourage photographers -- both amateur and professional, from the U.S. and the 90 countries that use U.S. wheat -- to submit their best photos of U.S. wheat fields, foods made from U.S. wheat, or other scenes depicting the shipping, milling or use of U.S. wheat.

- The deadline for entries is June 1, 2007.
- Twelve photos will be selected, at awards of US\$100 each.
- USW will own all rights to the selected



photographs. If people are featured in the photo, the photographer must obtain consent from the people before submitting their photos. By submitting such photos, the photographer confirms and represents he or she has received that consent.

- Materials will not be returned.

Mail entries to: Steve Mercer, U.S. Wheat Associates, 1620 I (Eye) Street, NW, Suite 801, Washington, D.C. 20006.

Requirements for prints:

- If you submit an original print, please include the negative.

Requirements for digital photos:

- You should use a four mega-pixel (or higher) digital camera, set to the highest-quality resolution setting. Electronic files must be saved as eps, tiff or jpeg.
- Digital photo entries must be burned to a CD accessible by a PC. E-mail entries will not be accepted.

Take care of your entries: All entries must include your name, phone number and mailing address. Do not use paper clips to fasten anything to the photos or negatives (they could be permanently damaged). Protect your photos from bending in the mail, and use a padded envelope for mailing CDs.

New Publication:

Saving Energy and Fertilizer Costs

BMP's for Southern Idaho Grain Producers

Rising energy costs mean hard choices for grain growers. This new publication from University of Idaho Extension lists ideas for you to consider to maximize fuel and fertilizer efficiency and better control input costs.

CIS 1127 is now available to download from the UI online catalog: <http://info.ag.uidaho.edu/pdf/CIS/CIS1127.pdf>.

"Food & Nutrition Research Briefs" on Web

The USDA's Agricultural Research Service is now posting "Food & Nutrition Research Briefs" on the World Wide Web. The quarterly publication features short, informative highlights of new scientific findings about nutrition and health, as well as food safety, new foods, and related topics. You can find the newsletter at <http://www.ars.usda.gov/is/np/fnr/fnr1006.htm>.

Grower Input Requested on Research

Each year the IWC invests about 30% of its funds in research projects geared toward maximizing profitability for growers. Basic research efforts are mostly with the University of Idaho in a variety of different projects. Additional research projects are carried out under contract with the Wheat Marketing Center in Portland, the Ag



Research Service and other entities for specific projects. A complete listing can be seen on the IWC website at www.idahowheat.org.

While variety development is and always will be, a major component of research other areas have also provided valuable information. A study on the *Availability, Alternative Uses and Value of Straw in Idaho* has been widely used by cellulose ethanol industries interested in setting up shop in Idaho. The results from the 2006 study on the *Economic Impact of Wheat and Barley In Idaho* highlighted the importance of these grains to Idaho's overall economy by generating over \$1 billion in sales and \$37.6 million in indirect business taxes.

A series of studies on the 'cost-of-community-services' found that farmers paid more than their fair share of taxes and helped support services received by residential property owners. The Idaho Grain Producers used information from the studies to help convince the Idaho Legislature to repeal Idaho's Personal Property Tax on farm and ranch machinery.

Research can cover many things. What areas would you like to see more research?



Eastern Snake River Plain Aquifer: a Priceless Treasure

Water rights are a never-ending concern in Idaho. The Snake River Plain Aquifer is what makes the desert produce the lion's share of Idaho's agricultural products including over 60 million bushels of wheat a year.

Where does water in the aquifer come from?

About 60% of the water going into the aquifer (called recharge) comes from irrigation. Other recharge comes from small aquifers in valleys along the edge of the plain, infiltration from rivers and canals, and precipitation (rain and snow).

