

2012 Small Grains Report

Southcentral and Southeastern Idaho Cereals Research and Extension Program

Juliet Marshall, Chad Jackson, Tod Shelman, Linda Beck, and Katherine O'Brien

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Gilbert and Carl Hofmeister - Rockland
Dave Cook - Ririe
Duane Grant and Mike Larsen - Rupert
Don Marotz - Ashton
Ned Moon and Melvin Barfuss of Jentzsch-Kearl Farms - Rupert
Marc Thiel - Idaho Falls

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Disclaimer Statement

This report represents research in progress and results may change with additional testing. Recommendations for use or non-use of any variety tested in these trials is not stated or implied. Inclusion of a variety in these trials cannot be construed as recommending that variety over varieties not included in the trials.

ALWAYS read and follow the instructions printed on pesticide labels. The pesticide recommendations in this UI publication do not substitute for instructions on the label. Due to constantly changing pesticide laws and labels, some pesticides may have been cancelled or had certain uses prohibited. Use pesticides with care. Do not use a pesticide unless both the pest and the plant, animal, or other application site are specifically listed on the label. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock. Trade names are used to simplify information; no endorsement or discrimination is intended.

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2012 Small Grains Report for Southcentral and Southeastern Idaho

Juliet Marshall, Chad Jackson, Tod Shelman, Linda Beck, and Katherine O'Brien

Additions and Changes:

In 2012 the structure of two-row barley nurseries was changed. Due to the increased number of hulless food barleys in the trials, two-row barley varieties were separated into feed/food and malt nurseries. The Soda Springs barley dryland nurseries were discontinued due to reestablishment of USDA-ARS breeder nurseries.

The 2011 quality data published in this report includes additional tables detailing the Aberdeen data from two reps sprayed with fungicide versus two reps left unsprayed. Further detail of the design is found on pages 3-4.

Introduction

Increases in cereal grain yields result from a combination of genetic improvements in varieties and from improved agronomic practices. Studies have shown that genetic improvements have contributed more than 50 percent of the total improvement in yield over the past 30 or 40 years. The objective of the University of Idaho Small Grain Performance Trials is to provide an unbiased appraisal and evaluation of currently available varieties and advanced experimental lines. This information will assist Idaho growers in comparing and selecting varieties best suited to their particular area and growing conditions.

Varietal development programs strive not only for greater yield potential, but also for improved end-use quality, better disease and insect resistance, yield stabilization through improved winter hardiness, better straw strength, etc. A more detailed description of variety development, cooperative extension testing and evaluation, and seed production programs is given in the University of Idaho publication

titled, "Small Grain Variety Development and Adaptation in Idaho", CIS 976. Bringing a new variety to the market place is a cooperative effort by many individuals.

Varieties are best evaluated by comparing performance over a number of locations and preferably over more than one year. Varietal performance can change in response to both environmental and cultural/management conditions. This report summarizes small grain trials conducted throughout Southcentral and Southeastern Idaho that were harvested in 2012, as well as milling and baking data from trials harvested in 2011.

Materials & Methods

Locations

Cereal trials were established at six winter and five spring locations throughout SC and SE Idaho during the fall of 2011 and the spring of 2012. For location details, please see the descriptions on pages 5 to 11. The Ririe, Rockland & Soda Springs winter and Soda Springs spring trials were grown under dryland conditions and all other trials were grown under irrigation. The trials at Aberdeen and Kimberly were grown at UI Research and Extension Centers, and the remaining trials were grown in producers' fields.

Agronomic Practices

Untreated seed was planted at the following rates:

- Irrigated Wheat: 1,000,000 seeds per acre or approximately 95 pounds per acre.
- Irrigated Barley: 800,000 seeds per acre or approximately 80 pounds per acre.

- Dryland Wheat: 700,000 seeds per acre or approximately 65 pounds per acre.
- Dryland Barley: 600,000 seeds per acre or approximately 60 pounds per acre.

Row spacing was set at 7 inches using double disk openers for all irrigated locations and the Soda Springs winter and spring dryland locations. The Ririe dryland location used a 10-inch row spacing and hoe-type openers and the Rockland location used a 12-inch row spacing with shanks preceding double disk openers. Plots at all locations except for Aberdeen were planted 5 feet wide by 14 feet long then sprayed back to 10 feet long using glyphosate herbicide or tillage. Aberdeen plots were planted 5 feet wide by 13.3 feet long then sprayed back to 9.3 feet long. All entries were replicated 4 times at each location in a randomized complete block design, except Soda Springs winter, which had 3 replications. Except for planting and harvest operations, nitrogen fertilization, and miscellaneous maintenance, trials established in producers' fields received the same "grower management" or cultural operations as applied to the surrounding commercial wheat or barley field.

Nitrogen fertilizer in irrigated locations was managed according to the following methodology: Yield goals were set for each class at each location using historical yield data. These yield goals were used to calculate optimal fertility amounts according to the following methods: Soft white winter, soft white spring, and winter barley; lbs/acre nitrogen needed = 2 times yield goal. Hard winter and hard spring wheat; lbs/acre nitrogen needed = 2.5 times yield goal, plus 40 lbs nitrogen/acre topdressed at flowering. Spring 2 row and 6 row barley: lbs/acre nitrogen needed = 1.7 times the yield goal. Hard wheat nurseries received the remaining balance of nitrogen in urea (46-0-0) topdressed at heading using hand broadcast spreaders. Fertilizers and

pesticides applied are listed on pages 6 to 11. Planting and harvesting operations by university personnel were timed to approximately coincide with corresponding cooperator operations.

Description of Agronomic Data

Each entry at each location was measured for grain yield, test weight, plant height, heading date, and lodging (when present).

- Yield is calculated at 60 pounds per bushel for wheat, and 48 pounds per bushel for barley.
- Test weight is reported in pounds per standard bushel.
- Plant height is reported in inches from the soil surface to the tip of the heads, awns excluded.
- Heading date is reported as the date when 50 percent of heads are fully emerged from the boot.
- Lodging is reported as the percent of the plot area that was not standing straight prior to harvest.

Description of End-use Quality Data

Grain protein for each variety in 2011 was analyzed with a Foss 6500 NIR grain analyzer. Protein data are found in conjunction with the agronomic data noted above in tables 4 to 57. These protein values are best utilized in comparisons between varieties within a nursery.

Due to the time necessary to complete milling and baking evaluations, test results from the Idaho Wheat Quality Laboratory are not available for the 2012 harvest in this report. Data are given for these characteristics from the 2011 harvest and are found in tables 66-82.

Milling and baking tests and plump seed evaluations use standardized testing methods and are described below:

- Flour protein: this is the flour protein content, measured on a fixed 14 percent moisture basis. Lower numbers are better for

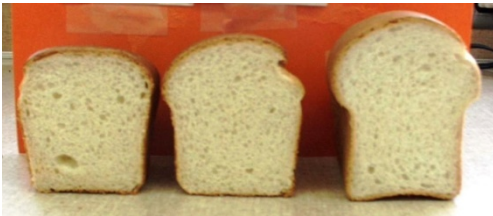
soft wheat; higher numbers are preferred for hard wheat.

- Break flour yield: represents ease of milling or kernel softness; higher numbers are preferred.
- Flour yield: the percent of flour obtained from a sample of wheat; higher percentages are better.
- Whole grain protein percent: protein content of the whole grain on a 12 percent moisture basis. Lower percentages are preferred for soft wheat; higher percentages are preferred for hard wheat.
- Hardness value: a measure of kernel hardness; generally soft white wheats are below 35, hard white wheats are between 40-55 and hard red wheats are above 40.

Additional evaluations include the following:

Hard Wheats

Bake volume: This is the volume of an experimental loaf of bread measured in cubic centimeters and reflects protein quality; higher volume is preferred.



Soft Wheats

Cookie diameter: Diameter of a cookie in centimeters; larger numbers are better.



Barley

- Plump: Percent plump is the percent of a sample that stayed on top of a 5.5/64 screen after shaking and consists of the 6/64 and 5.5/64 percentages combined. Both screen percentages are included in the report for increased precision.
- Thins: the percent of a sample that passed through a 5.5/64 screen after shaking.

Aberdeen 2011 nursery design and quality analyses (tables 78-81).

The wheat nurseries in 2011 were split into a split plot design with two replications being sprayed with Quilt/Quilt Xcel and two replications being left unsprayed due to the presence of a substantial stripe rust infection detected in the fall of 2010 which overwintered and proliferated. The 2011 Aberdeen winter and spring wheat yield data included in tables 26, 31, 37, and 42 do not have an LSD listed as that statistical test is not possible in a split plot experimental design.

The winter wheat nurseries' plot samples were pooled into sprayed and unsprayed groups for quality analyses. The spring wheat nurseries were not pooled but quality analyses were run with replication allowing for statistical analyses to be performed. To further examine where the significance of the interaction was, or which varieties statistically benefited the most from spraying in regards to quality, a test of simple effects was performed on data fields that showed a significant interaction. The test of simple effects $P > F$ values for those data fields is presented to the right of the data columns in the hard spring and soft white spring wheat tables. The test of simple effects statistics show the statistical significance of the differences between the variety in the sprayed and unsprayed blocks.

The same methodology for using the Pr>F values above can be used. For instance, if a variety's yield has a test of simple effects Pr>F value of <.0001, then the differences in yield are highly significant between the sprayed and unsprayed blocks. If the Pr>F value is greater than .0500 then the yield differences aren't statistically significant and it can be inferred that spraying didn't affect yield much.

Due to the nature of the experiment design which has limited replications and restricted randomization of sprayed reps, comparisons should be done conservatively.

The quality tables with all locations included contain the quality data from the sprayed groups in Aberdeen.

Statistical Analyses

Data from each nursery were analyzed using SAS 9.2 software with the PROC GLM procedure. Fisher's protected LSD ($\alpha=.05$) was used for mean comparisons.

Statistical Interpretation

Most tables have a least significant difference (LSD) statistic at the bottom of the table. This statistic is given at the 5 percent error level and is an aid in comparing varieties. If the measured values of any two varieties within a table differ by the LSD value or more, they may be considered different with a confidence level of 95 percent. If the measured values are less than the LSD value, the differences may be due to random error rather than real differences. Coefficient of variation (CV percent) statistic is a general measurement of the precision of each experiment. Lower CV values indicate less experimental variation and greater precision. Most tables that do not have the LSD and CV statistic are averages over locations or years where specific statistical analyses were not run on the combined data or are from data obtained from only one replication or are a composite sample of all replications (e.g. quality data).

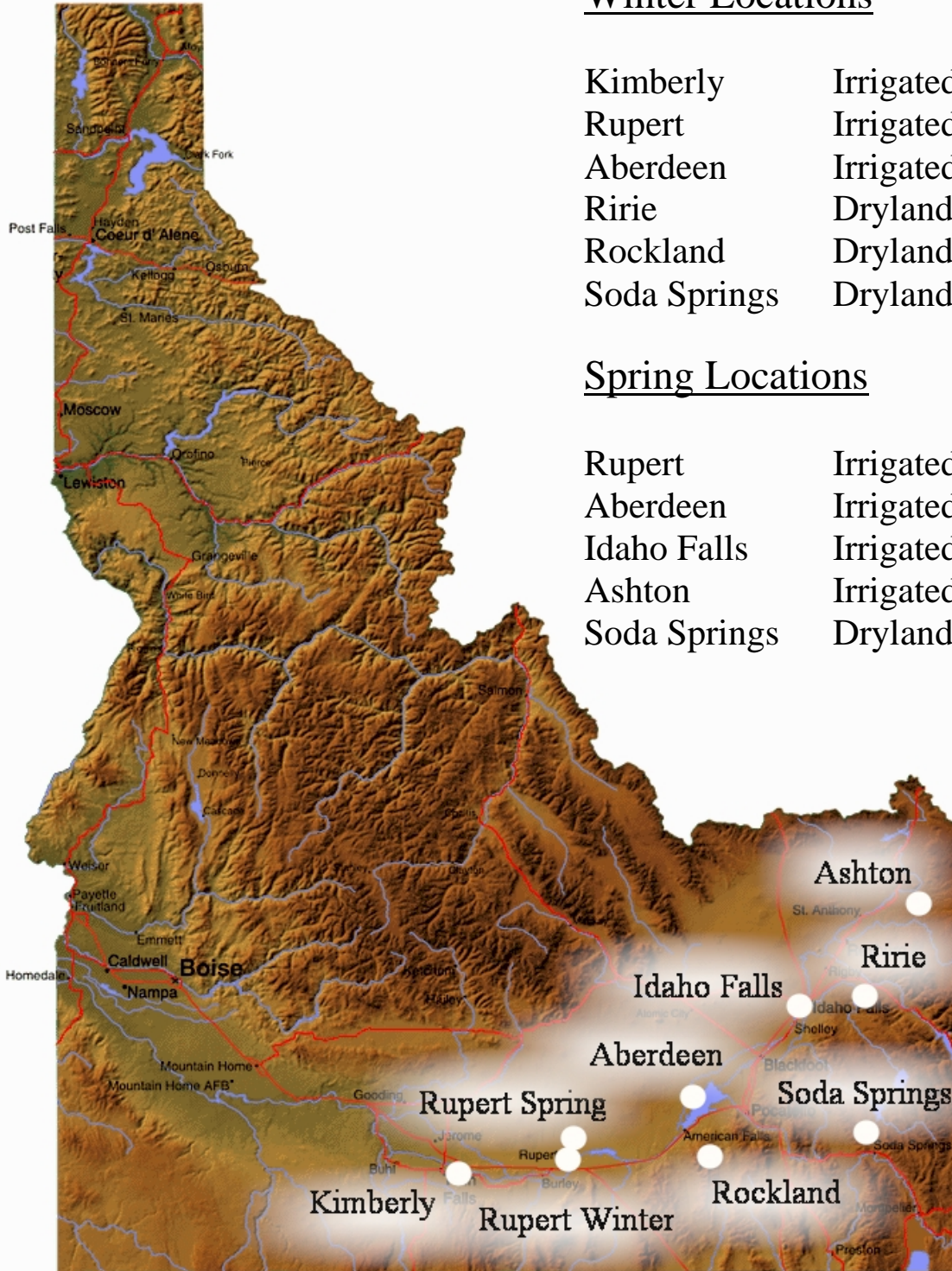
Most tables from individual locations also contain yield data from two previous years. The average, LSD, and CV for these data represent the original data set, not just the selected varieties presented in these tables. The Pr>F value shows the validity of the LSD value above it; if the Pr>F value is equal to or greater than .05 (e.g. .1504; .6250), then the LSD value is void. This does not mean there are not differences between the varieties in a category with a void LSD, it simply means differences cannot be determined at the 95% confidence level we set.

Varieties Tested

A list of released varieties tested in 2011-2012 is given in Table 1. Included in this table are seed size, number of seeds per pound, and the adjusted seeding rate. Information is also given on the year of release and the releasing agency or company. A short description of new varieties is given in Table 2. Additional information is available from the releasing agency or company.

Seasonal average measurements of several plant growth characteristics from the variety trials are shown in Table 3 for the time period of 2002-2012.

Southcentral & Southeast Idaho Cereal Variety Trial Locations



Winter Locations

| | |
|--------------|-----------|
| Kimberly | Irrigated |
| Rupert | Irrigated |
| Aberdeen | Irrigated |
| Ririe | Dryland |
| Rockland | Dryland |
| Soda Springs | Dryland |

Spring Locations

| | |
|--------------|-----------|
| Rupert | Irrigated |
| Aberdeen | Irrigated |
| Idaho Falls | Irrigated |
| Ashton | Irrigated |
| Soda Springs | Dryland |

Location Descriptions

Kimberly Winter Irrigated:

**Kimberly Research & Extension Center
3825 N. 3600 E. Kimberly, ID**

Coordinates: 42° 33' 14.94" N., 114° 20' 35.28" W.
Elevation: 3890 ft.
Soil Type: #10 Bahem silt loam 1-4% slopes
Twin Falls County Soil Type Acreage: 24,748
County Soil Type Percentage: 1.6%
Previous Crop: Dry Beans
Planting Date: October 13, 2011
Harvest Date: August 7 & 8, 2012
Chemicals applied: 1 1/2 pt/A Maestro MA, 2/3 pt/A Starane
Fertility:

| | Organic matter | pH | Free Lime % | Hard winter wheat N#/A | Soft white winter wheat & winter barley N #/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|---|--------|---------|--------|
| 12" soil test results (N & S= 0-24") | 1.2 | 8.0 | 5.5 | 75 | 75 | 15 ppm | 250 ppm | 27 ppm |
| Fertilizer applied (#/A) | | | | 270 | 160 | | | |
| Total | 1.2 | 8.0 | 5.5 | 345 | 235 | 15 ppm | 250 ppm | 27 ppm |

Rupert Winter Irrigated:

**Cooperator: Jentsch-Kearl Farms
Located at approximately 325 E. 300 N. Rupert, Idaho**

Coordinates: 42° 39' 46.97"N., 113° 36' 3.34"W.
Elevation: 4173 ft.
Soil Type: #42 Tindahay sandy loam 0-1% slopes
Minidoka County Soil Type acreage: 6,920
County Soil Type Percentage: 2.1%
Previous Crop: Dry Beans
Planting Date: October 11, 2011
Harvest Dates: August 2, 2012
Chemicals applied: Twinline 8 oz/A, Detonate 3 oz/A, MCPA-E 1 pt/A

Fertility:

| | Organic Matter | pH | Free Lime % | Hard winter wheat N#/A | Soft white winter wheat & winter barley N #/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|---|--------|---------|--------|
| 12" soil test results (N & S= 0-24") | 0.8 | 7.0 | <1.0 | 29 | 29 | 32 ppm | 148 ppm | 15 ppm |
| Fertilizer applied (#/A) | | | | 245 | 205 | | | |
| Total | 0.8 | 7.0 | <1.0 | 274 | 234 | 32 ppm | 148 ppm | 15 ppm |

Location Descriptions

Aberdeen Winter Irrigated:

Aberdeen Research & Extension Center
1693 S. 2700 W. Aberdeen, ID

Coordinates: 42° 57' 47.81" N., 112° 49' 7.03" W.
Elevation: 4407 ft.
Soil Type: DcA Declo Fine Sandy Loam, 0-2% slopes
Bingham County Soil Type Acreage: 2,712
County Soil Type Percentage: 0.3%
Previous Crop: green manure oats
Planting Date: September 23, 2011
Harvest Dates: July 31, August 1, 3, & 6, 2012
Chemicals applied: 1 pt/A Maestro MA, 2/3 pt/A Starane
Fertility:

| | Organic Matter | pH | Free Lime % | Hard winter wheat N#/A | Soft white winter wheat & winter barley N #/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|---|--------|---------|---------|
| 12" soil test results (N & S= 0-24") | 1.4 | 8.2 | 3.0 | 68 | 68 | 21 ppm | 180 ppm | 18 ppm |
| Fertilizer applied (#/A) | | | | 370 | 250 | 50# | | 100 # |
| Total | 1.4 | 8.2 | 3.0 | 438 | 318 | 21+ppm | 180 ppm | 18+ ppm |

Ririe Winter Dryland:

Cooperator: Dave Cook

Approximately 2 miles south of Ririe Reservoir Dam on Meadow Cr. Rd. Ririe, ID

Coordinates: 43° 33' 40.75"N., 111° 42' 06.89" W.
Elevation: 5566 ft.
Soil Type: #42 Ririe silt loam, 4-12% slopes
Bonneville County Soil Type Acreage: 74,713
County Soil Type Percentage: 11.4%
Previous Crop: Mustard
Planting Date: September 27, 2011
Harvest Date: August 9, 2012
Chemicals applied: 16 oz/A Goldsky, 10 oz/A Salvo, 2.1 oz/A Rifle, 2 oz/A

Fertility:

| | Organic Matter | pH | Free Lime % | Hard winter wheat N#/A | Soft white winter wheat & winter barley N #/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|---|--------|---------|--------|
| 12" soil test results (N & S= 0-24") | 1.4 | 7.0 | <1.0 | 25 | 25 | 20 ppm | 317 ppm | 10 ppm |
| Fertilizer applied (#/A) | | | | 6 | 6 | 30 # | | |
| Total | 1.4 | 7.0 | <1.0 | 31 | 31 | 20+ppm | 317 ppm | 10 ppm |

Location Descriptions

Rockland Winter Dryland:

Cooperators: Gilbert and Carl Hofmeister
 ½ mile west of Rock Creek Rd on Deeg Rd Rockland, ID

Coordinates: 42° 39' 40.93" N., 112° 56' 20.40" W.
Elevation: 4651 ft.
Soil Type: #51 Newdale silt loam, 4-12% slopes
Power County Soil Type Acreage: 69,322
County Soil Type Percentage: 10.5%
Previous Crop: fallow
Planting Date: September 14, 2011
Harvest Date: July 25, 2012
Chemicals applied: Maestro MA 1.5 pt/A, Maverick 2/3 oz/A, Powerflex 3.5 oz/A, Bison 1.25 pt/A

Fertility:

| | Organic Matter | pH | Free Lime % | Hard winter wheat N#/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|-------|---------|--------|
| 12" soil test results (N & S= 0-24") | 1.6 | 7.6 | 0.5 | 50 | 9 ppm | 280 ppm | 12 ppm |
| Fertilizer applied (#/A) | | | | 15 | | | |
| Total | 1.6 | 7.6 | 0.5 | 65 | 9 ppm | 280 ppm | 12 ppm |

Soda Springs Winter Dryland:

Cooperators: Mark and Craig Ozburn
 1 mile west of Govt Dam Rd on Ten Mile Pass Rd Soda Springs, ID

Coordinates: 42° 46' 04.22" N., 111° 39' 45.30" W.
Elevation: 6155 ft.
Soil Type: 225AA Ririe-Lostine complex, 1-8% slopes
Caribou County Soil Type Acreage: information not available
County Soil Type Percentage: information not available
Previous Crop: grain
Planting Date: September 15 2011
Harvest Date: August 16, 2012
Chemicals applied: Axial, Maestro, Starane Ultra

Fertility:

| | winter wheat N#/A | P | K | S |
|--------------------------|-------------------|----|---|----|
| Fertilizer applied (#/A) | 60 | 20 | 0 | 20 |

Location Descriptions

Rupert Spring Irrigated:

Cooperator: Duane Grant
Approximately 1050 N 500 E., Rupert, ID

Coordinates: 42° 46' 19.60"N., 113° 34' 15.61"W.
Elevation: 4268 ft.
Soil Type: #36 Sluka silt loam 1-4% slopes
Minidoka County Soil Type Acreage: 35,802
County Soil Type Percentage: 11.1%
Previous Crop: Sugar beets
Planting Date: April 2, 2012
Harvest Dates: August 10 & 13, 2012
Chemicals applied: 1 pt/A Maestro MA,
2/3 pt/A Starane, 9 oz/A Achieve Liquid

Fertility:

| | Organic Matter | pH | Free Lime % | Hard Spring wheat N#/A | Soft white spring wheat & spring barley N #/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|---|--------|---------|--------|
| 12" soil test results (N & S= 0-24") | 1.3 | 8.4 | 14.0 | 54 | 54 | 23 ppm | 135 ppm | 60 ppm |
| Fertilizer applied (#/A) | | | | 311 | 205 | 25# | 50# | 75# |
| Total | 1.3 | 8.4 | 14.0 | 365 | 259 | 23+ppm | 135+ppm | 60+ppm |

Aberdeen Spring Irrigated:

Aberdeen Research & Extension Center
1693 S. 2700 W. Aberdeen, ID

Coordinates: 42 ° 57' 47.04" N., 112° 49' 15.14" W.
Elevation: 4407 ft.
Soil Type: DeA Declo loam, 0-2% slopes
Bingham County Soil Type acreage: 37,451
County Soil Type Percentage: 4.2%
Previous Crop: Green manure oats
Planting Date: April 5, 2012
Harvest Date: August 15-17, 2012
Chemicals applied: 1 pt/A Maestro MA, 2/3 pt/A Starane,

Fertility:

| | Organic Matter | pH | Free Lime % | Hard Spring wheat N#/A | Soft white spring wheat & spring barley N #/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|---|--------|---------|--------|
| 12" soil test results (N & S= 0-24") | 0.7 | 8.2 | 6.0 | 68 | 68 | 22 ppm | 212 ppm | 41 ppm |
| Fertilizer applied (#/A) | | | | 295 | 190 | 50# | | 100# |
| Total | 0.7 | 8.2 | 6.0 | 363 | 258 | 22+ppm | 212 ppm | 41+ppm |

Location Descriptions

Idaho Falls Spring Irrigated:

Cooperator: Marc Thiel
Approximately 2550 S. 45th W. Idaho Falls, ID

Coordinates: 43° 28' 30.44" N., 112° 07' 20.62" W.
Elevation: 4685 ft.
Soil Type: #22 Pancheri silt loam, 0-2% slopes
Bonneville County Soil Type Acreage: 25,563
County Soil Type Percentage: 3.9%
Previous Crop: potatoes
Planting Date: April 9, 2012
Harvest Date: August 14, 2012
Chemicals applied: 1 pt/A Maestro MA, 2/3pt/A Starane, 9 oz/A Achieve Liquid

Fertility:

| | Organic Matter | pH | Free Lime % | Hard Spring wheat N#/A | Soft white spring wheat & spring barley N #/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|---|--------|---------|--------|
| 12" soil test results (N & S= 0-24") | 1.4 | 8.1 | 7.5 | 201 | 201 | 29 ppm | 175 ppm | 57 ppm |
| Fertilizer applied (#/A) | | | | 90 | 50 | | | |
| Total | 1.4 | 8.1 | 7.5 | 291 | 251 | 29 ppm | 175 ppm | 57 ppm |

Ashton Spring Irrigated:

Cooperator: Don Marotz
1/4 mile north of 1300 N Rd on Highway 47 Ashton, ID

Coordinates: 44° 04' 30.34" N., 111° 21' 16.78" W.
Elevation: 5572 ft.
Soil Type: #50 Kucera-Lostine silt loam, 2-4% slope
Fremont County Soil Type Acreage: 5,656 acres
County Soil Type Percentage: 0.9%
Previous Crop: barley
Planting Date: April 25, 2012
Harvest Date: August 28, 2012
Chemical applied: 1 pt Maestro MA, 9oz Achieve Liquid, 2/3 pt/A Starane

Fertility:

| | Organic Matter | pH | Free Lime % | Hard Spring wheat N#/A | Soft white spring wheat & spring barley N #/A | P | K | S |
|--------------------------------------|----------------|-----|-------------|------------------------|---|--------|---------|--------|
| 12" soil test results (N & S= 0-24") | 1.7 | 6.0 | <1.0 | 43 | 43 | 23 ppm | 169 ppm | 27 ppm |
| Fertilizer applied (#/A) | | | | 215 | 135 | | | 20# |
| Total | 1.7 | 6.0 | <1.0 | 258 | 178 | 23 ppm | 169 ppm | 27+ppm |

Location Descriptions

Soda Springs Spring Dryland:

Cooperator: Sid Cellan

2 miles north of China Cap Rd. on Govt. Dam Road Soda Springs, ID

Coordinates: 42° 50' 26.99" N., 111° 39' 10.75" W.
Elevation: 6275 ft.
Soil Type: 225AA Ririe-Lostine complex, 1-8% slopes
Caribou County Soil Type Acreage: Information not available
County Soil Type Percentage: Information not available
Previous Crop: Barley
Planting Date: May 9, 2012
Harvest Date: September 12, 2012
Chemicals applied: Axial, Maestro, Starane Ultra
Fertility:

| | wheat N#/A |
|--------------------------|------------|
| Fertilizer applied (#/A) | 60 |

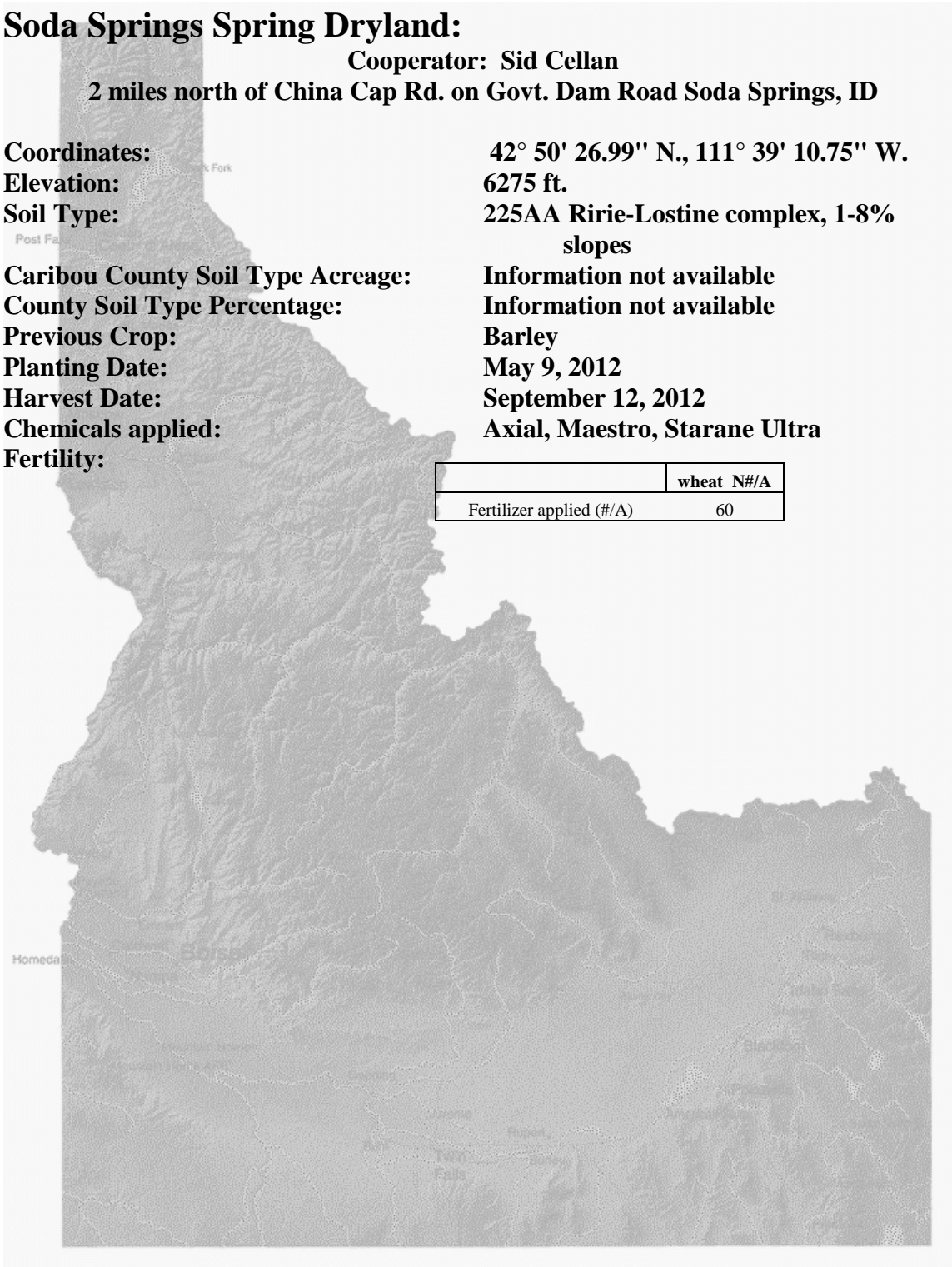


Table 1. Released varieties tested in 2011-2012 with seed size and adjusted seeding rate.

| Variety | Exp. No. | 1000 Seeds Adjusted | | | Year | Developer(s)/Distributor of variety |
|--|-----------------|---------------------|-----------|----------------------------------|------|--|
| | | Kernel Weight (g) | per Pound | Seeding Rate ¹ (lb/A) | | |
| Soft White Winter Wheat | | | | | | |
| AgriPro Legion | | 43 | 10,549 | 95 | 2008 | Syngenta Cereals |
| AgriPro Salute | | 51 | 8,982 | 111 | 2007 | Syngenta Cereals |
| AP Badger | RemPop80-3 | 44 | 10,428 | 96 | 2009 | Syngenta Cereals |
| AP Legacy | ORF2BC9800267-0 | 48 | 9,450 | 106 | 2009 | Syngenta Cereals |
| AP 700CL | | 44 | 10,309 | 97 | 2007 | Syngenta Cereals |
| Bitterroot | 92-22407A | 41 | 11,063 | 90 | 2007 | Idaho AES, USDA |
| Brundage | ID86-14502B | 39 | 11,631 | 86 | 1996 | Idaho AES, USDA |
| Brundage 96 | ID-B-96 | 40 | 11,340 | 88 | 2002 | Idaho AES, USDA |
| Bruneau | 93-64901A | 39 | 11,631 | 86 | 2009 | Idaho AES, USDA |
| Cara | ARS97135-9 | 31 | 14,632 | 68 | 2007 | USDA-ARS, Washington AES |
| Coda (club) | WA7752 | 35 | 12,960 | 77 | 1998 | USDA-ARS, Washington and Oregon AES |
| Madsen | WA7163 | 38 | 11,937 | 84 | 1988 | Washington, Idaho & Oregon AES, USDA |
| Mary | OR2040726 | 37 | 12,427 | 80 | 2011 | Oregon State University |
| ORCF-101 | OR2010051 | 38 | 12,096 | 83 | 2003 | Oregon AES, USDA |
| ORCF-102 | OR2010007 | 36 | 12,600 | 79 | 2005 | Oregon AES, USDA |
| Eltan | | 33 | 13,957 | 72 | 1990 | Washington State University and USDA-ARS |
| Skiles | ORH010085 | 43 | 10,673 | 94 | 2007 | Oregon AES, USDA |
| Stephens | | 41 | 11,063 | 90 | 1977 | Oregon AES, USDA |
| SY Ovation | 03PN108#21 | 49 | 9,257 | 108 | 2011 | Syngenta Cereals |
| UICF Brundage | 02-859 | 38 | 11,937 | 84 | 2009 | Idaho AES, USDA |
| UICF Lambert | 99-435 | 50 | 9,072 | 110 | 2008 | Idaho AES, USDA |
| WB-Junction | BZ6W02-616 | 43 | 10,673 | 94 | 2011 | WestBred / Monsanto |
| WestBred 456 | BU6W99-456 | 42 | 10,930 | 91 | 2008 | WestBred / Monsanto |
| WestBred 528 | BZ6W98-528 | 43 | 10,549 | 95 | 2005 | WestBred / Monsanto |
| Hard Red and White (W) Winter Wheat | | | | | | |
| AgriPro Paladin | W96-355 | 34 | 13,341 | 75 | 2005 | Syngenta Cereals |
| Altigo | | 48 | 9,450 | 106 | 2011 | Limagrain Cereal Seeds, LLC |
| AP503CL2 | | 36 | 12,600 | 79 | | Syngenta Cereals |
| Azimit | NSA97-2365 | 35 | 13,148 | 76 | | Limagrain Cereal Seeds, LLC |
| Bearpaw | MTS0721 | 35 | 12,960 | 77 | 2011 | Montana State AES |
| Bonneville | IDO421 | 44 | 10,428 | 96 | 1993 | Idaho AES, USDA |
| Boundary | IDO467 | 47 | 9,755 | 103 | 1996 | Idaho AES, USDA |
| Curlew | UT9325-55 | 34 | 13,540 | 74 | 2009 | Utah AES, USDA |
| Deloris | UT2030-32 | 42 | 10,930 | 91 | 2002 | Utah AES, USDA |
| DW | IDO513 | 32 | 14,175 | 71 | 2001 | Idaho AES, USDA |
| Eddy | | 35 | 12,960 | 77 | 2004 | WestBred / Monsanto |
| Garland | UT1706-1 | 34 | 13,540 | 74 | 1992 | Utah AES, USDA |
| Gary (W) | IDO550 | 42 | 10,800 | 93 | 2002 | Idaho AES, USDA |
| Golden Spike (W) | UT1944-158 | 37 | 12,427 | 80 | 1999 | Utah AES, USDA |
| Greenville | UT9743-42 | 40 | 11,340 | 88 | 2011 | Utah AES, USDA |
| Judee | MTS0713 | 40 | 11,484 | 87 | 2011 | Montana State AES |
| Juniper | IDO 575 | 41 | 11,200 | 89 | 2005 | Idaho AES, USDA |
| Keldin | ACS55017 | 45 | 10,193 | 98 | 2011 | WestBred / Monsanto |
| Lucin-CL | | 44 | 10,309 | 97 | 2011 | Utah AES, USDA |
| Manning | UT89099 | 38 | 12,096 | 83 | 1979 | Utah AES, USDA |
| Moreland | IDO517 | 35 | 12,960 | 77 | 2003 | Idaho AES, USDA |
| Norwest 553 | ORN00B553 | 38 | 11,937 | 84 | 2007 | Oregon State AES, USDA-ARS, Nickerson U.K. |
| Promontory | UT1567-51 | 37 | 12,259 | 82 | 1990 | Utah AES, USDA |
| UI Darwin (W) | IDO604 | 44 | 10,309 | 97 | 2005 | Idaho AES, USDA |
| UI LHS (W) | IDO835 | 44 | 10,428 | 96 | 2010 | Idaho AES, USDA |
| UI Silver (W) | IDO658 | 34 | 13,540 | 74 | 2011 | Idaho AES, USDA |
| UI SRG | IDO656 | 41 | 11,200 | 89 | 2012 | Idaho AES, USDA |
| UICF Grace (W) | IDO651 | 36 | 12,600 | 79 | 2009 | Idaho AES, USDA |
| Utah 100 | UT1650-150 | 42 | 10,800 | 93 | 1997 | Utah AES, USDA |
| WB-Arrowhead | ML9W05-2501 | 39 | 11,631 | 86 | 2011 | WestBred / Monsanto |
| Weston | | 44 | 10,309 | 97 | 1978 | Idaho AES, USDA |
| Whetstone | W98-344 | 37 | 12,259 | 82 | 2009 | Syngenta Cereals |
| Yellowstone | MT00159 | 40 | 11,484 | 87 | 2005 | Montana State University |

¹Adjusted to plant 1 million seeds per acre under irrigation according to the number of seeds per pound for each variety.