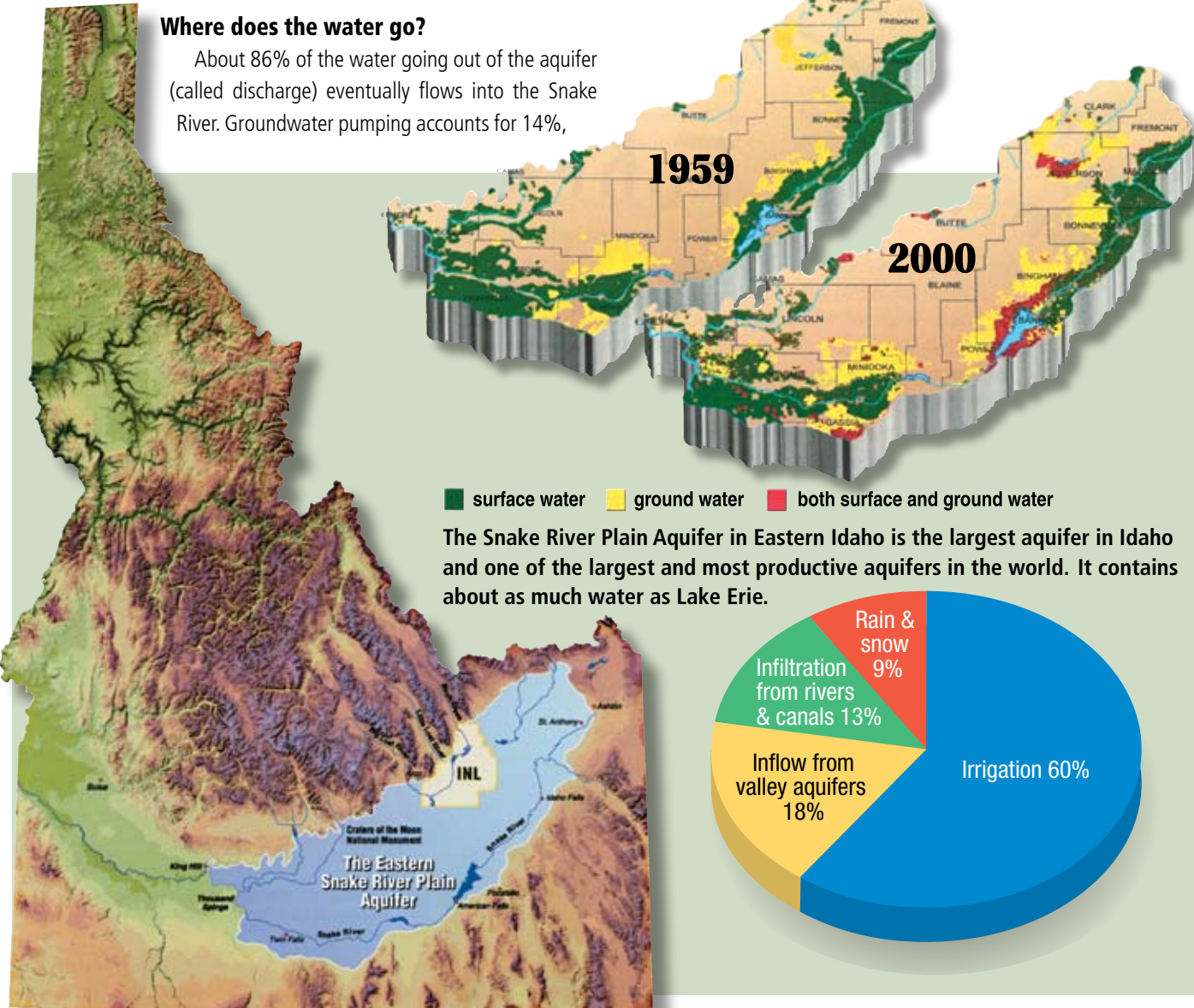
of that 95% is for irrigation with the rest going for drinking water and commercial or livestock use.

A century of irrigation on the Eastern Snake River Plain Aquifer

Over time the primary source of irrigation water changed from diverted surface water to pumped ground water. The primary method of irrigation also changed from flooding fields to sprinkling. This allowed more acres to be farmed, but also resulted in less water available for recharge.

Where does the water go?

About 86% of the water going out of the aquifer (called discharge) eventually flows into the Snake River. Groundwater pumping accounts for 14%,



Variety Trials: Matching Supply with Demand

A Key to Market Development for Idaho Wheat Growers



Somewhere in Japan a woman is purchasing a bag of flour to make a cake, while a miller is blending wheats for udon noodles. Somewhere in the US a high speed commercial bakery is packaging cookies, a frozen bread dough company is testing the quality of its latest batch of rolls, and a teenager is packing beans and cheese into a flour tortilla.

Somewhere in Idaho a wheat grower is planting winter wheat, while another is thinking about spring varieties to plant. Somewhere in Idaho a grower is concerned about rainfall, while another is working on an irrigation schedule. While one grower is dealing with snow mold, another estimates the amount of nitrogen needed to make protein on hard red.

How to connect all these different interests presents an 'ironman' challenge that the Wheat Commission addresses in different ways. One of the most important is to partner with the University of Idaho to annually field test dozens of wheat varieties from different classes in nearly 25 different locations, under a wide variety of growing conditions.

Which Variety to Plant Where?

The Extension Wheat Trials are coordinated through the leadership of Extension Cereal Specialists. Twelve (12) winter nurseries and thirteen (13) spring nurseries are usually planted. Most are conventionally planted. Three nurseries, two in North Idaho and one in South Idaho, are direct seeded. All are in grower fields except for Parma, Moscow and Aberdeen research and extension centers. Public varieties, especially from Idaho, Oregon, Washington and Utah, as well

as selected private entries are evaluated.

Successful production depends to a considerable extent on selecting the best varieties for a particular farm situation. In the trials, old favorites are planted side by side with new varieties, and potential candidates

for release from breeders. Growers can easily compare results.

The trials are funded in part by the IWC, the University of Idaho Cooperative Extension System and fees paid by plant breeding companies.

"Pathogens change over time," says Juliet Windes, who oversees the south central and southeast trials. "Having old varieties along with the new, gives growers a good indication of what to expect under different conditions, like changes in moisture and new strains of stripe rust. They can also see new disease and herbicide resistance genes at work, like Clearfield varieties and how they stack up with their favorites."

Windes also notes that one of the most important aspects of the program is the participation in Grower Field Days. "I can present our latest research results and discuss variety releases with the growers and they provide feedback on what is working for them."

"Yield will always be important when it comes to wheat production," says Brad Brown, Extension Crop Specialist, "but if buyers can't use a wheat because of poor quality, then demand will be impacted. If two varieties are similar in yield and disease resistance in one area, growers should consider planting the one that has the better end use trait as identified in the IWC list of quality varieties. The importance of quality is a growing factor in demand for our wheats."

Sometimes agronomic studies are incorporated to complement variety performance data, such as the project Brown recently completed on the response of irrigated winter wheat to N source, rate and timing.

Growers need to evaluate all of the traits



Dr. Juliet Windes directs the South Central and South East Extension Cereals Program. For information on trial results see the Small Grains Report at www.ag.uidaho.edu/scseidaho.



Dr. Brad Brown, Southwest Extension Cereals Program, discussing hard white wheat varieties with wheat grower, Boyd Schwieder. For information on trial results in south west Idaho: www.ag.uidaho.edu/swidaho.



Field tours provide an opportunity for growers, and other industry members to exchange information on pest control, water management and fertilization. Dr. Stephen Guy is the Crop Management Specialist for North Idaho. Information on variety trials for North Idaho can be found at: www.ag.uidaho.edu/cereals/nidaho.

that are important to them and then make a choice.

Stephen Guy, Crop Management Specialist for North Idaho, reminds growers to “look at 3 year data when comparing varietal performance and remember that no variety is perfect. Performance and quality ratings at one location may not translate to the same at another location. Although a site in Washington may be a few miles from one in North Idaho, a particular variety can produce different results.”

Results from these trials also guide breeders in determining which experimental lines to retain in their breeding programs and which to release. For agronomists and others the evaluations help define management practices that enhance wheat production and quality.

The environment, soils, disease and management practices all have great impact on varietal performance. With this information, growers can make informed decisions about the best variety to plant and the management of new varieties.

Supply and Demand are Both Important.

Matching the supply of wheat available from Idaho’s diverse geographic map with the demand from many differing end users

will continue to be a challenge. Variety trials help define areas where we have been very successful, as well as areas needing more work – as in increased yields in hard white varieties.

Each variety is important to the total mix. It is this mix that is used to define our crop quality and to provide information needed to develop marketing strategies like the PNW Soft White Wheat Quality Report (see *Idaho Grain*, Winter issue).

In the end supply and demand must be balanced. Needs of growers, such as agronomic performance and profitability, have to

be weighed against the needs of both domestic and export customers. Quality attributes need to be centered around yield and disease resistance. The homemaker in Japan has to be satisfied along with the Idaho wheat grower. Variety trials help connect the dots. ♦

Idaho Quality Wheat Varieties

A list of varieties based on end-user preferences can be found on the IWC website under market development.



Hat's off to all the Grower Cooperators Past, Present and Future.

Thank you for providing land and support to continue this valuable research, and taking the time to make a difference.



VARIETY TRIALS

- Each plot is harvested separately, bagged and tagged then evaluated on agronomic and milling and baking quality.
- Quality parameters are analyzed at the Idaho Wheat Quality Lab in Aberdeen.

Which varieties are best for your farm?