Table 1 (cont'd). Released varieties tested in 2011-2012 with seed size and adjusted seeding rate.

| Variety | Exp. No. | 1000 Kernel Weight (g) | Seeds per Pound | Adjusted Seeding Rate ¹ (lb/A) | Released | Developer(s)/Distributor of variety |
|--------------------------------|--------------|------------------------------|-----------------------|---|----------|---------------------------------------|
| Soft White Spring Wheat | | | | | | |
| Alpowa | WA7677 | 36 | 12,600 | 79 | 1993 | Washington, Oregon, & Idaho AES, USDA |
| Alturas | IDO526 | 34 | 13,540 | 74 | 2002 | Idaho AES, USDA |
| Babe | WA008039 | 35 | 12,960 | 77 | 2009 | Washington AES, USDA |
| Cataldo | IDO642 | 40 | 11,340 | 88 | 2007 | Idaho AES, USDA |
| JD | WA007954 | 31 | 14,872 | 67 | 2009 | Washington AES, USDA |
| Nick | BZ698-31 | 35 | 12,960 | 77 | 2000 | WestBred / Monsanto |
| Penawawa | | 32 | 14,175 | 71 | 1985 | Washington AES, USDA |
| UI Pettit | IDO632 | 34 | 13,341 | 75 | 2006 | Idaho AES, USDA |
| UI Stone | IDO599 | 35 | 12,960 | 77 | 2012 | Idaho AES, USDA |
| Whit | WA008008 | 39 | 11,631 | 86 | 2008 | Washington AES, USDA-ARS |
| Hard Red Spring | | | | | | |
| Albany | | 23 | 19,722 | 51 | 2008 | Limagrain Cereal Seeds, LLC |
| Buck Pronto | | 45 | 10,080 | 99 | | |
| Bullseye | B02-0081 | 44 | 10,309 | 97 | 2009 | Syngenta Cereals |
| Cabernet | | 36 | 12,600 | 79 | 2007 | Syngenta Cereals |
| Choteau | | 36 | 12,600 | 79 | 2005 | Montana State University |
| Glee | WA8074 | 51 | 8,982 | 111 | 2012 | Washington AES, USDA |
| Jefferson | IDO462 | 33 | 13,745 | 73 | 1998 | Idaho AES, USDA |
| Kelse | WA007954 | 38 | 11,937 | 84 | 2008 | Washington AES, USDA |
| UI Winchester | IDO578 | 46 | 9,969 | 100 | 2009 | Idaho AES, USDA |
| Volt | | 27 | 16,800 | 60 | 2007 | WestBred / Monsanto |
| WB-Rockland | SJ908-247 | 40 | 11,340 | 88 | 2010 | WestBred / Monsanto |
| WestBred 936 | PH986-61 | 31 | 14,872 | 67 | 1992 | WestBred / Monsanto |
| Hard White Spring Wheat | | | | | | |
| Blanca Grande | | 35 | 12,960 | 77 | 2002 | General Mills, Great Falls, MT |
| Klasic | | 29 | 15,641 | 64 | 1982 | Northrup-King Co., Minneapolis, MN |
| Snow Crest | | 31 | 14,872 | 67 | 2004 | WestBred / Monsanto |
| SY Capstone | 03W10348 | 39 | 11,631 | 86 | 2011 | Syngenta Cereals |
| WB-Idamax | BZ904-336 WP | 37 | 12,427 | 80 | 2010 | WestBred / Monsanto |
| WB-Paloma | BZ904-331 WP | 31 | 14,872 | 67 | 2010 | WestBred / Monsanto |
| WB-Perla | | 34 | 13,540 | 74 | 2011 | WestBred / Monsanto |
| Spring Durum Wheat | | | | | | |
| Alzada | | 46 | 9,861 | 101 | 2004 | WestBred / Monsanto |
| Winter Barley | | | | | | |
| Alba | OR77 | 41 | 11,200 | 89 | 2010 | Oregon AES, USDA |
| Charles | 94Ab1274 | 46 | 9,969 | 100 | 2005 | USDA-ARS, Aberdeen |
| Eight-twelve | 79Ab812 | 33 | 13,957 | 72 | 1988 | Idaho AES, USDA |
| Endeavor | 95Ab2299 | 37 | 12,427 | 80 | 2008 | Idaho AES, USDA |
| Kamiak | | 34 | 13,341 | 75 | | |
| Kold | | 30 | 15,120 | 66 | 1993 | Oregon AES, USDA |
| Maja | OR81 | 31 | 14,872 | 67 | 2009 | Oregon AES, USDA |
| Mathias | OR76 | 43 | 10,549 | 95 | 2009 | Oregon AES, USDA |
| Schuyler | | 38 | 11,937 | 84 | 1969 | Cornell AES, USDA |
| Sprinter | | 35 | 12,960 | 77 | 1987 | WestBred / Monsanto |
| Streaker | OR85 | 33 | 13,745 | 73 | 2011 | Oregon AES, USDA |
| Strider | ORW6 | 39 | 11,631 | 86 | 1998 | Oregon AES, USDA |
| Sunstar Pride | SDM204-B | 25 | 18,514 | 54 | 1995 | Sunderman Breeding, Twin Falls, ID |

¹Adjusted to plant 1 million (800,000) seeds per acre for wheat (barley) under irrigation according to the number of seeds per pound for each variety.

Table 1 (cont'd). Released varieties tested in 2011-2012 with seed size and adjusted seeding rate.

| Usage: | Variety | Exp. No. | 1000 Kernel Weight (g) | Seeds per Pound | Adjusted Seeding Rate ¹ (lb/A) | Year Released | Developer(s)/Distributor of variety |
|------------------------------|---------------|----------------|------------------------------|-----------------------|---|------------------|---|
| Two-Row Spring Barley | | | | | | | |
| m | AC Metcalfe | TR232 | 44 | 10,309 | 78 | 1994 | Agriculture Canada |
| m | B1202 | | 49 | 9,257 | 86 | | Busch Agricultural Resources, Inc., Ft. Collins, CO |
| f | Baronesse | NS078054 | 49 | 9,257 | 86 | 1992 | WestBred / Monsanto |
| food | CDC Fibar | | 38 | 11,937 | 67 | 2003 | CDC University of Saskatchewan, Saskatoon |
| food | CDC McGwire | HB335 | 39 | 11,631 | 69 | 1999 | CDC University of Saskatchewan, Saskatoon |
| m | CDC Meredith | TR05104 | 49 | 9,353 | 86 | 2008 | CDC University of Saskatchewan, Saskatoon |
| f | Champion | | 49 | 9,257 | 86 | 2007 | WestBred / Monsanto |
| f | Clearwater | 01ID435H | 50 | 9,072 | 88 | 2007 | Idaho AES, USDA |
| m | Conrad | B5057 | 44 | 10,428 | 77 | 2004 | Busch Agricultural Resources, Inc., Ft. Collins, CO |
| m | CDC Copeland | TR150 | 45 | 10,080 | 79 | 1999 | CDC University of Saskatchewan, Saskatoon |
| m | Genie | | 52 | 8,723 | 92 | 2011 | Limagrain Cereal Seeds, LLC |
| m | Harrington | | 42 | 10,800 | 74 | 1984 | University of Saskatchewan |
| m | Hockett | MT910189 | 50 | 9,072 | 88 | 2007 | Montana AES |
| f | Idagold II | | 38 | 12,096 | 66 | | Coors Brewing Co. Inc., Burley, ID |
| food | Julie | 03AH6561-94 | 42 | 10,930 | 73 | 2010 | Idaho AES, USDA |
| f | Lenetah | 01Ab11107 | 49 | 9,257 | 86 | 2008 | Idaho AES, USDA |
| m | Merit | 2B91-4947 | 42 | 10,930 | 73 | 1997 | Busch Agricultural Resources, Inc., Ft. Collins, CO |
| m | Merit 57 | | 43 | 10,673 | 75 | 2009 | Busch Agricultural Resources, Inc., Ft. Collins, CO |
| m | Moravian 115 | C115 | 47 | 9,651 | 83 | 2010 | Coors Brewing Co. Inc., Burley, ID |
| m | Moravian 133 | C133 | 41 | 11,200 | 71 | 2011 | Coors Brewing Co. Inc., Burley, ID |
| m | Moravian 137 | C137 | 47 | 9,651 | 83 | 2010 | Coors Brewing Co. Inc., Burley, ID |
| m | Moravian 143 | C143 | 53 | 8,558 | 93 | 2011 | Coors Brewing Co. Inc., Burley, ID |
| m | Moravian 69 | C69 | 51 | 8,894 | 90 | 2005 | Coors Brewing Co. Inc., Burley, ID |
| m | Pinnacle | 2ND21863 | 58 | 7,821 | 102 | 2007 | North Dakota AES, USDA |
| f | Spaulding | PB1-95-2R-522 | 49 | 9,257 | 86 | 2006 | Plant Breeders 1 Inc., Moscow, Idaho |
| f | Tetonia | 98AB11720 | 49 | 9,257 | 86 | 2007 | Idaho AES, USDA |
| food | Transit | 03AH3054-51 | 45 | 10,080 | 79 | 2010 | Idaho AES, USDA |
| m | Voyager | B3719 | 47 | 9,651 | 83 | 2011 | Busch Agricultural Resources, Inc., Ft. Collins, CO |
| f | Xena | BZ594-19 | 52 | 8,723 | 92 | 2000 | WestBred / Monsanto |
| Six-Row Spring Barley | | | | | | | |
| f | Aquila | UT97B1480-1632 | 44 | 10,309 | 78 | 2003 | Utah AES, USDA |
| m | Celebration | | 40 | 11,340 | 71 | 2008 | Busch Agricultural Resources, Inc., Ft. Collins, CO |
| f | Goldeneye | UT95B1216-4087 | 41 | 11,063 | 72 | 2005 | Utah AES, USDA |
| f | Gustoe | | 44 | 10,428 | 77 | 1982 | WestBred / Monsanto |
| f | Herald | 00ID1550 | 41 | 11,063 | 72 | 2006 | Idaho AES, USDA |
| m | Legacy | 6B93-2978 | 36 | 12,600 | 63 | 1998 | Busch Agricultural Resources, Inc., Ft. Collins, CO |
| m | Maja (Winter) | OR81 | 31 | 14,872 | 54 | 2006 | Oregon AES |
| f | Millennium | UT004603 | 36 | 12,600 | 63 | 2000 | Utah AES, USDA |
| m | Morex | | 36 | 12,600 | 63 | 1978 | Minnesota AES, USDA |
| m | Quest | M122 | 35 | 12,960 | 62 | 2010 | Minnesota AES, USDA |
| f | Steptoe | | 41 | 11,063 | 72 | 1973 | Washington AES, USDA |
| m | Tradition | | 40 | 11,340 | 71 | 2003 | Busch Agricultural Resources, Inc., Ft. Collins, CO |

¹Adjusted to plant 800,000 seeds per acre under irrigation according to the number of seeds per pound for each variety.

Results and Discussion

Planting Conditions

The fall of 2011 provided good conditions for planting winter grain only on irrigated ground. Pre- or post-planting irrigation was required in irrigated trials for seed to adequately germinate. The dryland planting conditions were initially very dry as well, but there was enough moisture in late October for stand establishment. Subsoil moisture was limited going into the winter, resulting in poor seedling growth and tillering of winter crops.

Spring planting conditions were also extremely dry. If irrigation was limited early in the growing season, then the spring crop suffered a great deal from moisture stress that accelerated the development into the reproductive stage of growth.

Weather Conditions

A dry fall was followed by some precipitation in early October, and very little moisture in November and December. Snow cover never established for insulating the winter crop, and neither was there any overwintering of infection of stripe rust (*Puccinia striiformis* f.sp. *tritici*). January was the only month in the 2012 growing season where moisture exceeded the 10-year and 95-year averages (see Figure 1 below).

A very dry spring and summer resulted in extreme crop stress and rapid crop growth, resulting in poor tillering of spring crops if early season irrigation was not available. For fields with adequate moisture, crops tillered well and advanced rapidly.

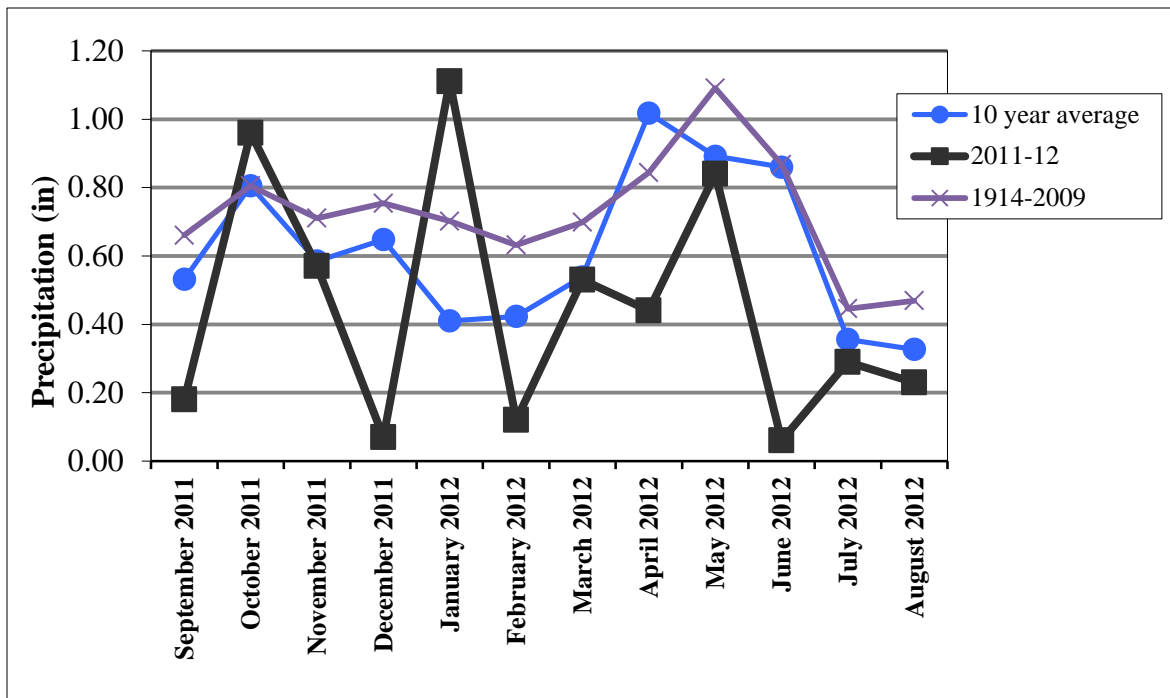


Figure 1. 2011-2012 growing year precipitation recorded at Aberdeen, ID, versus 10-year and 95-year averages. Source: National Weather Service data.

There was very little winter-kill damage to winter wheat or winter barley, and spring stands of winter grains were very good throughout the area. Heading dates for winter wheat was five days earlier than the previous ten-year average (see Table 3). Spring wheat headed eight days and spring barley six days earlier than the previous ten-year average. Plant heights were significantly reduced for winter wheat, spring wheat, and spring barley, another indication of crop stress. Lodging was lower than average, especially the spring barley. Interestingly, average yield for spring barley was the highest when compared to the previous ten years, but average or close to average for spring wheat and winter wheat.

Several late spring frosts damaged winter wheat, with a mid-June frost contributing to significant damage to winter wheat in the Pocatello area. Losses up to 50% were recorded in several fields of soft white winter wheat. The extension nurseries also had visible damage (twisted awns and blank spots in the heads), but the damage did not significantly reduce yields at those locations.

The absence of hail storms and windy conditions prior to the 2011 harvest also reduced grain shattering and green bridge conditions for the 2011 – 2012 growing season. However, after the 2011 harvest, there was a lot of volunteer grain that germinated resulting in green bridge conditions in some areas, which had the potential to serve as a source for insects and disease inoculum in the following growing season (2012).

Disease and Insect Problems

Wireworms were very damaging in many areas across the entire region, reducing stand and yield of spring wheat and barley in dryland production. Winter grain could be used to avoid wireworm damage as wireworms are less active in warm, dry soils when winter wheat would be planted. However, winter wheat may not survive the winter conditions in these areas. Damage was more widespread than in 2010 and 2011, especially in spring wheat. Wireworms were prevalent in some areas in plant crowns throughout the entire spring but retreated to moisture deep in the ground in the early summer. Similar to last year, as many as five wireworms *per plant* were observed in some fields. Insecticides applied as seed treatments reduced but did not control wireworms and the resultant feeding damage.

While green bridge material existed, and a few fields with fall infection of stripe rust were present in the Burley area, conditions were rather dry overall and stripe rust did not overwinter.

Stripe rust (*Puccinia striiformis* f.sp. *tritici*) was found in a few fields in the late summer in spring wheat, showing up in commercial production of WestBred 936 but not becoming a widespread issue as in the previous year. The infection spread from areas south west, west and north, came in late, and caused damage only in a few heavily infected fields of spring wheat. Actively scouting fields of susceptible varieties is recommended in order to identify infection as early as possible. Fungicides can then be applied to prevent yield loss especially should stripe rust infect wheat plants prior to flowering. Late infection of stripe rust also occurred in our extension nurseries

in Aberdeen, but did not cause significant yield losses.

Barley scald (*Rhynchosporium secalis*) did not reach the damaging levels of the previous years. Barley scald had very little effect on spring barley in southeast Idaho. In most years, low levels of early season scald infection do little to affect the barley crop and yield, and can be ignored. The previous two years (2010 and 2011) were not by any means typical years, and scald ran rampant in fields in 2009 where application of fungicides would have prevented significant crop loss. This will be a disease to watch in future years, especially as production of winter barley increases the chances of high levels of disease developing in winter barley then affecting early development in spring barley.

Fusarium spp. causing foot rot, some **Rhizoctonia spp.** and **Take-all** (*Gaeumannomyces graminis* var. *tritici*) were prevalent in areas where grain followed grain and where irrigation was not increased to compensate moisture deficits occurring from February through August. A significant problem in 2009, **Fusarium head blight** (also called Scab, causal organism *Fusarium graminearum*) reduced yields and contaminated grain with toxins in both 2011 and 2012. *Fusarium graminearum* was widespread but **was not** restricted to where wheat follows corn production. This disease was also severe where spring wheat followed corn in 2009, as the fungus reproduces extensively on corn residue. It is highly recommended that irrigated spring wheat be treated with an appropriate fungicide at flowering to reduce infection, especially when a hard white or hard red spring wheat follows corn production. It is

essential that a **triazole** fungicide be utilized, as strobilurin fungicides are ineffective in reducing the accumulation of toxins (i.e. deoxynivalenol abbreviated as DON) that are a by-product of the fungal infection process. There are two spring wheats that have significantly reduced infection potential – that is the soft white spring wheat UI Stone and the hard red spring wheat Volt (see Variety Descriptions in Table 2).

In the fall of 2010 and 2011, **Russian Wheat aphids** (*Diuraphis noxia*) were found causing damage in winter wheat in fields from Ririe to fields in the Burley area. The Haanchen barley mealy bug (*Trionymus haancheni*) (University of Idaho CIS 1109) was widespread in dryland barley in the Soda Springs area and other dryland barley production fields that were severely exacerbated by the drought.

Green Bridge, 2011 to 2012.