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



Idaho spring wheat varieties are evaluated each year to provide performance information to help growers select superior varieties for their growing conditions. Because of similarities among spring wheat and spring barley tests, details about spring wheat test design and interpretation of the information presented in this article can be found in the preceding article '2006 Idaho Spring Barley Variety Performance Tests and 2004-2006 Yield Summaries.' Agronomic performance data for spring wheat are summarized by state districts in Tables 1-4. District III and IV results are presented for soft white spring wheat in Tables 3 and for hard spring wheat in Tables 4. Yield data are given for individual sites while other agronomic data are averaged over all the sites of each table. Tables include quality ratings of varieties, categorized as Quality Plus wheat varieties (Q+), Acceptable Quality of wheat (AQ) and "Limited Markets" wheat (LM) as defined by the Idaho Wheat Commission (www.idahowheat.org). Q+ varieties are of excellent quality, and usually above average milling and baking characteristics. AQ varieties are acceptable, but still just average in milling and baking characteristics. LM varieties are inferior, and it is suggested they should be grown only if a buyer is confirmed before the seed is planted. Bushel/acre yield results are based on 60 lb/bu at 11% moisture. Lodging ratings are the percent of a plot area lodged. Average values are presented at the bottom of listings and are followed by a least significant difference (LSD) statistic at the 10% level. Average yield results from variety performance trials in 2004, 2005, and 2006 are presented in Table 5 for all districts, with 3-13 site/years of data summarized for each district. ♦

TABLE 1. Dryland Spring Wheat Performance in District I at Greencreek, Genesee, and Bonners Ferry, 2006.

Variety	Quality Rating	Yield				Average			
		Greencreek	Genesee	B. Ferry	Average	Protein	Grain Hardness	Test Weight	Plant Height
		bu/acre				%	1-100	lb/bu	inches
Soft White									
Alturas	Q+	61	54	76	64	12.1	20	58.6	29
Cataldo		65	57	82	68	12.0	17	57.5	30
Eden (club)	AQ	61	52	70	61	12.2	30	60.9	29
Louise	Q+	65	55	71	64	12.0	23	58.5	33
Nick	Q+	70	69	75	71	12.5	24	59.0	31
Penawawa	LM	49	47	57	51	13.4	23	57.9	28
Zak	Q+	59	53	76	63	12.4	25	58.8	31
Average		61	55	72	63	12.4	24	58.7	30
Hard White									
IDO377s	AQ	64	48	73	62	13.8	56	59.3	30
Lochsa	Q+	63	60	67	63	13.8	63	57.4	30
Lolo	AQ	58	54	70	61	13.1	63	60.0	30
Otis		64	57	71	64	13.8	62	60.8	34
Average		62	55	70	62	13.6	61	59.4	31
Hard Red									
Buck Pronto		61	49	45	52	15.0	60	58.5	30
Hank	AQ	65	54	65	61	14.2	55	57.8	28
Hollis	Q+	62	53	63	59	14.3	56	60.1	38
Jefferson	Q+	61	56	67	61	14.1	59	59.7	29
Jerome	Q+	61	50	62	58	13.5	51	59.0	29
Tara 2002	Q+	66	54	66	62	13.9	53	59.7	32
Winchester		58	66	70	65	13.9	54	59.2	29
Westbred 926	AQ	65	59	61	62	14.1	55	58.7	29
Average		62	55	62	60	14.1	55	59.0	30
Overall Average		62	55	69	62	13.3	43	59.0	30
LSD .10		4	6	7	3	--	--	0.3	1

TABLE 2. Irrigated Spring Wheat Variety Performance in District II at Parma, Weiser, and Nampa, 2006.

Variety	Quality Rating	Yield				Protein	Test Weight	Plant Height	Lodging
		Parma	Weiser	Nampa	Average				
		bu/acre				%	lb/bu	inches	%
Soft White									
Alpowwa	LM	90	66	106	87	10.6	60.7	34	1
Alturas	Q+	98	75	111	95	10.1	60.9	33	3
Cataldo		101	67	108	92	11.0	61.5	31	1
Jubilee	Q+	95	80	112	96	10.8	62.0	34	4
Nick	Q+	90	76	115	94	10.9	62.0	32	10
Penawawa	LM	104	66	103	91	11.0	61.4	32	2
Pettit		96	86	109	97	9.4	61.6	27	2
Average (SW)		96	74	109	93	10.5	61.4	32	3
LSD .10 (SW)		11	10	8	6	0.6	1.1	1	7
Hard Red									
Jefferson	Q+	97	80	96	91	12.5	62.3	33	0
Jerome	Q+	94	80	97	91	12.0	62.7	32	1
WestBred 936	Q+	90	87	95	91	12.7	62.3	30	0
Hard White									
Lochsa	Q+	100	85	98	94	13.2	61.0	33	0
Lolo	AQ	107	88	100	98	11.6	62.1	34	0
Otis		116	78	95	96	12.5	61.9	39	0
Winsome	LM	77	63	73	71	12.2	61.6	30	0
Average (Hard)		97	80	93	90	12.4	62.0	33	0
LSD .10 (Hard)		11	11	17	9	0.7	1.0	1	1

TABLE 3. Irrigated and Dryland Soft White Spring Wheat Performance in Districts III and IV at Rupert, Aberdeen, Ashton, Idaho Falls, and Soda Springs, 2006.

Variety	Quality Rating	Yield					Yield	Average		
		Irrigated		Dryland		Test Weight		Height	Lodging	
		Rupert	Aberdeen	Idaho Falls	Ashton					Soda Springs
		bu/acre					lb/bu	inches	%	
Alpowa	LM	90	90	94	68	44	85	62.6	32	5
Alturas	Q+	85	88	94	79	41	86	61.8	30	0
Challis	Q+	92	82	87	74	41	84	61.5	31	9
Eden (club)	AQ	87	84	79	68	36	80	63.1	30	2
Jubilee	Q+	93	86	87	77	41	86	62.8	32	1
Louise	Q+	88	73	91	65	40	79	61.8	33	23
Nick	Q+	96	84	95	79	38	88	62.5	30	2
Penawawa	LM	93	84	89	63	40	82	62.2	30	7
Skookum		95	83	98	70	41	87	61.6	32	3
Treasure	Q+	85	77	93	77	43	83	60.5	30	21
UI Pettit		64	81	88	80	35	78	62.5	26	0
Whitebird		85	81	84	70	41	80	62.5	32	0
Average		88	83	90	72	40	83	62.1	31	6
LSD 0.10		8	5	8	8	4	2	0.2	1	1

TABLE 4. Irrigated and Dryland Hard Spring Wheat Performance in Districts III and IV at Rupert, Aberdeen, Ashton, Idaho Falls, and Soda Springs, 2006.

Variety	Quality Rating	Yield					Yield	Average		
		Irrigated		Dryland		Test Weight		Plant Height	Lodging	
		Rupert	Aberdeen	Idaho Falls	Ashton					Soda Springs
		bu/acre					lb/bu	inches	%	
Hard Red										
Buck Pronto		83	77	85	57	34	75	62.7	29	3
Choteau		74	80	85	55	30	73	61.9	31	4
Hollis	Q+	70	69	88	50	38	69	62.7	39	9
Iona	AQ	90	78	94	58	31	80	63.0	33	8
Jefferson	Q+	92	83	91	57	36	81	62.7	30	5
Jerome	Q+	90	84	94	63	34	83	62.7	31	0
Saxon		89	86	93	54	37	80	61.5	33	0
Scarlet	AQ	88	82	94	56	36	80	62.3	33	10
Summit		81	69	79	58	31	72	60.0	25	0
Tara 2002	Q+	94	80	84	48	33	76	62.5	32	9
WestBred 936	Q+	84	78	88	61	34	78	62.1	29	3
Hard White										
Blanca Grande	AQ	84	62	73	53	30	68	62.9	26	1
Idaho 377s	AQ	93	84	107	74	40	89	60.6	31	10
Klasic	Q+	79	70	65	55	32	67	62.7	23	0
Lochsa	Q+	88	81	92	61	36	81	61.7	31	1
Lolo	AQ	96	85	105	69	42	89	63.5	33	16
Macon	Q+	85	79	86	49	36	75	61.6	31	24
Otis		98	90	112	68	39	92	63.3	35	2
Pristine	AQ	83	73	94	59	31	77	64.1	31	1
Winsome	LM	81	79	100	59	35	80	60.1	31	4
Durum										
Alzada		82	69	78	58	32	72	63.3	29	9
Kronos		91	75	77	58	31	75	62.4	27	2
Matt		84	61	79	50	28	69	63.0	28	7
Topper		83	68	72	51	27	69	62.0	27	1
Utopia		95	80	79	55	28	78	62.1	26	3
Average		87	77	88	57	33	77	62.3	30	5
LSD 0.10		11	5	9	7	5	2	0.3	1	2



TABLE 5. Spring Wheat Yield Average for 2004-2006 in Idaho.