A “green bridge” is generally defined as the overlap of different cropping cycles (or crop generations) within a year. This means there is a constant availability of living, green host material of a given crop. This occurred in many locations in 2010 and 2011 in southern and southeast Idaho for several reasons: 1) late maturing tillers of 2010 winter wheat stayed green and growing even after harvest; 2) windy conditions caused shattering of spring grains in 2010 prior to complete maturity of the crop; 3) hail storms (2010) induced shattering of grains prior to crop maturity. Shattered grain germinated and grew, even prior to harvest of the current year’s crop. This resulted in the continuous presence of living host material, which means there is a constant supply of host plant material for disease-causing organisms

and insects. In 2012, volunteer grain that was blown out of the combine at harvest germinated and provided a green bridge. This again increases the likelihood and risks of higher disease and insect problems for the next growing season. Because of the green bridge, aphids can jump to the emerging (2012-2013) winter crop, causing direct damage and/or transmitting viruses. Foot rot diseases within a field migrate from the dying spring crop to the growing winter crop. Foliar diseases can easily infect the emerging crop within the same field, or can become airborne through the production of spores that then infect crops up to many miles away.

2012 report: Kimberly Research and Extension Center, Winter Grain

The winter wheat nurseries were planted into moisture Oct 13 following dry beans. Soils were well-prepared and plots were irrigated after planting to improve emergence. The crop suffered a little winter damage and growing conditions and irrigation were good. Stripe rust was not present. Soft white winter wheat yields were about 30 bu/A greater than the previous two years, while hard winter wheat yields were about 35 bu/A greater than 2010. Plots were harvested August 7 and 8.

The hard winter wheat group yielded from 128 to 172 bu/A. Keldin, a hard red wheat from WestBred, and Yellowstone (MSU) and Utah 100 were the highest yielding varieties, yielding 172, 164 and 164 bu/A, respectively. Site average for yield of the hard winter group was 152 bu/A. Test weight average was 61.4 lbs/bu in 2012, and grain protein average for the location was 11.9%. **Averaged over all locations**, the highest yielding hard winter wheat varieties in 2012 were

Yellowstone (153 bu/A), Keldin (152 bu/A) and Utah 100 (150 bu/A). **Three year averages** over all locations put Utah 100 at the top with 139 bu/A followed by Yellowstone, Norwest 553, and WB-Arrowhead, at 136, 135, and 134 bu/A, respectively.

In the soft white winter group, yield varied from 126 to 187 bu/A. SY Ovation (187 bu/A), AgriPro Salute (170 bu/A), Mary (167 bu/A), and WB-Junction (167 bu/A) were the highest yielding varieties. Test weight averaged 60.1 lbs/bu, and grain protein average for the location was a low 10.9%. SY Ovation, Mary, and Bruneau and AgriPro Legion were the top named varieties in the **combined irrigated trials in 2012** at 156, 152, 151 and 151 bu/A, respectively. The top yielding soft white winter varieties **over the last three years** over all locations are Bruneau (139 bu/A), AgriPro Salute (138 bu/A), WB-Junction (136 bu/A), AP Badger (136 bu/A), AgriPro Legion (136 bu/A), and WB 528 (134 bu/A).

Rupert, Jentschz-Kearl Farms, Winter Grain

Plots were planted Oct 11 following dry beans into good soil moisture. Some winter injury occurred in Rupert in the soft white winter wheat and winter barley. Plots were harvested August 2.

Average yield for the winter barley varieties was 158 bu/A, up 25 bu/A from 2011, and varied from 123 to 192 bu/A. The highest yielding named varieties included Sunstar Pride (172 bu/A), Sprinter (192 bu/A), Alba, Sprinter and Eight-Twelve. Proteins were 11.5% and there was an average of 7% lodging. Alba, Charles, Endeavor, and Maja, four winter malt varieties, yielded 187, 159,

166, and 136 bu/A, respectively. **Combined over the irrigated locations,** Sunstar Pride, Eight-Twelve and Sprinter were the highest yielding feed barley lines (188, 183, and 181 bu/A, respectively). **Over three years,** the winter feed lines yielded 172 bu/A (Eight-twelve), 168 (Sunstar Pride) and 166 bu/A (Strider).

Average yields for the hard winter wheat trial were 117 bu/A, 35 bushels less than at Kimberly, but 21 bu/A greater than last year at Ruprt. Yield ranged from 100 (Bonneville) to 133 bu/A (Altigo, hard red winter). Test weight averaged 60.7 lbs/bu, and protein averaged 11.2%. Altigo, Keldin, Utah 100 and Judee were the highest yielding named lines at 133, 129, 129, and 127 bu/A, respectively. Stripe rust did not significantly impact yield.

The soft white winter group ranged in yield from 113 to 151 bu/A. The highest yielding varieties were Bruneau (151 bu/A), Mary (149 bu/A), Brundage (143 bu/A), and AgriPro Legion (139 bu/A). Test weights were below 60 lbs/bu, averaging 59.5 lbs/bu, and grain protein was very low at 8.6%. There was a little lodging in a few of the winter grain nurseries.

Aberdeen R&E Center, Winter Grain

The winter trials in Aberdeen were planted September 23 and harvested August 1, 3, and 6. The preceding crop was green manure oats. The winter barley at Aberdeen had no winter damage this year, and average spring stands were at 97%. Yields were as high as 191 bu/A with an overall average of 167 bu/A. High yielding varieties included Eight-Twelve (191 bu/A), Strider ((189 bu/A), Schyuler (187 bu/A)

and Sunstar Pride (185 bu/A). Maja, Alba, Endeavor, and Charles, four winter malt varieties, yielded 173, 173, 158 and 139 bu/A, respectively.

The winter wheat survival was also excellent. Average spring stand for both the hard and soft winter wheat nursery was 97%. Stripe rust did not overwinter in the plots. Yellowstone (173 bu/A), Deloris (169 bu/A), Manning (164 bu/A), and Judee (163 bu/A), were the top yielding hard red varieties with lodging at 0, 3, 1, and 0%, respectively. Test weights were 61.7 lbs/bu overall. Grain protein averaged 11.8%.

The overall yield average in the soft white winter trial was 135 bu/A, ranging from the low of 105 bu/A (WB-1066CL) to a high of 157 bu/A (LWW 04-4009). The highest yielding named varieties were Madsen (152 bu/A), AgriPro Legion (149 bu/A), SY Ovation (147 bu/A) and UICF Lambert (143 bu/A). The test weights averaged at 59.9 lbs/bu and the overall grain protein was low at 8.8%, indicating that yields could have been higher with additional nitrogen application. However, the actual applied nitrogen was 250 lbs/A and total available N was 318 lbs N/A. The yield for the hard winter group at Aberdeen was excellent, with a high yield of 173 and proteins ranging from 11 to 13.8%.

Ririe, LDS Church Farm, Dave Cook, Winter Grain

This is a high elevation location (5500 ft) and is our main dryland location for winter grain. For the past two years, the coefficients of variation (CV measured as a percent) for yield and other agronomic measures have been high, therefore the data at this location is unreliable. We usually plant only one

rep of winter barley here to roughly test for winter survival. While minimal in 2010 (and therefore results were not reported), in 2011 the survival rates for barley improved substantially, but spring conditions severely reduced growth of both winter barley and wheat. In 2012, the spring stand was impacted by droughty conditions at planting and poor seedling establishment. The winter barley did not survive, and both the soft and hard winter groups had reduced spring stands. The location was planted September 27, 2011 into poor moisture (moisture was detected at 8 inches soil depth) following mustard and the trials were harvested August 9.

The hard winter wheat group had reduced average yields (18 bu/A) in comparison to 2010 at 28 bu/A, but were slightly better than 2011 at 12 bu/A. The 2012 yield range went from a low of 7 bu/A to a high of 24 bu/A. Yellowstone, UI Silver and Keldin were the top yielding hard winter wheat varieties, at 24, 22, and 21 bu/A, respectively. Average grain protein was 16.3%, and test weights averaged 57 lbs/bu. Dryland yields **averaged over all locations and 3 years** averaged 26 bu/A, with the top yielding varieties including Yellowstone, Deloris, Curlew, and Utah 100 (29, 29, 28, and 27 bu/A, respectively).

The soft white winter wheat yields varied from 16 bu/A to 29 bu/A (Eltan), with the site averaging 21.1 bu/A. Average proteins were very high for this soft group at 15%, and test weights averaged 57.3 lbs/bu. There was no lodging. In addition to Agripro Legion, the top-yielders were Agripro Salute, Simon, and WB 528. Over the **past three years**, the top yielding soft white winter varieties at this location were

Coda, ORCF 102 and UICF Brundage, yielding 23, 21, and 21 bu/A, respectively. Three-year averages on dryland soft white winter grain protein were 11.7% (Table 8). Test weights were 58.7 lbs/bu, and average plant height was 20 inches.

Rockland, Gilbert and Carl Hofmeister, Hard Red and White Winter Wheat

The hard red and white winter wheat trial at the Hofmeisters' was planted September 14 and harvested July 25. Snow mold diseases and dwarf bunt (*Tilletia controversa*) were not a significant problem (as they were in 2011). When using varieties that are susceptible to dwarf bunt, it is highly recommended that appropriate seed treatments are used to prevent dwarf bunt infection. The yield average was 30 bu/A, lower than the 2010 yield average of 39 bu/A and slightly better than 2011 at 27 bu/A. The yield ranged from 20 (Promontory) to 38 bu/A (Keldin). The top yielding varieties this year were Keldin (38 bu/A), Deloris (37 bu/A), Altigo (36 bu/A), and Lucin-CL (36 bu/A). Grain protein average was 12.3%, test weight average was 59.6 lbs/bu, and there was no lodging.

Soda Springs, Mark and Craig Ozburn, Dryland Winter Wheat

One small dryland winter wheat trial containing both hard and soft winter wheat was repeated at Soda Springs this year at the request of area growers. The trial was planted September 15, 2011, and harvested August 15, 2012. Thirty varieties (up from fifteen in 2011) of hard red, hard white, and soft white winter wheat were included. Survival was surprisingly good, resulting in an average 89% spring stand. DW,

Bonneville and Judee had the highest spring stands. Yields averaged 74 bu/A, with the highest yielding varieties including Yellowstone, Keldin, UICF Brundage, Juniper, Eltan, Bruneau, and Greenville. If risking planting winter wheat, it is highly recommended that varieties with snow mold tolerance and dwarf bunt resistance be grown in this area. Varieties susceptible to dwarf bunt should only be grown following appropriate seed treatments for control.

Rupert, Duane Grant and Mike Larsen, Spring Grain

The variety trials in Rupert were planted April 2 and harvested August 10th and 13th. The preceding crop was sugar beets. There were no major weather-related problems.

There was no lodging for the hard spring wheat nursery. Average yield was 108 bu/A, compared to 111 bu/A in 2010, and 92 bu/A in 2011. Test weight average was 62.1 lbs/bu, and average protein was at 13.6%. The top yielding named varieties were Bullseye (122 bu/a and 13.5% protein), Glee (121 bu/A and 13.2% protein), Jefferson (117 bu/A and 13.5% protein), Cabernet (116 bu/A and 13.3% protein), and Kelse (115 bu/A and 13.8% protein). Buck Pronto, WB-Rockland, and WB-Perla had the highest grain protein (15.3, 14.7, and 14.5% respectively). The highest yielding (named) hard white spring wheat's were SY Capstone (109 bu/A,) WB-Idamax, (108 bu/A) and Blanca Grande (107 bu/A). Overall test weight was 62.1 and grain protein averaged 13.6%.

Over **three years over all locations**, the highest yielding varieties under irrigation were Alzada (durum at 107 bu/A), Bullseye (105 bu/A), WB-Idamax

(105 bu/A), Jefferson (104 bu/A), Choteau (103 bu/A) and WB-Paloma (103 bu/A). The average 3-yr test weight was 61.1 lbs/bu, and the average grain protein was 13.2%. The irrigated average yield for 2012 was 99.2 bu/A with the highest yielding varieties including ALzada, Glee, Kelse, Bullseye and Blanca Grande.

The soft white spring wheat yield average was 114 bu/A. In 2010 it was 116 bu/A, and in 2011 the average yield at the Rupert location was 101 bu/A. In 2012, Babe yielded 128, Alpowa yielded 126 and UI Stone 124 bu/A. Grain protein average was at 11%. **Three year averages over all locations** put UI Stone at the high yield (116 bu/A), followed by Babe (114 bu/A), Alpowa (113 bu/A), and UI Whitmore (113 bu/A).

The six-row spring barley trial at Rupert yielded an average of 119 bu/A, with a range from 92 to 137 bu/A. Millennium (137 bu/A) and Tradition (135 bu/A) six-rowed malt were the top yielding barleys. Test weights averaged 48.4 lbs/bu, proteins were 13.2%, and percent plumps were 74.3%. **Over three years**, Millennium was the highest yielding feed variety at 133 bu/A, and Legacy was the highest yielding malt variety at 120 bu/A.

Two-rowed malt barley yields at this location averaged 135 bu/A, higher than the 2010 average of 122 bu/A and 2011 average of 108 bu/A, ranging from 108 (Harrington) to 150 bu/A (Moravian 143). The variety Moravian 43 was followed in yield by Copeland (147 bu/A), Voyager (145 bu/A) and Moravian 69 (145 bu/A). The feed varieties Xena (144 bu/A), Champion

(143 bu/A), and RWA 1758 (142 bu/A) were the highest yielding named varieties. The hulless high beta-glucan food barleys CDC McGwire, Julie, Clearwater, Transit, and CDC Fibar yielded 107, 106, 95, 87 and 79 bu/A but also had high test weights (57.6, 57.5, 55.4, 56.3 and 56.2 lbs/bu, respectively). **Three year averages** for the malt varieties puts Pinnacle, Moravian 143, Moravian 137, Copeland and Voyager at the top (138, 137, 135, 134 and 133 bu/A, respectively). The feed varieties Spaulding, Champion, and Xena were the top yielding lines over three years and all irrigated locations at 152, 152, and 152 bu/A, respectively.

Aberdeen R&E Center, Spring Grain Spring variety trials were planted April 5 and harvested August 15th-17th. The preceding crop was green manure oats. Stripe rust of wheat was present late in the season with higher temperatures and dry conditions preventing rapid spread, resulting in no significant impact on yield. The top three varieties for yield were Alzada, Jefferson and Klasic at 151, 141, and 141 bu/A, respectively. Concern for overly dry conditions resulted in earlier application of irrigation and highlighted the characteristic of Klasic to require early irrigation to produce optimum yields. Test weights for the hard spring wheat's averaged 61.4 lbs/bu and grain protein was 14.2%. High protein wheat's included WB-Rockland (15.8%), Buck Pronto (15.7%) and WB-Idamax (15.3%).

The soft white spring wheat yields at Aberdeen averaged 145 bu/A with a range from 127 to 157 bu/A. Excellent yields were obtained from Babe (157 bu/A), UI Stone (154 bu/A) and Alpowa

(153 bu/A). Test weights averaged 61.6 lbs/bu and grain protein averages were 10.9%.

Six-row barley in Aberdeen averaged 142 bu/A, similar to 2011 (148 bu/A). Yields ranged from 114 bushels (Quest) to 179 bu/A. Millennium and Aquila were the two top yielding feed barley varieties, at 179 and 149 bu/A. For the six-row malt lines, Legacy, Celebration, Maja (a facultative winter malt) and Tradition yielded 143, 140, 129, and 129 bu/A, respectively. Grain protein for the malt lines was variable, ranging from 12.7 to 16%. Test weight was 49.1 lbs/bu.

Two-rowed malt barley lines averaged 152 bu/A (Table 51), significantly higher in 2012 than 2011 and 2010, and ranged from 119 (Harrington) to 187 bu/A (LN09-0920). The top yielding released lines were Moravian 143, Pinnacle, Moravian 137 and Moravian 69 (175, 170, 169, and 164 bu/A, respectively). Grain protein was too high, averaging 15.6%. For the feed varieties, Spaulding, Xena, Idagold II, Champion and Lenetah yielded 182, 177, 170, 168 and 162 bu/A, respectively. Test weight averaged 54.3 lbs/bu which is inflated by the number of hulless lines included in the trial. Hulless lines CDC McGwire, Julie, Transit, Clearwater, and CDC Fibar yields were 138, 136, 122, 117, 108 bu/A, respectively. Lodging was high averaging at 41%. These trials were not treated with growth regulators.

Idaho Falls, Marc Thiel, Spring Grain The Idaho Falls location followed potatoes, was planted April 9th and harvested August 14th. The surrounding field was in barley, and irrigation was managed for the optimum water

requirements for barley, as indicated by excellent barley yields and water-stressed yields in wheat. Average grain yield for the hard spring wheat was 103 bu/A, which was 22 bushels lower than the average in 2011 of 125 bu/A. Hard spring wheat ranged in yield from 89 to 120 bu/A. Average grain protein was at 14%, and test weight was high at 62.7 lbs/bu. The four highest yielding named varieties were Kelse (115 bu/A and 13.6% protein), Choteau (110 bu/A and 14% protein), Blanca Grande (110 bu/A and 13.8% protein), and Klasic (13.7 bu/A and 13.7% protein).

Alpowa, UI Whitmore and Babe topped the yield chart for the soft white spring wheat varieties at Idaho Falls at 129, 126, and 122 bu/A, respectively. Yields ranged from 103 bu/A (Cataldo) to 129 bu/A (Alpowa). Test weights were good at 62 lbs/bu, and grain proteins were at 11.2%.

Barley six-rowed feed lines yielded from 152 (Gustoe) to 211 bu/A in Idaho Falls, with Goldeneye at 211 bu/A followed by Herald (197 bu/A), and Steptoe (196 bu/A). In the six-rowed malt lines, Tradition (186 bu/A), Legacy (181 bu/A) and Quest (181 bu/A) out-yielded Maja, Celebration, and Morex at 178, 175, and 166 bu/A, respectively. Overall site average was 186 bu/A, greater than the 2011 average of 135 bu/A. Test weights were 49.9 lb/bu.

The two-rowed feed lines at Idaho Falls averaged 158 bu/A. Of the feed lines, Spaulding averaged 191 bu/A, Champion yielded 186 bu/A and Xena 178 bu/A. In the malt group, the high yielders were Voyager (162 bu/A), Merit 57 (155 bu/A), Pinnacle (154 bu/A), and Meredith (150 bu/A). Pinnacle had very

high test weight (53.9 lbs/bu), very low lodging (3%), and 98% plump. Lodging in Harrington was 60% (and yield was 104 bu/A) and lodging values in Merit and Merit 57 were 10 and 15%.

Ashton, Don Marotz, Spring Grain

The Ashton location was planted very early (April 25) due to dry conditions at the upper elevation areas. The preceding crop was barley, and the surrounding field in 2012 was also spring barley. Late season water stress reduced overall yields of spring wheat and barley. Barley mealy bugs (*Trionymus haancheni* McKenzie) were significant this year in the Ashton area. Stripe rust was not present in most areas of the upper valley areas. Plots were harvested August 28th.

The average yield for the hard spring wheat was 55 bu/A, compared to 2010 at 54 bu/A and 2011 at 94 bu/A. The range in yield varied from 44 bu/A to 69 bu/A. Test weights were very low at 55.3 lbs/A, and protein averaged 15.5%. The high yielding varieties were WB-Paloma (68 bu/A), followed by Blanca Grande (63 bu/A), and Glee (62 bu/A). The highest proteins were seen in WB-Rockland (16.9%), Choteau (16.3%), Buck Pronto (16.1%), and Kelse (16.1%) with the location average of 15.5%. There was no lodging in the hard spring wheat at this location.