Variety	Quality Rating	District				
		I	II	III	IV	IV(Dry)
		Site/Years- 9	8	3	13	3
		Yield (bu/acre)				
Soft White						
Alpowa	LM	--	97	100	93	48
Alturas	Q+	66	110	95	99	49
Challis	Q+	--	--	100	90	46
Eden (club)	AQ	57	--	93	90	42
Jubilee	Q+	--	100	96	87	45
Louise	Q+	68	--	83	93	48
Nick	Q+	72	106	97	95	47
Penawawa	LM	48	97	98	86	47
Skookum		--	--	102	88	--
Treasure	Q+	--	--	91	92	45
Whitebird		--	--	88	79	46
Zak	Q+	55	--	--	--	--
Hard Red						
Hank	AQ	68	--	--	--	--
Hollis	Q+	61	--	79	76	42
Iona	AQ	--	--	94	86	40
Jefferson	Q+	66	98	93	87	43
Jerome	Q+	67	106	96	91	40
Rick	LM	--	--	100	86	--
Saxon		--	--	96	86	45
Scarlet	AQ	--	--	93	87	46
Summit		--	--	86	84	39
Tara 2002	Q+	66	--	94	81	38
Westbred 926	AQ	65	--	--	--	--
Westbred 936	Q+	--	100	90	84	45
Hard White						
Blanca Grande	AQ	--	--	90	80	37
IDO377s	AQ	62	--	101	96	43
Klasic	Q+	--	--	87	77	31
Lochsa	Q+	--	100	91	90	46
Lolo	AQ	64	102	104	98	47
Macon	Q+	--	--	94	83	42
Otis		66	104	107	100	47
Pristine	AQ	--	--	88	84	38
Winsome	LM	--	85	91	87	42
Durum						
Kronos		--	--	95	85	42
Matt		--	--	87	79	35
Topper		--	--	81	77	29
Utopia		--	--	95	86	35



2006 Idaho Spring Barley 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 spring barley varieties are evaluated each year to provide performance information to help growers select superior varieties for their growing conditions. The tests are done using farmer fields or 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 availability. 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 spring barley tests are summarized by Idaho districts in Tables 1-4. District I is northern, District II is southwest, District III is southcentral, and District IV is southeast Idaho. District III and IV results are presented for 2-row barley in Table 3 and for 6-row barley in Table 4. Yield data are given for individual sites while other agronomic data are averaged over all the sites of each table. Bushel/acre yield results are based on 48 lb/bu at 11% moisture. Lodging ratings are the percent of a plot area lodged. Plump percentage is based on cleaned grain retained on a 6/64" screen. Thin grain percentage is clean grain passing through a 5.5/64" screen. Average values are presented at the bottom of listings and are followed by a least significant difference (LSD) statistic at the 10% level.

Average yield data from variety performance trials in 2004, 2005, and 2006 are presented in Table 5 for all districts. These data represent results of 3-12 site/years and can be a good indication of long term performance of a variety.

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 results reported in this article are for 2006 trials; previous results can be found in the spring 1992 to 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, and quality characteristics such as test weight and plumpness are also important variety selection considerations.

Reported small differences among varieties in yield 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

TABLE 1. Dryland spring barley performance in District 1 at Greencreek, Genesee, Moscow, and Bonners Ferry, 2006.

Variety	Yield					Test Weight	Average			
	Green-creek	Genesee	Moscow	Bonners Ferry	Average		Plant Height	Plant Lodging	Plant Plumps	Thin
	bu/acre					lb/bu	Inches	%	%	%
2 Row Barley										
Baronesse	108	89	95	109	100	52.9	33	20	89	3
Bear (hullless)	95	75	78	120*	83*	57.4	33	8	48	14
Bob	107	84	80	104	94	53.7	34	24	93	2
Boulder	109	92	89	109	100	54.2	34	18	93	2
Burton	107	88	75	105	94	53.7	35	12	95	1
Camas	117	91	83	118	102	55.0	34	11	94	1
Conrad	116	85	82	103	97	52.6	33	14	94	2
Criton	110	98	78	116	101	53.4	35	17	97	1
Harrington	101	78	84	104	92	52.6	34	27	82	5
Merit	121	78	84	103	97	52.6	35	8	91	3
Meresse (hullless)	91	56	49	76	68	60.9	31	6	69	4
AC Metcalfe	111	85	80	108	96	54.1	35	13	95	1
CDC Stratus	104	85	76	100	91	53.9	33	17	92	2
Spaulding	122	98	94	125	110	55.4	35	9	91	2
Radiant	108	94	85	110	99	53.3	32	20	87	3
Average	108	85	81	107	95	54.0	34	15	88	3
6 Row Barley										
Colter	129	80	88	117	104	51.3	35	9	79	6
Excel	109	73	89	102	93	51.7	38	33	79	5
Legacy	110	79	84	110	96	51.9	38	24	81	5
Morex	94	73	72	94	83	51.2	38	49	75	5
Steptoe	109	80	98	109	99	49.6	35	47	86	5
Tradition	109	86	85	109	97	52.7	38	13	89	3
Average	110	79	86	107	95	51.4	37	29	81	5
Overall Average	110	82	82	107	95	53.4	35	19	86	4
LSD .10	10	11	6	7	4	0.6	1	7	3	1

*M69 was planted at B. Ferry instead of Bear and averages are for the three sites with Bear

TABLE 2. Irrigated Spring Barley Variety Performance in District II at Parma and Weiser, 2006

Variety	Yield			Test Weight	Plant Height	Lodging	Plumps	Thin
	Parma	Weiser	Average					
	bu/acre			lb/bu	inches	%	%	%
2 Row Barley								
Burton	126	78	102	53.0	37	43	84	2
Conrad	157	93	125	53.4	35	28	88	2
Idagold	150	95	123	51.9	29	31	82	3
Meresse	119	91	105	61.2	34	29	76	6
Merit	131	85	108	52.1	35	19	86	2
Merlin	122	99	110	60.1	25	21	72	6
Radiant	156	95	126	53.3	35	38	81	4
Salute	109	81	95	54.1	38	34	89	2
Samish 23	151	104	127	53.2	31	36	83	3
Spaulding	165	100	133	54.5	36	26	92	3
Average	137	92	115	54.7	34	31	83	3
6 Row Barley								
Creel	173	100	137	52.0	38	48	85	2
Herald	116	88	102	50.2	40	0	87	2
Legacy	144	98	121	53.4	39	63	91	1
Millennium	149	138	144	51.6	32	14	82	2
Nebula	116	105	110	48.1	25	31	80	2
Steptoe	153	100	126	51.4	38	60	92	1
Tradition	151	88	119	53.9	39	31	93	1
Average	143	102	123	51.7	36	35	87	2
LSD .10	12	13	14	0.9	2	21	5	1

TABLE 3. Irrigated and Dryland Two-Row Spring Barley Performance in Districts III and IV at Rupert, Aberdeen, Idaho Falls, Ashton, and Soda Springs, 2006.

Variety	Yield					Average					
	Irrigated		Dryland			Yield	Test Weight	Plant Height	Lodging	Plumps	Thins
	Rupert	Aberdeen	Idaho Falls	Ashton	Soda Springs						
AC Metcalfe	94	84	93	57	56	82	51.8	28	39	95	6
Baronesse	130	90	98	72	63	97	51.6	26	39	93	7
Bob	109	90	90	65	56	89	52.0	27	40	92	8
Boulder	114	95	96	62	63	92	53.4	26	28	95	5
Burton	122	101	97	61	59	95	52.3	28	25	96	4
Busch B1202	108	77	100	56	52	85	50.5	27	38	94	6
Calgary	114	104	89	67	60	94	52.6	24	23	96	5
Camas	104	89	93	70	62	89	52.5	27	35	90	10
CDC Bold	122	102	101	64	60	97	52.6	25	20	93	7
CDC McGwire	101	89	81	62	46	83	61.7	28	38	75	25
CDC Stratus	103	82	88	52	54	81	51.1	26	39	91	9
Conrad	109	94	90	71	58	91	51.6	26	32	95	5
Craft	104	94	92	62	57	88	53.4	28	33	93	7
Criton	107	93	101	64	60	92	51.4	27	45	95	6
Eslick	104	94	102	69	58	92	51.6	26	44	92	10
Farmington	88	88	77	60	50	78	49.6	23	30	83	17
Geraldine	105	88	93	62	59	87	51.6	26	40	86	13
Harrington	89	76	84	58	58	77	49.7	29	44	85	15
Haxby	119	89	95	61	54	91	53.4	24	38	93	7
Hayes	81	63	89	58	49	73	46.5	28	54	74	27
Hocket	101	85	92	64	55	85	52.4	26	35	93	7
Idagold II	112	99	93	67	51	93	50.1	22	30	88	12
Merit	97	86	97	63	49	86	49.2	27	40	87	13
Moravian 37	108	97	88	68	52	90	51.3	24	36	94	6
Moravian 69	92	99	91	69	40	88	48.5	23	37	84	16
Radiant	105	90	105	64	55	91	51.7	27	38	88	12
Valier	107	93	105	64	59	92	52.0	28	36	90	11
Xena	136	96	106	71	65	102	52.1	27	38	94	6
Average	107	90	94	64	56	89	51.7	26	36	90	10
LSD 0.10	18	10	11	9	9	10	3.4	7	36	--	--