In the soft spring wheat trial, Alpowa yielded 72 bu/A, followed by UI Stone (66 bu/A) and UI Whitmore (65 bu/A). The average yield for the soft white spring trial was 62 bu/A, significantly lower than in 2011, and ranged from a low of 55 bu/A (UI Pettit) to a high of 72 bu/A. The test weight average was a 61.5 lbs/A, with no lodging. Grain protein averaged 12.3%.

In the six-rowed barleys at Ashton, the yield average was 76 bu/A, 42 bu/A less than the previous year (2011) at 119 bu/A. In the feed barley, Goldeneye out-yielded the others at 109 bu/A, 48.7 lb test weight and 95% plumps. Steptoe was the closest next variety at 82 bu/A, 43.7 lb test weight and 92% plumps. The malt line Legacy yielded 84 bu/A, with 48 lb test weight and 97% plumps.

Two-rowed malt barley yields ranged from 59 (Merit) to 100 bu/A. The average was 78 bu/A, with the highest named lines being Hockett (92 bu/A), Pinnacle (89 bu/A), Genie (87 bu/A) and Moravian 137 (86 bu/A). Lenetah, Champion and Xena were the top yielding feed varieties at 113, 109 and 108 bu/A, respectively. Test weights were high this year, averaging 55.3 lbs/bu (biased upward due to the inclusion of hulless food barleys) and proteins averaged 13.9%.

Soda Springs, Sid Cellan, Spring Grain

The only spring dryland extension trials were spring wheat trials in Soda Springs.

The nursery was planted May 9th and harvested September 12th. The previous crop was barley.

Yield averages for the hard red and hard white spring nursery were 29 bu/A, lower than in 2010 (32 bu/A), and lower than they were in 2011 (37 bu/A) due to drought stress. The range in yield went from 24 (Cabernet) to 34.5 bu/A (Glee). The four highest yielding named varieties were Glee, WestBred 936, Pristine, and Kelse, at 35, 33, 33, and 32 bu/A, respectively. Test weights averaged 59.9 lbs/bu, and proteins were averaging 14.6%, with the highest proteins in Pristine (15.6%), Kelse (15.5%), Jefferson (15.4%), and WestBred 936 (15.5%).

For the soft white spring wheat, the nursery averaged 34 bu/A. The yield ranged from 29 to 37 bu/A. JD, Babe, UI Pettit and UI Stone were the four top yielding varieties at 37, 36, 35, and 35 bu/A, respectively. Test weight average was 60.3 lbs/bu, and proteins were at 12.2%.

Table 2. Variety Descriptions
SPRING BARLEY

AC Metcalfe – two-rowed malting barley released in 1994 by Agriculture and Agri-Food Canada with higher yield potential and plumper kernels than Harrington. It is widely adapted to western US and Canadian conditions, but is tall and may lodge under high input conditions. Malting quality and extract are excellent.

Aquila (UT95B1480-1632) – is a six-rowed feed barley released by Utah State in 2005. Aquila has similar yields and much higher test weights than Steptoe. Aquila is early maturing with lower lodging resistance than Millennium.

CDC Copeland – a two-rowed malt variety developed by the Crop Development Centre, University of Saskatchewan and released in 1999, Copeland was tested starting in 2009 in the southern Idaho variety trials. Copeland yielded similar to Conrad and Moravian 69, and much higher than Harrington. Copeland was 3-4 in taller than average, and was average for lodging, grain protein and test weight.

CDC Fibar – a high beta-glucan, hullless two-rowed food barley released by Crop Development Centre, University of Saskatchewan, Saskatoon in 2003. Of the hullless food barleys, CDC Fibar is lowest in yield but with an average beta-glucan (soluble fiber) levels per 100g of 8-10g, or 8-10%. The ratio of starch type is 100% amylopectin, 0% amylose.

CDC McGwire – a high beta-glucan, hullless two-rowed food barley released by Crop Development Centre, University of Saskatchewan, Saskatoon, 1999. CDC McGwire has greater yield potential (20 bu) than CDC Fibar and but has 4.5 to 5% beta-

glucan content (the same as CDC Falcon, but half of CDC Fibar). The ratio of starch type is 25% amylose to 75% amylopectin.

CDC Meredith – in its first year of testing in our extension trials. Meredith is a Canadian two-rowed malt line released in 2008 by Crop Development Centre, University of Saskatchewan, Saskatoon. Yields, test weight, and plumps of CDC Meredith were below average, while maturity, height, and protein were average. Lodging was higher than average.

Celebration – a six-rowed malt barley released in 2008 by Busch Agricultural Resources, LLC. Released for the Midwest, Celebration has some resistance to Fusarium head blight and consistently lower toxin (DON) content in the grain. In the three years of testing in southern Idaho, yields were comparable to Morex, while protein and lodging were higher than average.

Champion – a 2007 release from WestBred, LLC. Champion is a very high yielding, two-rowed spring feed barley. Combined over locations and years, Champion yields and test weight were comparable to Xena and Spaulding under irrigation. Champion has greater than average test weight, and average height, lodging, protein and plumps, heading 1-2 days earlier than Baronesse.

Clearwater (01ID435H) – a 2007 release from the USDA-ARS in Aberdeen and the Idaho Ag Experiment Station, Clearwater is the first named variety that is a low-phytic acid, hullless, two-rowed spring feed barley. The hullless, low-phytate characteristic should be valuable in the feed industry for monogastric animals, especially fish, where there is concern about high phosphorus concentrations in the waste stream. Clearwater, because of the hullless

characteristic, has very high test weight and lower yields. Maturity and height are average, and Clearwater has high grain protein and higher than average lodging.

Conrad (B5057) – two-rowed spring malt barley released by Busch Agricultural Resources in 2005. Conrad has above average yields and test weight. When compared to other malt varieties, Conrad is one of the highest yielding varieties (similar to Moravian 69) and it yielded very well in the Upper Valley area, especially around Idaho Falls and Ashton.

Genie – a European malt barley being released in the U.S. through Limagrain, Genie is a short-statured two-rowed malt variety being tested in the 2012 spring extension variety trials. Irrigated yield, maturity and lodging of Genie were average, and it is shorter than average with slightly higher protein.

Goldeneye (UT95B1216-4087) – is a six-rowed feed barley released by Utah State in 2005. Goldeneye has very high yields under irrigated conditions, above average yields under dryland production, and above average test weight. Yield, test weight, lodging resistance, and protein, are equal to or better than Steptoe. When cut at soft dough, Goldeneye has proven to be a high-yielding forage variety. Goldeneye also has high plumps and protein.

Gustoe – Short, blue kerneled, and rough awned six-rowed feed variety released by Western Plant Breeders in 1982. Straw strength is similar to that of Steptoe, but yielded less. It heads 4 days later than Steptoe, and is ten inches shorter than average. Yields under irrigation have been about equal to those of Steptoe except in shorter growing season areas of eastern Idaho, where Steptoe is higher yielding.

Harrington – the industry standard for malt quality, Harrington is a 2-rowed malting barley released in 1981 by the University of Saskatchewan. Harrington is one of the lowest yielding malt varieties in our trials, with higher than average lodging and protein. Under high-yield management, including the use of plant growth regulators, yield, protein and lodging improve greatly.

Herald (00ID1550) – Herald is a low-phytate, hulled six-rowed feed barley released by the USDA-ARS and Idaho AES in 2006. Seed characteristics make this an excellent feed barley for monogastric animals (swine), as phosphorus is reduced in the waste stream. Depending on the year and environment, Herald has a high yield potential and may also prove useful in the fish food industry. Herald is agronomically similar to its parent, Colter, but has lower test weight and higher plump.

Hockett (MT910189) – a two-rowed malt barley released in 2007 by Montana State University. Hockett should replace Harrington with higher yields, test weight, plumps and less lodging under irrigated and dryland conditions. Under dryland and irrigated conditions in southeast Idaho, Hockett is similar to Harrington with higher plumps.

Julie (03AH6561-94) – a two-rowed hulless barley released by the USDA-ARS and the University of Idaho AES in 2010 for high-beta-glucan content and intended for human consumption. Julie has high test weight (due to the hulless characteristic) and protein, similar to other food barleys, with greater percentage of seed beta-glucan (averaging 7%) than other industry standards such as CDC Fibar and CDC McGwire.

Legacy (6B93-2978) – a six-rowed malt variety released in 1998 by Busch

Agricultural Resources, Inc. Legacy has good yield potential under both irrigated and higher moisture dryland conditions. It appears not as competitive when yields are below 50 bu/A. Test weight is average for six-row cultivars, and plant height is slightly taller than average. Percent plump is average for six-row malt varieties.

Lenetah (01Ab11107) – a 2008 release from the USDA-ARS and Idaho AES, Lenetah is a high yielding two-rowed feed variety particularly well-adapted to the rain-fed conditions of northern Idaho. Lenetah has average test weight, heading date, protein, plump and height, but with lodging similar to Tetonia. Lenetah has consistently yielded higher than Baronesse in northern Idaho, but under the irrigated conditions in southern and southeast Idaho yields have been similar to Baronesse.

Millennium (UT004603) – a six-row spring feed barley released in 2000 through Utah AES, Millennium does very well under irrigation, and has been in the top-yielding groups under dryland conditions when moisture was adequate. Millennium also has excellent straw strength, showing minimal lodging even under high-yield conditions. Millennium is of average height and protein.

Merit – 1997 release from Busch Agricultural Resources, Merit is a two-rowed malt line with average yields and high lodging potential.

Merit 57 – a 2009 release from Busch Agricultural Resources, Merit 57 is a two-rowed malt line derived from Merit with similar to better malting quality. Merit 57 has average yields and high lodging, and is agronomically similar to Merit but is higher yielding than Merit.

Moravian 69 (C69) - two-rowed spring malt barley released by Coors Brewing Co. in 2005. Moravian 69 has very high yield potential, especially in the Magic Valley area where it is widely grown. Height is very short (4 inches below average), and lodging is much less than Harrington. Protein is at or slightly below average in these trials.

Moravian 115 (C115) – Moravian lines are two-rowed spring malt lines from MillerCoors originally targeted for the Magic Valley area, and were only planted in the Rupert and Idaho Falls nurseries in the last two years. Moravian 115 was released in 2010 from Coors Brewing Company, Inc, in Burley ID. Moravian 115 had lower test weight than average, is very short, and yielded below Moravian lines M69, M137 and M143 under irrigation in 2011 and 2012.

Moravian 137 (C137) – two-rowed spring malt Moravian 137 yielded close to M69 in 2011 and 2012, with similar heading date, height, protein and plumps. In 2010, both varieties were tested only in Rupert, and Moravian 137 out-yielded M69 by 14 bu/A.

Moravian 143 (C143) – two-rowed spring malt barley released by Coors Brewing Co. in 2011. In the first year in trials, yields were similar to Pinnacle and slightly higher than M69 and M137. Test weights were below average with a little higher protein and plumps than average. Moravian 143 is a foot shorter and has lower lodging than average.

Morex – a 1978 release from Minnesota AES, Morex is a six-rowed malt, with average yields and a high lodging tendency.

Pinnacle (2ND21863) – two-rowed spring malt barley released by North Dakota State

University and the USDA-ARS in 2007. Pinnacle is a widely adapted malt line, and was a top yielding variety over the previous three years (2010-12), similar to Conrad and Moravian 69. Pinnacle had high test weight and plumps, average protein and was 2-3 days earlier than average for heading date. Lodging resistance is excellent.

Quest – a six-rowed spring malt line released for its resistance to Fusarium head blight and reduced accumulation of the DON toxin produced during the infection process. It was released in 2010 by the University of Minnesota AES and is in first year testing in Idaho. Quest has yield and test weight similar to Lacey and Tradition. In Idaho, Quest yields were average for 6-rowed malt lines, with good test weight, plumps, and average maturity, lodging and height.

Spaulding (PB1-95-2R-522) – a two-rowed spring feed variety, and a Plant Breeders 1 release, Spaulding has excellent yield potential for the Magic Valley area, and yielded comparable to Xena and Champion over all irrigated locations. Spaulding has average test weight, plump, maturity and height and below average protein and lodging.

Steptoe – a six-rowed spring feed barley released in 1973 by Washington AES and USDA-ARS. Steptoe has been considered the industry standard for feed lines, with all current six-rowed feed lines yielding greater than Steptoe.

Tetonia (98AB11720) – two-rowed spring feed barley released in 2007 by the USDA-ARS in Aberdeen and the Idaho Ag Experiment Station. Tetonia has high yield potential over many locations, and is well adapted to Idaho and Montana production areas. Tetonia yielded slightly more than

Baronesse in the irrigated nurseries (2010-2012). Other agronomic characteristics are very similar to Baronesse.

Tradition – six-rowed malt released by Busch Agricultural Resources, Inc. in 2003. Tradition yields are greater than Morex in southern Idaho, with higher test weight and plumps than test averages.

Transit (03AH3054-51) – a two-rowed hulless variety released by the USDA-ARS and the University of Idaho AES in 2010 for high-beta glucan content and intended for human consumption. Seed beta-glucan content (9-10%) is higher than other industry standards such as CDC Fibar and CDC McGwire. Transit yields are lower but the percent beta-glucan is higher than Julie.

Voyager – a recent release from Busch Agricultural Resources, Voyager was tested for the first time in 2011 as B3719, out yielding other two-rowed malt varieties. 2012 yields were equivalent to CDC Copeland and Moravian 69, and higher than average two-rowed malt lines. Voyager was very similar to Conrad in test weight, height and heading date, plumps, and protein.

Xena (BZ594-19) – two-rowed spring feed barley released by Western Plant Breeders. Xena has had very high yields over the locations tested from 2010-2012, similar to Spaulding and Champion. Its yield has been greater than Baronesse, and is about two inches taller but with similar straw strength. Test weight tends to be similar to Baronesse.

WINTER BARLEY

Alba (OR77) – a six-rowed winter feed variety released in 2010 by the Oregon AES and the USDA-ARS. Yields over the past three years have been comparable to Sunstar

Pride feed barley. Winter hardiness is better than Endeavor and Charles (both are two-rowed winter malt varieties).

Charles (94Ab1274) – Charles is the first AMBA approved two-rowed winter malt variety released by the USDA-ARS and the IAES in 2005. Charles yields are lower than the winter feed varieties, but has above average test weight. Charles is short, early maturing and has a tendency to lodge. Charles has excellent plumps and yields very well in the Twin Falls area, even when severe winter conditions reduce stand. Both Charles and Endeavor can suffer significant stand losses under cold winter conditions.

Eight-Twelve – a six-rowed winter feed barley released by the USDA-ARS and the Idaho AES in 1991. Eight-Twelve has very high yield potential, averaging 172 bu/A under irrigation in the last three years.

Endeavor (95Ab2299) – Endeavor is the second two-rowed winter malt variety by the USDA-ARS and the Idaho AES approved by AMBA for malt quality. Released in 2008, Endeavor has improved malt quality and yield over Charles, especially in the Magic Valley area where winter kill is less of a problem than in eastern Idaho. Endeavor has excellent test weight and plumps, and is average for heading date, height and lodging.

Maja (OR81) – a six-rowed winter barley released by Oregon AES as a winter malt variety. Yields over the past three years of testing in southern Idaho were greater than Charles and Endeavor. Maja has very high test weight and plumps, average protein and very low lodging, less than Charles and Endeavor.

Mathias (OR76) – a six-rowed winter malt barley released by the Oregon AES and the

USDA-ARS in 2009. Mathias yields have been similar to Charles, less than Alba with similar test weight and spring stand, and earlier maturity. Both have very high plumps.

Schuyler – a six-rowed winter feed barley released in 1969 by Cornell AES.

Sprinter – winter six-rowed feed barley released by WestBred in 1987, Sprinter is facultative (not requiring vernalization) and can be planted in the spring. Yields of Sprinter are comparable to Strider and Sunstar Pride, but Sprinter has less lodging resistance.

Streaker (OR85) – a hulless, six-rowed winter / facultative habit barley with high beta-glucan for food barley, Streaker was released by OSU and the USDA-ARS in 2012. Streaker yields are below the average for winter feed and malt lines, but as a hulless barley, it has a very high test weight.

Strider – a winter six-rowed feed variety released in 1998 by Oregon AES and the USDA-ARS and was developed using doubled-haploid technology. Yields have been comparable to Sunstar Pride.

Sunstar Pride (SDM204-B) – winter six-rowed barley released by Sunderman Breeding in 1995. Sunstar Pride has been one the highest yielding variety in the three-year summaries, similar to Sprinter and Eight-Twelve, and appears to have good winter hardiness, although Sunstar Pride suffered high winter damage in 2006-07. Test weight is greater than Eight-Twelve. Sunstar Pride is shorter than most other winter barley varieties with very good straw strength. Heading date is up to a week or more later than average, and percent plumps are low.

SPRING WHEAT

Albany – a hard red spring wheat released in 2008 by Trigen and being tested through Limagrain Cereal Seeds. Albany was first planted in the extension trials in 2011, and yields, test weight and height were average with slightly higher lodging and lower protein than average. Yields of Albany in 2012 were above average and similar to Bullseye and Kelse. Albany averaged four to five days later for flowering than WestBred 936.

Babe (WA008039) – Babe is a soft white spring wheat derived from Alpowa. It was released by Washington State AES in 2009. Babe has better emergence than Alpowa with a more upright growth habit, similar yield, better quality and higher test weight. Babe has improved high-temperature adult plant resistance to stripe rust over Alpowa, and has performed above average for yield in southeast Idaho trials. Over the past three years, yields and test weight of Babe were greater than UI Pettit.

Buck Pronto – hard red spring developed in Argentina and being distributed through Limagrain Cereal Seeds. In two years of testing (2011 and 2012), Buck Pronto had average yields and test weight in southern Idaho and high protein, averaging greater than 1% higher than the nursery averages.

Bullseye (B02-0081) – Bullseye is a high quality, high-yielding hard red spring wheat released by AgriPro, now Syngenta Seeds, in 2009. Combined over irrigated locations over the past three years, Bullseye was the highest yielding hard red spring wheat with high test weight and is average for height and grain protein.

Cabernet – a 2007 hard red spring wheat from Resource Seeds, now Syngenta

Cereals, Cabernet yields are similar to Jefferson with higher test weight, similar heading date, and is about five inches shorter with slightly lower protein.

Cataldo (IDO642) – a soft white spring wheat released in 2007 from Idaho AES. Cataldo is very similar to Alturas (both being partial waxy), and bred for Hessian Fly resistance for the rain-fed production areas of the PNW. It yields less, is earlier and shorter than Alturas, and has adult plant resistance for stripe rust. End-use quality is similar to Alturas for cookies and Asian noodles.

Glee (WA8074) - a hard red spring wheat released by Washington State AES in 2012. Glee has adult plant resistance to stripe rust and Hessian Fly resistance. In the first year of testing in southern Idaho, Glee performed above average in yield, and was average in test weight and grain protein. Glee was two inches taller than average and two days earlier in heading date. Under the 2012 harsh dryland conditions, Glee was the highest yielding hard spring wheat. Under late-season stress (2012 locations of Idaho Falls and Ashton) yields of Glee were average (Idaho Falls) to above average (Ashton).

JD (WA 8047) – JD is a soft white spring club wheat released in 2009 by the Washington State AES that has shown stable yield performance in Washington, with both seedling and high-temperature adult plant resistance to stripe rust. While JD has exceptional club wheat quality, yields are lower than many common soft white wheat varieties in our area, comparable to Penawawa. JD had excellent resistance to the current races of stripe rust.