TABLE 4. Irrigated and Dryland Six-Row Spring Barley Performance in Districts III and IV at Rupert, Aberdeen, Ashton, Idaho Falls, and Soda Springs, 2006.

Variety	Yield					Average					
	Irrigated		Dryland			Yield	Test Weight	Plant Height	Lodging	Plumps	Thins
	Rupert	Aberdeen	Idaho Falls	Ashton	Soda Springs						
Aquila	121	65	104	59	47	87	51.9	27	6	95	5
Colter	122	80	114	58	49	93	49.7	26	3	90	11
Creel	127	94	127	68	50	104	50.9	28	19	92	8
Drummond	112	74	108	53	49	87	52.6	29	27	97	3
Foster	110	69	109	53	47	85	51.8	29	21	96	3
Goldeneye	137	78	131	64	51	103	51.7	27	5	95	5
Herald	115	79	102	49	45	86	48.3	27	5	93	8
Lacey	119	68	115	58	44	90	52.3	28	33	96	4
Legacy	121	73	108	60	45	91	52.3	31	44	97	3
Millennium	138	90	116	66	46	103	49.7	28	5	88	13
Morex	97	64	99	53	46	78	51.4	30	50	93	7
Steptoe	124	78	109	62	52	93	49.3	26	8	95	5
Tradition	100	74	99	53	48	82	52.6	29	20	97	3
Average	119	76	111	58	48	91	51.1	28	19	94	6
LSD 0.10	16	9	18	7	8	2	0.2	1	3	--	--

the 10% LSD value, the varieties are considered "significantly different." This means that there is a 9 in 10 chance that the reported 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 Extension publications: "2006 Certified Seed Selection Guide for Spring Barley and Oats" (Progress Report 328) and "2006 Certified Seed Selection Guide for Spring Wheat" (Progress Report 327). Variety per-

TABLE 5. Spring Barley Yield Average for 2004-2006 in Idaho.

Site/Years	District				
	I	II	III	IV	IV (dryland)
	12	6	3	8	3
	bu/acre				
2-Row Varieties					
AC Metcalf	86	--	104	93	61
Busch B1202	--	--	105	90	64
Baronesse	94	--	125	107	68
Bear	76	--	--	--	--
Bob	86	--	114	102	61
Burton	86	--	--	--	--
Calgary	--	--	124	107	--
Camas	91	--	117	103	64
CDC Bold	--	--	118	100	63
CDC Stratus	85	--	--	--	--
Conrad	--	--	112	100	--
Criton	91	--	109	99	66
Farmington	--	--	104	91	60
Harrington	82	--	93	85	61
Idagold	--	135	--	--	--
Idagold II	--	--	123	96	55
Merit	89	132	109	96	--
Moravian 37	--	--	116	100	--
Radiant	93	137	108	104	63
Valier	--	--	107	94	64
Xena	--	--	131	103	72
6-Row Varieties					
Aquila	--	--	115	94	60
Colter	94	--	119	108	61
Creel	--	139	119	114	67
Drummond	--	--	101	92	57
Excel	86	--	--	--	--
Foster	--	--	90	84	57
Goldeneye	--	--	123	106	67
Herald	--	133	--	--	--
Lacey	--	--	114	99	60
Legacy	87	137	105	98	--
Millennium	--	155	132	113	61
Morex	74	--	96	87	59
Nebula	--	144	--	--	--
Steptoe	94	132	109	103	66
Tradition	88	132	103	93	--

formance information for winter wheat has been published in the fall issues of Idaho Grain. An excellent Extension publication for barley producers is "Idaho Spring Barley Production Guide" (Bulletin No. 742) that was updated for 2003, and for spring wheat producers there is "Irrigated Spring Wheat Production Guide for Southern Idaho" (Bulletin No. 697). All these publications are free through the University of Idaho Agricultural Publications (ph. 208-885-7982) or contact your county Extension office. Additional Idaho small grain variety performance information is available on the web at <http://www.ag.uidaho.edu/cereals/>. ♦