Kelse (WA007954) – a hard red spring wheat released in 2008 through the Washington AES, and the USDA-ARS.

Kelse was five inches taller than average under irrigation (Table 9), yielded at average, and had lower than average test weight. Grain protein was higher than Westred 936 and lower than WB-Rockland. Kelse has seedling and adult plant resistance (HTAP) to stripe rust and Hessian Fly resistance.

SY Capstone (03W10348) – a high-yielding hard white spring wheat released in 2011 by Syngenta Cereals. Over irrigated locations in 2011 and 2012, yield was less than Blanca Grande and greater than Klasic with lower test weight. SY Capstone was shorter than average and about 4-5 inches taller than Klasic with similar protein levels. Over the three-year irrigated nursery average, SY Capstone yielded 105% of Snow Crest and 106% of Klasic.

UI Pettit (IDO632) – is a soft white spring wheat released in 2006 through the Idaho AES. Yields and test weight are similar to Alturas, but UI Pettit is 4 inches shorter and heads 3-4 days earlier than Alturas. Yield of UI Pettit and other soft white spring wheat with high temperature adult plant resistance (HTAP) to stripe rust suffered yield loss due to unusually cold temperatures in April, May, and June which prevented the initiation of HTAP in many varieties.

UI Stone (IDO599) - a soft white spring wheat released by Idaho AES in 2012, UI Stone has high yield potential, consistently greater than UI Pettit, Alturas and Penawawa. UI Stone has been selected for reduced FHB susceptibility, and is the only soft white spring wheat in the PNW that should be grown following corn (if wheat is the only choice available to follow corn). UI Stone also has tolerance to Cereal Cyst Nematode. Heading date, height and lodging are average.

UI Winchester (IDO578) – a hard red spring wheat released by the Idaho Ag Experiment Station for dryland production areas in 2009, but also does well under irrigation. UI Winchester performed similar to Jefferson in the extension trials. UI Winchester is of average test weight, heading date, height and protein.

Volt – hard red spring wheat carried by WestBred (a unit of Monsanto) since 2007. In the first two years in the trials, Volt was agronomically similar to Choteau and Jefferson for yield with higher test weight than Jefferson. Volt does well under irrigated high-yield environments, and has tolerance to Fusarium head blight (FHB or scab), and has reduced accumulation of DON toxins associated with FHB infection processes. Like UI Stone in the soft white class, Volt is the only hard red or white spring wheat in the PNW that should be grown following corn (if wheat is the only choice available to follow corn).

WB-Idamax (BZ904-336) – hard white spring released by WestBred in 2009 with excellent quality, similar to Klasic. Three-year averages show WB-Idamax yields were slightly above WB-Paloma, similar to Jefferson (hrs) and Bullseye (hrs), and was at average for heading date, plant height, and protein.

WB-Paloma (BZ904-331WP) – a hard white spring wheat released in 2009 by WestBred (a unit of Monsanto) as a possible replacement for Snow Crest. Over three years of testing, Paloma had yield comparable to WB-Idamax and Jefferson (hrs) under irrigation, yielding 107% of Snow Crest and 108% of Klasic.

WB-Perla – a hard red spring wheat with high yield potential originally released for production in California, WB-Perla suffered

yield loss in this area from infection from Black Chaff, a *Xanthomonas* bacterial species that causes poor seed set, shriveled grain, and reduced yields.

WB-Rockland (SJ908-247) – hard red spring wheat released by WestBred (a unit of Monsanto) in 2010. WB-Rockland is highly resistant to stripe rust, but yields have been low in area trials. WB-Rockland is the only commercially available variety of spring wheat with true resistance to the Cereal Cyst Nematode. Increasing the seeding rate by 25% did not result in increased yields of WB-Rockland, and averaged over locations of the irrigated trials, yield decreased slightly (but NOT statistically significantly) by 1.5 bu/A (see Table 19).

Whit (WA008008) – a soft white spring wheat released in 2008 through the Washington AES, and the USDA-ARS. In four years of extension testing in southern Idaho, Whit has yielded below average, comparable to Nick and UI Pettit, but higher than Penawawa and Cataldo. Whit has moderate resistance to stripe rust (high temperature adult plant resistance) and to Hessian fly. Whit is a partial waxy wheat with milling and baking characteristics similar to Alturas and Alpowa.

WINTER WHEAT

AgriPro Legion – Like Salute, Legion is a tall semi-dwarf soft white winter variety, with white chaff, early to average maturity. Legion was moderately susceptible to current (2011) prevalent races of stripe rust but was similar to Tubbs for both winter-hardiness and snow mold tolerance. Legion yields are greater than Brundage over the previous three years but test weights were below average. Like all AgriPro varieties

(now Syngenta Cereals), it is a PVP, Title V variety.

AgriPro Salute – a soft white winter selection by AgriPro (now Syngenta Cereals). Salute is a tall semi-dwarf, white-chaffed variety with early maturity and good straw strength for a taller wheat (see Table 5). Salute was moderately susceptible to current (2011) prevalent races of stripe rust but under most years should have adequate protection in southern Idaho. AP Salute has average winter-hardiness and snow mold tolerance. Salute has average test weights and grain protein. AgriPro Salute yields were among the top-yielding group of soft white winter wheat's, including Bruneau, WB-Junction, AP Badger, AgriPro Legion and WB 528.

Altigo – a hard red winter wheat distributed by Limagrain Cereal Seeds, Altigo yielded well in the first year in our trials. Yields were comparable to Judee and Utah 100 under irrigation, but test weights were low. Altigo is short (four inches less than average) and showed no lodging under high-yield conditions.

AP Badger (RemPop80-3) – a 2009 released soft white winter wheat from AgriPro (Syngenta Cereals), AP Badger has high yield potential (see Table 5). AP Badger is shorter than average with lower test weights and good straw strength. AP Badger yields were among the top-yielding group of soft white winter wheat's, including Bruneau, WB-Junction, AgriPro Salute, AgriPro Legion and WB 528.

AP Legacy (ORF2BC9800267-0) – also released in 2009 by AgriPro (Syngenta Cereals) the soft white winter variety AP Legacy was very susceptible to current races of stripe rust in 2011. AP Legacy had average yields and test weights in three

years of testing in southeast Idaho (see Table 5).

AP700CL – released in 2007 by AgriPro (now Syngenta Cereals), AP 700CL is an imi-tolerant, soft white winter wheat, containing a single gene for tolerance to BASF’s grass herbicide ‘Beyond’®. When placed under high-input irrigated conditions, In the first year of testing (2012) AP 700CL showed some lodging only at Aberdeen. AP 700 CL was tall, average for yield, and three days later for heading than the nursery average.

Azimut (NSA97-2365) – a hard red winter wheat sold and marketed by Limagrain Cereal Seeds, LLC. Azimut is very short under irrigation, comparable to Garland. Yield and test weight were below average, and had a heading date two days sooner than nursery average. In the first year of testing (2012), dryland yields were poor.

Bearpaw (MTS0721) – released in 2011 by Montana Sate AES, Bearpaw is a hard red winter wheat for dryland production. Bearpaw is an awned, white-glumed, semi-dwarf with solid stems. As a result of the solid-stem characteristic, Bearpaw has resistance to cutting by the wheat-stem sawfly at levels similar to Judee. Bearpaw is resistant to stem rust, but susceptible to stripe rust. Yields of Bearpaw were above average under severe conditions in Ririe (2012 in Table 27), average in Soda Springs (Table 33), and below average in Rockland (Table 28).

Bitterroot (92-22407A) – released in 2007 by the University of Idaho AES, Bitterroot is an excellent quality soft white winter wheat. Yields have been similar to Brundage, having lower test weight, is a week later in heading and is 5 inches taller. Bitterroot also

has better stripe rust resistance than Brundage.

Bruneau (93-64901A) – soft white winter wheat released in 2009 by the University of Idaho AES. Bruneau has been one of the highest yielding soft white winter wheat in these trials averaged over the past three years, comparable to WB Junction and AgriPro Salute. Bruneau is resistant to stripe rust, and also has excellent end use quality, good straw strength and low protein. It is susceptible to dwarf bunt.

Cara (ARS97135-9) – Cara is a soft white club winter wheat released in 2007 by Washington AES and the USDA. Cara has resistance to stripe rust, powdery mildew, and strawbreaker foot rot. Yield of club wheats tend to be lower than most common soft winter wheat. Straw strength of Cara is significantly greater than for Coda (club).

Curlew (UT9325-55) – a hard red winter wheat released by the Utah AES for the dryland production areas of southern Idaho and Northern Utah in 2009. Curlew yields comparable to Deloris, Utah 100 and Yellowstone under dryland conditions and is agronomically similar to Utah 100. Curlew is moderately resistant to dwarf bunt, and is susceptible to stripe rust. Under irrigation, Curlew yields were average but lodging was high.

Eddy – a hard red winter wheat widely grown in Northern Idaho and Eastern Washington, Eddy was released in 2007 by WestBred, LLC (a unit of Monsanto). In the first year of trials in eastern Idaho, irrigated yields, heading date, height and protein of Eddy were at average, while lodging was low and test weights were high (Table 16).

Greenville (UT9743-42) – Utah AES released Greenville hard red winter wheat in

2010. In the extension trials harvested in 2011, Greenville was the highest yielding variety under irrigation, and was average under dryland conditions. In 2012, irrigated yields were below average and dryland yield in Soda Springs was above average (see Table 33). Test weight, height and lodging were below average. Heading date was average. Greenville currently has fairly robust stripe rust resistance and moderate dwarf bunt resistance.

Judee (MT0713) – a hard red winter released in 2011 by Montana State AES, Judee is a solid stem semi-dwarf with resistance to the wheat stem sawfly. Judee yielded very well under irrigated production in 2012, with yields similar to Utah 100 and Deloris. Lodging under irrigation was less than Deloris. Heading and height were average, and grain protein and test weights were both above average.

Keldin (ACS55017) – a hard red winter wheat distributed by WestBred, Keldin was tested in these trials in 2010 and 2012. Comparable to Yellowstone, yields in both years were excellent under irrigated and dryland conditions. Keldin has very good straw strength, is 2 inches shorter than average, and has high test weight (see Table 16).

Lucin-CL – Utah AES released this hard red winter Clearfield line in 2010. Clearfield wheats have resistance to imazamox herbicides such as to Beyond® herbicide for hard-to-control grassy weeds. Lucin-CL is adapted to dryland production conditions, and is agronomically similar to Deloris. It also has moderate resistance to dwarf bunt. Yields so far have been similar to Deloris and greater than Utah 100.

Mary (OR2040726) – a soft white winter wheat released by Oregon State AES in

2011. Mary has moderate resistance to stripe rust, and intermediate for winter hardiness. In the first year of Eastern Idaho trials, irrigated yields of Mary were comparable to SY Ovation and Bruneau (see Table 17). Heading dates, testing weight, and protein were average and height was 1 inch shorter than average.

Norwest 553 – a hard red winter wheat developed by Oregon State and Nickerson U.K. in cooperation with the USDA-ARS. Norwest 553 is resistant to stripe rust and tolerant to Fusarium crown rot, and has yielded very well (check three-year averages in Table 4) comparable to Utah 100, Yellowstone and WB-Arrowhead. Norwest 553 was shorter than average with excellent lodging resistance. Grain protein and test weight were average.

Skiles (ORH010085) – a soft white winter wheat released in 2007 by Oregon AES and the USDA-ARS. Skiles has better winter hardiness than Goetze, Stephens or Tubbs, is moderately resistant to stripe rust, and has tolerance to crown rot and Cephalosporium stripe. In the three years it's been in these trials, Skiles' yield and protein were average, was shorter with good lodging resistance. Test weight was above average.

SY Ovation (03PN108#21) – a soft white winter wheat released by Syngenta Cereals in 2011. SY Ovation has had excellent yields over the past two years, and in 2011 showed a high level of resistance to stripe rust. Test weight, heading date, height and protein were average, and SY Ovation had lower lodging than average. In 2012, yields topped the chart for the average of irrigated nurseries (see Table 17) of the named varieties.

UICF Brundage (02-859) – a soft white winter Clearfield wheat derived from

Brundage released in 2009 by the Idaho AES. Clearfield wheats have resistance to imazamox herbicides such as Beyond®, for hard to control grassy weeds. Performance and agronomic characteristics are very similar to Brundage, but is much more resistant to stripe rust than Brundage. Test weight and height have been below average.

UICF Lambert (99-435) – a soft white winter Clearfield wheat released in 2008 by the Idaho AES. Clearfield wheats have resistance imazamox herbicides such as to Beyond® herbicide, for hard to control grassy weeds. Performance and agronomic characteristics are very similar to Lambert. Yields are comparable to ORCF 102, with similar test weight, plant height, and a slightly earlier heading date.

UICF Grace (IDO 651) – a hard white winter Clearfield wheat released in 2009 for the rainfed production areas. UICF Grace has resistance to imazamox herbicides such as Beyond®, and will be useful in areas where jointed goatgrass and cheatgrass are problems. Yields are comparable to Juniper and Bonneville. Grace is tall and susceptible to black chaff, making it suited to dryland production.

UI LHS (IDO835) – a hard white winter wheat released in 2010 by the Idaho AES for high yield potential under dryland conditions. In the second year of dryland trials, LHS yields were below average. While LHS yielded well under irrigation, it will lodge and is very susceptible to stripe rust.

UI Silver (IDO 658) – a hard white winter wheat released in 2011 by the University of Idaho AES. UI Silver had good dryland yields and test weight in extension testing, similar to Utah 100 and UICF Grace over the last three years. UI Silver has good end

use quality for both bread and Asian noodles. UI Silver has resistance to stripe rust, dwarf bunt, and carries the SrTmp gene for resistance to stem rust. It is susceptible to black chaff, which can be a problem under irrigation.

UI SRG (IDO 656) – a hard red winter wheat released in 2012 by the Idaho AES for the dryland conditions of southern Idaho and Northern Utah. SRG will lodge under irrigation without the use of growth regulators. Yields in the past two (very stressful) years have been about average.

WestBred Arrowhead (ML9W05-2501) – a hard red winter wheat released by WestBred (a unit of Monsanto) in 2011. Irrigated yields of WestBred Arrowhead averaged over the last three years have been excellent, similar to Utah 100, Yellowstone, and Norwest 553 (see Table 4). WestBred Arrowhead, like Norwest 553, showed excellent resistance to stripe rust in the 2011 epidemic. Under irrigation, height was similar to Promontory, test weight was above average and lodging was below average.

WestBred 456 – a soft white winter wheat from WestBred, (a unit of Monsanto), WestBred 456 was released as an improvement over WB 470 and as a replacement for WB 528. WB 456 yielded slightly less than WB 528 and had higher test weight. WB 456 is three inches shorter than WB 470 with improved lodging resistance. WB 456 has an early heading date, 5-6 days earlier than average, and had excellent resistance to stripe rust in the 2011 epidemic. Three-year average yields were below average, with very high test weights. WestBred 456 is 3 inches shorter than average.

WestBred Junction (BZ6W02-616) – a soft white winter wheat released in 2011 by WestBred (a unit of Monsanto). In the third year in these trials, averaged over all irrigated locations, the yield of WestBred-Junction was excellent, equal to Bruneau, and AgriPro Salute and greater than WestBred 456, but with a little lower test weight than WestBred 456. WestBred Junction yields were among the top-yielding group of soft white winter wheat's, including Bruneau, AgriPro Salute, WB-Junction, AP Badger, AgriPro Legion and WB 528.

Whetstone (W98-355) – is a hard red winter wheat from AgriPro, now Syngenta Cereals, in 2009. Whetstone has been a consistent high-yielding, high test weight wheat. Whetstone is a medium height semidwarf with buckskin colored chaff at maturity. Whetstone is an early maturing wheat with a good level of winter-hardiness but is susceptible to the current prevalent races of stripe rust (2011). Whetstone has good straw strength and has performed well in both irrigated and dryland production. Whetstone has good protein and very good loaf volume. Whetstone is a PVP, Title V variety.

Yellowstone (MT00159) – a hard red winter wheat with excellent yield potential in both irrigated and dryland conditions of southeast Idaho. Yellowstone has average test weight, height, heading dates and grain protein and has excellent lodging resistance under irrigation. End use quality is average, with above average loaf volume.

Table 3. Ten year averages of selected agronomic characteristics, 2002-2011 compared to 2012.

NOTE: "Average" values are for years 2002 to 2011

Winter Wheat

| YIELD | | | TEST WEIGHT | | | PLANT HEIGHT | | | HEADING DATE | | | | LODGING | | |
|-------------|------|-----------|-------------|------|-----------|--------------|------|-----------|--------------|------|------------|----------------|-------------|------|----------|
| Year | Loc. | bu/A | Year | Loc. | lb/bu | Year | Loc. | in. | Year | Loc. | date | Days fr. Jan.1 | Year | Loc. | % |
| 2004 | 3 | 122 | 2004 | 3 | 61.1 | 2005 | 4 | 38 | 2011 | 5 | 6/19 | 171 | 2010 | 5 | 21 |
| 2005 | 4 | 104 | 2008 | 5 | 60.9 | 2004 | 3 | 36 | 2010 | 5 | 6/18 | 171 | 2009 | 5 | 17 |
| 2009 | 5 | 102 | 2006 | 4 | 60.8 | 2009 | 5 | 35 | 2008 | 5 | 6/14 | 166 | 2011 | 5 | 9 |
| 2012 | 4 | 102 | 2007 | 4 | 60.3 | 2010 | 5 | 34 | 2002 | 4 | 6/10 | 162 | 2007 | 4 | 9 |
| 2003 | 4 | 101 | 2010 | 5 | 60.3 | Avg. | --- | 33 | 2009 | 5 | 6/9 | 162 | Avg. | --- | 8 |
| 2006 | 4 | 98 | 2011 | 5 | 60.2 | 2011 | 5 | 32 | Avg. | --- | 6/8 | 160 | 2006 | 4 | 8 |
| Avg. | --- | 97 | Avg. | --- | 60 | 2006 | 4 | 32 | 2005 | 4 | 6/7 | 159 | 2003 | 4 | 7 |
| 2007 | 4 | 96 | 2009 | 5 | 60.0 | 2003 | 4 | 32 | 2012 | 4 | 6/3 | 156 | 2012 | 4 | 5 |
| 2010 | 5 | 95 | 2003 | 4 | 59.7 | 2002 | 4 | 31 | 2004 | 3 | 6/3 | 155 | 2008 | 5 | 4 |
| 2002 | 4 | 88 | 2012 | 4 | 59.7 | 2012 | 4 | 30 | 2006 | 4 | 6/1 | 153 | 2005 | 4 | 4 |
| 2011 | 5 | 86 | 2005 | 4 | 59.3 | 2007 | 4 | 30 | 2003 | 3 | 5/31 | 152 | 2004 | 3 | 2 |
| 2008 | 5 | 80 | 2002 | 4 | 57.8 | 2008 | 4 | 30 | 2007 | 4 | 5/30 | 151 | 2002 | 4 | 0 |

Spring Wheat

| YIELD | | | TEST WEIGHT | | | PLANT HEIGHT | | | HEADING DATE | | | | LODGING | | |
|-------------|------|-----------|-------------|------|-------------|--------------|------|-----------|--------------|------|------------|----------------|-------------|------|----------|
| Year | Loc. | bu/A | Year | Loc. | lb/bu | Year | Loc. | in. | Year | Loc. | date | Days fr. Jan.1 | Year | Loc. | % |
| 2009 | 5 | 107 | 2006 | 5 | 62.1 | 2003 | 4 | 34 | 2008 | 5 | 7/9 | 192 | 2003 | 4 | 62 |
| 2008 | 5 | 102 | 2009 | 5 | 61.8 | 2009 | 5 | 34 | 2010 | 5 | 7/9 | 192 | Avg. | --- | 8 |
| 2011 | 5 | 96 | 2012 | 5 | 61.4 | 2010 | 5 | 33 | 2011 | 5 | 7/9 | 192 | 2006 | 5 | 6 |
| 2003 | 4 | 96 | 2002 | 7 | 60.8 | 2005 | 5 | 32 | 2005 | 5 | 7/3 | 186 | 2007 | 5 | 5 |
| 2010 | 5 | 91 | 2008 | 5 | 60.7 | 2011 | 5 | 32 | 2009 | 5 | 7/3 | 185 | 2010 | 5 | 5 |
| 2012 | 5 | 90 | 2010 | 5 | 60.6 | 2004 | 4 | 32 | Avg. | --- | 7/2 | 184 | 2011 | 5 | 3 |
| Avg. | --- | 88 | Avg. | --- | 60.3 | Avg. | --- | 31 | 2004 | 4 | 7/1 | 183 | 2005 | 5 | 2 |
| 2005 | 5 | 87 | 2005 | 5 | 60.2 | 2007 | 5 | 30 | 2002 | 7 | 6/29 | 181 | 2004 | 4 | 1 |
| 2007 | 5 | 81 | 2004 | 4 | 59.6 | 2008 | 5 | 30 | 2003 | 4 | 6/28 | 180 | 2008 | 5 | 0 |
| 2004 | 4 | 79 | 2003 | 4 | 59.4 | 2012 | 5 | 30 | 2006 | 5 | 6/27 | 179 | 2012 | 5 | 0.4 |
| 2006 | 5 | 72 | 2011 | 5 | 59.2 | 2002 | 7 | 29 | 2012 | 5 | 6/24 | 177 | 2002 | 7 | 0 |
| 2002 | 7 | 67 | 2007 | 5 | 58.6 | 2006 | 5 | 29 | 2007 | 5 | 6/21 | 173 | 2009 | 5 | 0 |

Spring Barley

| YIELD | | | TEST WEIGHT | | | PLANT HEIGHT | | | HEADING DATE | | | | LODGING | | |
|-------------|------|------------|-------------|------|-----------|--------------|------|-----------|--------------|------|-------------|----------------|-------------|------|-----------|
| Year | Loc. | bu/A | Year | Loc. | lb/bu | Year | Loc. | in. | Year | Loc. | date | Days fr. Jan.1 | Year | Loc. | % |
| 2012 | 5 | 129 | 2009 | 4 | 52.5 | 2010 | 4 | 37 | 2008 | 5 | 7/11 | 193 | 2003 | 4 | 78 |
| 2009 | 4 | 118 | 2005 | 5 | 52.0 | 2009 | 4 | 34 | 2011 | 5 | 7/9 | 191 | 2007 | 5 | 35 |
| 2008 | 5 | 114 | 2010 | 4 | 51.7 | 2004 | 4 | 34 | 2010 | 4 | 7/4 | 187 | Avg. | --- | 28 |
| 2011 | 5 | 112 | 2011 | 5 | 51.6 | 2011 | 5 | 33 | 2005 | 5 | 7/4 | 186 | 2011 | 5 | 26 |
| 2010 | 4 | 106 | 2006 | 5 | 51.5 | 2002 | 7 | 32 | Avg. | --- | 6/30 | 183 | 2010 | 4 | 24 |
| Avg. | --- | 103 | 2012 | 5 | 51.4 | 2003 | 4 | 32 | 2009 | 4 | 6/30 | 183 | 2004 | 4 | 23 |
| 2005 | 5 | 103 | Avg. | --- | 51 | 2005 | 5 | 32 | 2004 | 4 | 6/29 | 181 | 2002 | 7 | 22 |
| 2003 | 4 | 102 | 2004 | 4 | 50.7 | Avg. | --- | 32 | 2006 | 5 | 6/28 | 180 | 2005 | 5 | 21 |
| 2004 | 4 | 99 | 2008 | 5 | 50.7 | 2008 | 5 | 31 | 2002 | 7 | 6/26 | 178 | 2006 | 5 | 21 |
| 2007 | 5 | 99 | 2002 | 7 | 50.1 | 2012 | 5 | 30 | 2012 | 5 | 6/24 | 177 | 2008 | 5 | 15 |
| 2002 | 7 | 96 | 2003 | 4 | 49.2 | 2007 | 5 | 27 | 2007 | 5 | 6/23 | 175 | 2009 | 4 | 13 |
| 2006 | 5 | 82 | 2007 | 5 | 49.2 | 2006 | 5 | 26 | 2003 | 4 | 6/20 | 172 | 2012 | 5 | 0.4 |

Table 4. Hard Winter Wheat Irrigated Nurseries, 3-Year Averages (2010-2012; 9 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|
| Utah 100 | 139.3 | 60.5 | 98 | 6/11 | 42 | 13 | 12.3 |
| Yellowstone | 136.2 | 61.5 | 97 | 6/7 | 40 | 17 | 12.3 |
| Norwest 553 | 134.8 | 61.6 | 96 | 6/8 | 34 | 0 | 12.4 |
| WB-Arrowhead | 134.4 | 62.2 | 98 | 6/7 | 39 | 13 | 12.1 |
| Deloris | 129.7 | 62.3 | 96 | 6/11 | 42 | 30 | 12.5 |
| Moreland | 128.1 | 60.5 | 97 | 6/7 | 35 | 8 | 13.2 |
| Whetstone | 127.6 | 61.6 | 98 | 6/3 | 36 | 13 | 13.1 |
| Promontory | 127.1 | 62.4 | 95 | 6/7 | 38 | 18 | 12.0 |
| Boundary | 125.3 | 61.2 | 98 | 6/10 | 37 | 16 | 11.4 |
| Golden Spike (W) | 123.8 | 60.0 | 98 | 6/11 | 38 | 45 | 12.0 |
| Manning | 123.1 | 60.8 | 97 | 6/8 | 38 | 48 | 12.8 |
| Eddy | 122.3 | 62.0 | 97 | 6/7 | 36 | 10 | 12.2 |
| Garland | 121.9 | 58.9 | 96 | 6/11 | 30 | 18 | 13.2 |
| AgriPro Paladin | 118.8 | 60.9 | 95 | 6/8 | 36 | 6 | 13.4 |
| Bonneville | 113.1 | 62.2 | 98 | 6/12 | 43 | 34 | 14.2 |
| Average | 127.0 | 61.2 | 97 | 6/9 | 38 | 19 | 12.6 |
| LSD ($\alpha = .05$) | 6.2 | 0.6 | 2.1 | 0.7 | 1.3 | 9.7 | 0.6 |
| CV% | 10.3 | 2.2 | 4.6 | 0.9 | 7.4 | 105.5 | 5.5 |
| Pr > F | <.0001 | <.0001 | 0.0651 | <.0001 | <.0001 | <.0001 | <.0001 |

(W) = white

Table 5. Soft White Winter Wheat Irrigated Nurseries, 3-Year Averages (2010-2012; 9 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|-----------------------|---------------------|-------------------------|------------------------|------------------------|
| Bruneau | 139.2 | 59.5 | 97 | 6/12 | 36 | 23 | 10.0 |
| Agripro Salute | 138.3 | 58.8 | 95 | 6/11 | 38 | 9 | 10.8 |
| WB-Junction | 136.2 | 60.0 | 98 | 6/6 | 34 | 29 | 10.4 |
| AP Badger | 136.1 | 57.5 | 98 | 6/10 | 33 | 10 | 10.4 |
| Agripro Legion | 135.7 | 57.1 | 98 | 6/11 | 38 | 33 | 10.4 |
| WB 528 | 133.8 | 60.2 | 99 | 6/8 | 35 | 19 | 10.4 |
| UICF Lambert | 133.6 | 58.5 | 98 | 6/9 | 39 | 10 | 11.0 |
| Bitterroot | 132.5 | 59.3 | 95 | 6/13 | 38 | 19 | 10.2 |
| ORCF-102 | 132.4 | 59.1 | 98 | 6/12 | 38 | 17 | 10.4 |
| ORCF-101 | 131.8 | 59.3 | 95 | 6/11 | 36 | 3 | 10.7 |
| Brundage | 131.8 | 60.7 | 95 | 6/6 | 34 | 11 | 10.4 |
| Skiles | 131.5 | 60.2 | 95 | 6/11 | 34 | 4 | 10.4 |
| Madsen | 131.3 | 59.1 | 97 | 6/13 | 36 | 11 | 11.2 |
| Brundage 96 | 131.2 | 58.5 | 98 | 6/10 | 35 | 10 | 10.2 |
| UICF Brundage | 130.9 | 58.3 | 98 | 6/11 | 33 | 14 | 10.7 |
| AP Legacy | 130.5 | 58.9 | 98 | 6/12 | 38 | 7 | 10.4 |
| Stephens | 130.4 | 58.9 | 98 | 6/11 | 36 | 23 | 10.6 |
| WB 456 | 127.0 | 61.4 | 97 | 6/5 | 33 | 7 | 10.7 |
| Coda* | 121.4 | 60.0 | 97 | 6/15 | 39 | 42 | 11.8 |
| Average | 132.4 | 59.2 | 97 | 6/10 | 36 | 16 | 10.6 |
| LSD ($\alpha = .05$) | 5.4 | 0.5 | 3.9 | 0.7 | 0.8 | 7.6 | 0.7 |
| CV% | 8.6 | 1.9 | 8.4 | 0.9 | 4.4 | 100.6 | 7.2 |
| Pr > F | <.0001 | <.0001 | 0.6603 | <.0001 | <.0001 | <.0001 | 0.0007 |

*club wheat

Table 6. Winter Barley Irrigated Nurseries, 3-Year Averages (2010-2012; 6 site-years)

| Variety | Yield | Test Wt | Spring | Heading | Height | Lodging | Protein | Plumps | | |
|---------------|--------|---------|---------|---------|--------|---------|---------|---------|-----------|--------|
| | (bu/A) | (lb/bu) | Stand % | Date | (in.) | (%) | (%) | (>6/64) | (>5.5/64) | % thin |
| Eight-Twelve | 172.0 | 49.0 | 94 | 6/1 | 36 | 10 | 11.6 | 80.0 | 13.4 | 7.1 |
| OR92 | 170.3 | 49.1 | 93 | 6/1 | 36 | 6 | 13.5 | 92.3 | 6.0 | 2.0 |
| OR91 | 168.3 | 48.5 | 90 | 6/2 | 36 | 5 | 13.5 | 80.2 | 11.1 | 7.9 |
| Sunstar Pride | 167.9 | 50.4 | 91 | 6/10 | 34 | 16 | 11.0 | 62.6 | 20.9 | 16.5 |
| 93Ab669 | 167.8 | 49.5 | 87 | 6/2 | 38 | 18 | 11.7 | 77.8 | 14.0 | 8.4 |
| Strider | 166.1 | 49.2 | 94 | 5/31 | 35 | 26 | 12.5 | 76.4 | 14.5 | 9.5 |
| Sprinter | 162.1 | 48.8 | 95 | 6/1 | 35 | 31 | 12.7 | 77.8 | 14.6 | 8.0 |
| Alba | 160.2 | 50.4 | 94 | 6/1 | 36 | 16 | 12.8 | 86.9 | 9.2 | 4.2 |
| OR818 | 158.8 | 48.6 | 96 | 5/31 | 36 | 8 | 13.5 | 89.0 | 7.9 | 3.2 |
| Schuyler | 153.3 | 49.7 | 95 | 6/4 | 38 | 24 | 12.4 | 67.2 | 20.5 | 12.6 |
| Maja | 148.5 | 49.7 | 94 | 6/1 | 37 | 14 | 12.9 | 79.0 | 10.9 | 10.3 |
| Endeavor | 145.7 | 52.0 | 76 | 6/4 | 38 | 27 | 13.0 | 86.1 | 8.3 | 5.9 |
| Kamiak | 143.4 | 49.3 | 97 | 5/29 | 36 | 29 | 14.6 | 77.3 | 14.7 | 7.9 |
| Mathias | 140.6 | 50.3 | 95 | 5/27 | 37 | 4 | 13.2 | 90.9 | 6.3 | 3.0 |
| Charles | 140.5 | 50.5 | 79 | 5/31 | 32 | 30 | 13.4 | 87.2 | 6.7 | 6.5 |
| Streaker* | 133.2 | 53.5 | 85 | 5/30 | 35 | 25 | 12.2 | 56.1 | 24.8 | 19.4 |
| Average | 156.2 | 49.9 | 91 | 6/1 | 36 | 18 | 12.8 | 79.2 | 12.7 | 8.3 |
| LSD (a =.05) | 13.1 | 0.7 | 3.9 | 1.0 | 1.3 | 10.2 | 1.5 | 11.8 | 6.1 | 7.3 |
| CV% | 14.6 | 2.5 | 7.6 | 1.1 | 6.5 | 99.3 | 10.1 | 13.0 | 41.5 | 76.5 |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | 0.0021 | <.0001 | <.0001 | 0.0002 |

* indicates hulless variety

Table 7. Hard Winter Wheat Dryland Nurseries 3-Year Averages (2010-2012; 6 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|
| Yellowstone | 28.8 | 60.3 | 82 | 6/17 | 24 | 0 | 11.9 |
| Deloris | 28.7 | 60.7 | 82 | 6/20 | 27 | 0 | 12.2 |
| Curlew | 27.5 | 61.0 | 79 | 6/18 | 26 | 0 | 12.4 |
| Utah 100 | 27.4 | 59.7 | 82 | 6/20 | 26 | 0 | 12.3 |
| UI LHS (W) | 26.6 | 59.2 | 82 | 6/21 | 23 | 0 | 12.2 |
| Bonneville | 26.5 | 61.5 | 80 | 6/22 | 25 | 0 | 13.5 |
| UICF Grace (W) | 26.0 | 59.4 | 79 | 6/17 | 30 | 0 | 11.9 |
| Juniper | 25.5 | 60.7 | 77 | 6/19 | 29 | 0 | 12.5 |
| UI Silver (W) | 25.2 | 61.7 | 79 | 6/20 | 25 | 0 | 11.7 |
| Golden Spike (W) | 25.2 | 59.7 | 80 | 6/20 | 24 | 0 | 12.0 |
| Gary (W) | 25.2 | 60.0 | 78 | 6/21 | 25 | 0 | 11.3 |
| DW | 24.9 | 60.1 | 83 | 6/19 | 23 | 0 | 12.3 |
| Garland | 24.4 | 58.3 | 75 | 6/20 | 19 | 0 | 13.6 |
| UI Darwin (W) | 24.3 | 61.5 | 86 | 6/19 | 26 | 0 | 13.1 |
| Weston | 23.5 | 60.9 | 76 | 6/18 | 26 | 0 | 13.3 |
| Promontory | 21.5 | 60.4 | 84 | 6/18 | 23 | 0 | 12.2 |
| Average | 25.7 | 60.3 | 80 | 6/19 | 25 | 0 | 12.4 |
| LSD ($\alpha = .05$) | 2.8 | 0.6 | 5.8 | 0.8 | 1.1 | 0.0 | 0.8 |
| CV% | 18.8 | 1.9 | 12.8 | 0.8 | 7.7 | . | 5.8 |
| Pr > F | <.0001 | <.0001 | 0.0143 | <.0001 | <.0001 | . | <.0001 |

(W) = white

Table 8. Soft White Winter Wheat Dryland Nurseries, 3-Year Averages (2010-2012; 3 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|
| Coda* | 23.2 | 60.7 | 68 | 6/28 | 19 | 0 | 12.1 |
| ORCF-102 | 21.4 | 59.7 | 60 | 6/28 | 21 | 0 | 12.2 |
| UICF Brundage | 20.9 | 57.5 | 68 | 6/27 | 20 | 0 | 11.2 |
| Bitterroot | 20.6 | 60.3 | 70 | 6/28 | 20 | 0 | 12.5 |
| ORCF-101 | 19.7 | 57.8 | 59 | 6/28 | 20 | 0 | 12.1 |
| Bruneau | 19.6 | 58.8 | 66 | 6/28 | 19 | 0 | 10.7 |
| Stephens | 19.4 | 59.3 | 70 | 6/28 | 21 | 0 | 12.6 |
| Brundage 96 | 18.8 | 56.9 | 75 | 6/27 | 20 | 0 | 11.6 |
| UICF Lambert | 18.4 | 57.8 | 64 | 6/26 | 21 | 0 | 10.8 |
| WB 528 | 18.3 | 59.2 | 66 | 6/26 | 20 | 0 | 11.7 |
| IDO663 | 17.5 | 57.4 | 61 | 6/26 | 19 | 0 | 11.3 |
| Madsen | 17.4 | 58.0 | 65 | 6/28 | 20 | 0 | 12.3 |
| Skiles | 16.7 | 59.4 | 58 | 6/28 | 19 | 0 | 11.9 |
| WB-Junction | 16.3 | 58.5 | 75 | 6/24 | 21 | 0 | 11.0 |
| Brundage | 15.9 | 59.0 | 67 | 6/24 | 20 | 0 | 11.4 |
| Average | 18.9 | 58.7 | 66 | 6/27 | 20 | 0 | 11.7 |
| LSD ($\alpha = .05$) | 3.0 | 1.1 | 11.3 | 0.9 | 1.4 | 0.0 | 1.2 |
| CV% | 19.6 | 2.3 | 21.2 | 0.6 | 8.9 | . | 6.2 |
| Pr > F | <.0001 | <.0001 | 0.0830 | <.0001 | 0.1332 | . | 0.0374 |

*club wheat

Table 9. Hard Spring Wheat Irrigated Nurseries, 3-Year Averages (2010-2012; 12 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|
| Alzada (D) | 106.6 | 61.7 | 99 | 6/30 | 32 | 4 | 12.9 |
| Bullseye | 105.4 | 62.1 | 99 | 7/2 | 31 | 3 | 13.1 |
| WB-Idamax (W) | 105.0 | 60.4 | 99 | 6/30 | 31 | 0 | 13.1 |
| Jefferson | 103.5 | 60.9 | 99 | 7/1 | 34 | 3 | 13.1 |
| Choteau | 103.2 | 61.2 | 99 | 7/2 | 34 | 0 | 13.7 |
| WB-Paloma (W) | 103.0 | 61.1 | 99 | 6/29 | 30 | 0 | 13.3 |
| UI Winchester | 102.0 | 61.0 | 100 | 7/1 | 33 | 5 | 13.0 |
| Kelse | 101.7 | 60.8 | 99 | 7/2 | 36 | 0 | 13.9 |
| SY Capstone (W) | 101.6 | 60.9 | 99 | 6/29 | 30 | 0 | 12.7 |
| Volt | 101.2 | 62.2 | 99 | 7/3 | 33 | 0 | 12.8 |
| Blanca Grande (W) | 100.3 | 62.6 | 99 | 6/28 | 29 | 0 | 12.5 |
| Cabernet | 100.2 | 61.3 | 99 | 6/30 | 28 | 2 | 12.7 |
| Snow Crest (W) | 96.7 | 61.1 | 99 | 6/28 | 29 | 0 | 13.4 |
| Klasic (W) | 95.4 | 61.1 | 99 | 6/28 | 26 | 2 | 13.2 |
| Westbred 936 | 91.3 | 58.3 | 99 | 7/1 | 31 | 2 | 13.6 |
| WB-Rockland | 87.3 | 61.2 | 99 | 7/1 | 27 | 0 | 14.2 |
| Average | 100.3 | 61.1 | 99 | 6/30 | 31 | 1 | 13.2 |
| LSD ($\alpha = .05$) | 3.3 | 0.4 | 0.5 | 0.4 | 0.8 | 3.2 | 0.4 |
| CV% | 8.0 | 1.6 | 1.4 | 0.6 | 6.0 | 587.5 | 3.9 |
| Pr>F | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | 0.0215 | <.0001 |

(W) = white

(D) = durum

Table 10. Soft White Spring Wheat Irrigated Nurseries, 3-Year Averages (2010-2012; 12 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|
| UI Stone | 115.9 | 60.4 | 99 | 7/1 | 35 | 7 | 10.2 |
| IDO 687 | 114.7 | 61.5 | 99 | 7/3 | 36 | 1 | 10.1 |
| Babe | 114.4 | 61.3 | 100 | 7/2 | 37 | 6 | 10.9 |
| Alpowa | 113.5 | 60.4 | 99 | 7/4 | 37 | 4 | 10.9 |
| UI Whitmore | 113.2 | 60.6 | 99 | 7/2 | 36 | 1 | 10.4 |
| Alturas | 112.0 | 60.3 | 99 | 7/2 | 35 | 3 | 9.9 |
| UI Pettit | 108.8 | 60.4 | 99 | 6/29 | 32 | 4 | 10.8 |
| Whit | 108.0 | 60.4 | 99 | 7/1 | 35 | 7 | 10.5 |
| Nick | 106.6 | 60.4 | 99 | 7/1 | 34 | 4 | 11.4 |
| Penawawa | 104.2 | 60.4 | 99 | 7/3 | 35 | 4 | 10.6 |
| JD* | 101.3 | 60.8 | 100 | 7/4 | 38 | 25 | 11.2 |
| Cataldo | 101.1 | 60.3 | 99 | 6/29 | 34 | 0 | 10.7 |
| Average | 109.5 | 60.6 | 99 | 7/2 | 35 | 5 | 10.6 |
| LSD ($\alpha = .05$) | 3.3 | 0.3 | 0.4 | 0.3 | 0.7 | 5.0 | 0.7 |
| CV % | 7.3 | 1.2 | 0.9 | 0.4 | 4.6 | 222.5 | 4.2 |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | 0.0117 |

* = club

Table 11. 6-Row Spring Barley Irrigated Nurseries, 3-Year Averages (2010-2012; 12 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump (> 6/64) | Plump (>5.5/64) | % Thin |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------------|-------------------------------|---------------|
| Feed | | | | | | | | | | |
| UT2120-14 | 133.7 | 50.3 | 99 | 6/26 | 35 | 24 | 12.6 | 88.4 | 7.6 | 4.3 |
| Millennium | 132.7 | 49.9 | 99 | 6/26 | 38 | 12 | 12.6 | 76.1 | 14.5 | 9.4 |
| UT2120-35 | 132.6 | 50.3 | 99 | 6/26 | 35 | 27 | 12.7 | 86.7 | 8.8 | 4.7 |
| Goldeneye | 131.8 | 51.5 | 99 | 6/29 | 37 | 21 | 13.2 | 87.6 | 7.8 | 4.6 |
| Herald | 128.1 | 49.3 | 98 | 6/29 | 38 | 20 | 11.9 | 85.6 | 9.3 | 5.2 |
| Steptoe | 121.7 | 48.5 | 99 | 6/28 | 37 | 39 | 11.9 | 84.0 | 9.5 | 6.6 |
| Malt | | | | | | | | | | |
| Legacy | 119.9 | 50.1 | 98 | 6/30 | 38 | 40 | 12.8 | 85.1 | 9.3 | 5.8 |
| Tradition | 112.3 | 51.3 | 99 | 6/30 | 39 | 29 | 13.1 | 90.6 | 6.6 | 3.0 |
| Celebration | 108.9 | 50.3 | 98 | 6/29 | 37 | 38 | 13.7 | 87.5 | 8.2 | 4.7 |
| Morex | 102.4 | 49.5 | 98 | 6/30 | 39 | 48 | 12.6 | 75.1 | 14.7 | 10.3 |
| Average | 122.4 | 50.1 | 99 | 6/28 | 37 | 30 | 12.7 | 84.7 | 9.6 | 5.8 |
| LSD ($\alpha = .05$) | 5.5 | 0.4 | 0.8 | 0.5 | 1.0 | 8.9 | 0.7 | 3.6 | 1.8 | 2.1 |
| CV% | 11.2 | 2.2 | 1.9 | 0.7 | 6.6 | 74.1 | 6.4 | 5.2 | 22.8 | 44.0 |
| Pr > F | <.0001 | <.0001 | 0.0018 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 |

Table 12. 2-Row Spring Malt Barley Irrigated Nurseries, 3-Year Averages (2010-2012; 12 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | (> 6/64) | Plump (5.5/64) | % Thin |
|-------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|--------------------|---------------------------|---------------|
| Xena (feed check) | 136.4 | 53.1 | 98 | 7/2 | 34 | 20 | 12.5 | 91.9 | 5.2 | 2.8 |
| Moravian 137 | 130.6 | 50.2 | 100 | 6/27 | 29 | 31 | 13.6 | 79.4 | 12.1 | 8.8 |
| Idagold II (feed check) | 128.0 | 50.9 | 99 | 7/4 | 29 | 11 | 12.6 | 81.6 | 12.1 | 6.3 |
| Baronesse (feed check) | 128.0 | 52.4 | 99 | 7/3 | 32 | 30 | 12.0 | 88.4 | 6.9 | 4.7 |
| 2Ab04-X001084-27 | 124.5 | 50.4 | 99 | 7/3 | 32 | 40 | 12.7 | 87.2 | 7.4 | 5.2 |
| Moravian 69 | 123.9 | 49.7 | 100 | 7/3 | 28 | 34 | 12.8 | 82.3 | 10.9 | 7.0 |
| Conrad | 122.7 | 52.2 | 99 | 7/2 | 32 | 28 | 13.0 | 92.0 | 5.1 | 2.9 |
| Pinnacle | 121.8 | 53.6 | 99 | 6/30 | 36 | 10 | 13.4 | 95.9 | 2.3 | 1.5 |
| Copeland | 121.3 | 51.7 | 99 | 7/4 | 36 | 31 | 13.3 | 91.0 | 5.5 | 3.5 |
| Merit 57 | 117.1 | 50.2 | 98 | 7/3 | 34 | 40 | 13.5 | 81.0 | 11.1 | 7.8 |
| Moravian 115 | 116.9 | 48.0 | 100 | 6/28 | 27 | 44 | 13.5 | 82.8 | 11.2 | 6.3 |
| 02Ab17271 | 113.6 | 50.6 | 99 | 7/6 | 35 | 29 | 13.5 | 83.6 | 8.9 | 7.1 |
| Hockett | 112.6 | 52.7 | 99 | 7/1 | 33 | 42 | 13.6 | 89.0 | 6.3 | 4.6 |
| B1202 | 112.6 | 51.5 | 99 | 7/3 | 33 | 31 | 13.2 | 90.3 | 6.0 | 3.5 |
| Merit | 110.5 | 49.7 | 99 | 7/5 | 34 | 34 | 13.4 | 80.9 | 9.7 | 9.3 |
| Harrington | 102.5 | 51.3 | 99 | 7/4 | 34 | 48 | 13.6 | 79.5 | 12.1 | 8.2 |
| Average | 120.2 | 51.1 | 99 | 7/2 | 32 | 31 | 13.1 | 86.0 | 8.3 | 5.6 |
| LSD ($\alpha = .05$) | 5.9 | 0.6 | 0.9 | 0.5 | 1.0 | 9.2 | 0.6 | 4.8 | 2.4 | 2.8 |
| CV% | 11.8 | 2.7 | 2.1 | 0.6 | 7.0 | 70.7 | 5.3 | 6.6 | 35.7 | 60.8 |
| Pr > F | <.0001 | <.0001 | 0.0118 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 |

Table 13. 2-Row Spring Feed Barley Irrigated Nurseries, 3-Year Averages (2010-2012; 12 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | (> 6/64) | Plump (5.5/64) | % Thin |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|--------------------|---------------------------|---------------|
| Xena | 139.6 | 53.0 | 98 | 7/2 | 34 | 23 | 12.5 | 91.4 | 5.4 | 3.1 |
| Spaulding | 138.4 | 53.6 | 99 | 7/3 | 34 | 12 | 12.7 | 89.4 | 6.3 | 4.1 |
| Champion | 136.1 | 53.6 | 99 | 7/1 | 34 | 18 | 13.3 | 92.2 | 4.8 | 2.9 |
| Idagold II | 130.5 | 51.0 | 99 | 7/5 | 29 | 12 | 12.6 | 83.0 | 11.2 | 5.7 |
| Lenetah | 130.3 | 52.7 | 98 | 7/2 | 35 | 35 | 13.3 | 91.7 | 4.7 | 3.6 |
| Tetonia | 129.5 | 52.6 | 99 | 7/4 | 32 | 34 | 12.2 | 85.5 | 8.5 | 5.9 |
| RWA 1758 | 128.9 | 53.1 | 99 | 7/3 | 32 | 23 | 12.2 | 90.8 | 5.5 | 3.6 |
| Baronesse | 128.5 | 52.6 | 99 | 7/3 | 32 | 28 | 11.9 | 88.9 | 7.2 | 4.0 |
| Julie* | 106.3 | 57.5 | 96 | 7/7 | 35 | 18 | 14.6 | 77.6 | 13.4 | 8.7 |
| Clearwater* | 100.4 | 57.7 | 97 | 7/3 | 34 | 34 | 14.2 | 71.7 | 18.3 | 10.0 |
| Transit* | 90.6 | 57.0 | 98 | 7/5 | 36 | 22 | 14.3 | 77.4 | 15.7 | 6.6 |
| Average | 123.6 | 54.0 | 98 | 7/3 | 33 | 24 | 13.1 | 85.4 | 9.2 | 5.3 |
| LSD ($\alpha = .05$) | 5.3 | 0.5 | 0.9 | 0.5 | 0.9 | 8.8 | 0.7 | 5.0 | 2.9 | 2.5 |
| CV% | 10.7 | 2.3 | 2.3 | 0.6 | 6.6 | 93.6 | 6.4 | 7.3 | 39.0 | 57.6 |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 |

*indicates hulless variety

Table 14. Hard Spring Wheat Dryland Nurseries, 3-Year Averages (2010-2012; 3 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|
| Kelse | 34.5 | 58.0 | 85 | 7/17 | 25 | 0 | 13.5 |
| Klasic (W) | 34.4 | 60.4 | 93 | 7/13 | 18 | 0 | 12.3 |
| Jefferson | 33.0 | 60.0 | 90 | 7/16 | 23 | 0 | 13.3 |
| Westbred 936 | 33.0 | 58.5 | 93 | 7/16 | 22 | 0 | 13.5 |
| Snow Crest (W) | 32.3 | 58.7 | 90 | 7/13 | 22 | 0 | 12.9 |
| Blanca Grande (W) | 32.2 | 60.3 | 89 | 7/14 | 21 | 0 | 13.0 |
| UI Winchester | 31.5 | 59.0 | 90 | 7/16 | 22 | 0 | 12.8 |
| Choteau | 28.9 | 57.5 | 90 | 7/18 | 22 | 0 | 14.3 |
| Volt | 27.2 | 59.6 | 91 | 7/20 | 23 | 0 | 12.5 |
| Average | 31.9 | 59.1 | 90 | 7/16 | 22 | 0 | 13.1 |
| LSD ($\alpha = .05$) | 3.8 | 0.9 | 5.2 | 0.6 | 1.4 | 0.0 | 1.0 |
| CV% | 14.5 | 1.9 | 7.1 | 0.4 | 8.0 | . | 4.4 |
| Pr>F | 0.0031 | <.0001 | 0.1856 | <.0001 | <.0001 | . | 0.0164 |

(W) = white

(D) = durum

Table 15. Soft White Spring Wheat Dryland Nurseries, 3-Year Averages (2010-2012; 3 site-years)

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|-------------------------|------------------------|------------------------|
| UI Stone | 44.8 | 60.1 | 91 | 7/16 | 24 | 0 | 10.2 |
| Alturas | 43.1 | 59.0 | 91 | 7/18 | 22 | 0 | 9.9 |
| JD* | 42.2 | 59.2 | 91 | 7/19 | 25 | 0 | 11.2 |
| Cataldo | 41.6 | 59.6 | 88 | 7/14 | 22 | 0 | 10.7 |
| IDO 687 | 41.5 | 60.4 | 89 | 7/18 | 24 | 0 | 10.1 |
| Whit | 41.1 | 59.3 | 92 | 7/16 | 24 | 0 | 10.5 |
| Nick | 39.0 | 59.3 | 86 | 7/16 | 22 | 0 | 11.4 |
| UI Whitmore | 38.6 | 58.9 | 89 | 7/18 | 22 | 0 | 10.4 |
| UI Pettit | 38.6 | 59.6 | 84 | 7/14 | 22 | 0 | 10.8 |
| Penawawa | 38.1 | 59.6 | 89 | 7/18 | 22 | 0 | 10.6 |
| Babe | 35.6 | 58.6 | 84 | 7/18 | 24 | 0 | 10.9 |
| Alpowa | 33.0 | 56.9 | 90 | 7/20 | 24 | 0 | 10.9 |
| Average | 39.8 | 59.2 | 89 | 7/17 | 23 | 0 | 10.6 |
| LSD ($\alpha = .05$) | 4.9 | 1.0 | 6.7 | 0.4 | 1.4 | 0.0 | 0.7 |
| CV% | 15.1 | 2.1 | 9.4 | 0.3 | 7.3 | . | 4.2 |
| Pr > F | 0.0002 | <.0001 | 0.2620 | <.0001 | <.0001 | . | 0.0117 |

* = club

Table 16. Irrigated Hard Winter Wheat Data Combined from Kimberly, Rupert, and Aberdeen, 2012.

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|------------------------|------------------------|------------------------|
| Yellowstone | 152.7 | 62.3 | 97 | 5/27 | 40 | 10 | 11.0 |
| Keldin | 151.6 | 62.6 | 97 | 5/27 | 34 | 0 | 11.2 |
| Utah 100 | 150.0 | 60.5 | 100 | 5/31 | 40 | 4 | 11.6 |
| Altigo | 147.6 | 57.5 | 97 | 5/26 | 32 | 0 | 10.6 |
| Judee | 147.4 | 63.1 | 99 | 5/29 | 36 | 18 | 12.1 |
| Deloris | 146.2 | 62.4 | 97 | 5/31 | 42 | 32 | 11.5 |
| Moreland | 145.6 | 61.0 | 98 | 5/25 | 34 | 0 | 12.4 |
| OR2080277H | 142.9 | 59.6 | 98 | 5/30 | 35 | 6 | 10.8 |
| WB-Arrowhead | 142.8 | 62.4 | 98 | 5/27 | 38 | 8 | 10.8 |
| Norwest 553 | 142.5 | 61.3 | 94 | 5/29 | 32 | 0 | 11.5 |
| OR2080156H | 142.2 | 61.4 | 92 | 5/30 | 36 | 0 | 11.7 |
| Manning | 140.9 | 61.3 | 97 | 5/27 | 36 | 43 | 11.9 |
| Promontory | 140.4 | 62.9 | 93 | 5/26 | 38 | 4 | 10.6 |
| Garland | 138.6 | 59.5 | 99 | 6/1 | 30 | 15 | 12.5 |
| Eddy | 138.3 | 63.2 | 98 | 5/28 | 35 | 2 | 11.3 |
| Golden Spike (W) | 137.8 | 60.4 | 98 | 5/31 | 38 | 44 | 11.8 |
| Whetstone | 137.6 | 62.2 | 98 | 5/24 | 34 | 0 | 12.6 |
| AgriPro Paladin | 137.1 | 62.2 | 90 | 5/29 | 35 | 0 | 12.1 |
| Boundary | 136.9 | 61.1 | 98 | 5/31 | 37 | 8 | 10.6 |
| Greenville | 134.9 | 60.0 | 94 | 5/27 | 31 | 0 | 11.4 |
| Juniper | 134.1 | 62.0 | 99 | 5/30 | 44 | 8 | 13.0 |
| Azimut | 131.9 | 56.4 | 95 | 5/26 | 30 | 0 | 11.0 |
| AP503 CL2 | 128.7 | 63.6 | 96 | 5/25 | 33 | 0 | 11.8 |
| Bonneville | 124.0 | 61.5 | 100 | 6/2 | 42 | 21 | 13.8 |
| Average | 140.5 | 61.3 | 97 | 5/28 | 36 | 9 | 11.6 |
| LSD ($\alpha = .05$) | 10.3 | 0.8 | 6.1 | 1.3 | 2.8 | 13.5 | 1.0 |
| CV% | 9.1 | 1.6 | 7.8 | 1.1 | 9.6 | 181.3 | 5.2 |
| Pr >F | <.0001 | <.0001 | 0.1965 | <.0001 | <.0001 | <.0001 | <.0001 |

Table 17. Irrigated Soft White Winter Wheat Data Combined from Kimberly, Rupert, and Aberdeen, 2012.

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand % | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|---------------------------|-------------------------|------------------------|------------------------|------------------------|
| LWW 04-4009 | 158.6 | 61.4 | 99 | 6/5 | 34 | 26 | 9.4 |
| SY Ovation | 156.1 | 60.1 | 100 | 5/30 | 35 | 3 | 9.0 |
| OR2071628 | 153.6 | 58.6 | 99 | 6/1 | 34 | 3 | 9.6 |
| IDO663 | 152.4 | 59.8 | 99 | 5/29 | 33 | 3 | 9.5 |
| Mary | 152.4 | 60.5 | 99 | 5/31 | 33 | 3 | 9.5 |
| Bruneau | 151.2 | 59.9 | 99 | 6/2 | 36 | 4 | 9.6 |
| Agripro Legion | 150.5 | 58.2 | 99 | 6/2 | 38 | 3 | 9.5 |
| AP Badger | 146.3 | 57.5 | 99 | 6/1 | 33 | 3 | 9.6 |
| Agripro Salute | 145.9 | 58.8 | 99 | 6/1 | 36 | 3 | 9.5 |
| WB-1070CL | 145.0 | 62.9 | 99 | 5/24 | 32 | 3 | 10.0 |
| OR208047P94 | 144.4 | 56.5 | 97 | 6/1 | 32 | 3 | 9.1 |
| WB-Junction | 144.3 | 61.2 | 98 | 5/27 | 34 | 3 | 8.7 |
| 96-16702 | 144.3 | 60.9 | 91 | 5/30 | 38 | 3 | 8.8 |
| Stephens | 144.1 | 59.1 | 99 | 5/31 | 34 | 3 | 9.6 |
| Brundage | 143.3 | 61.0 | 91 | 5/26 | 33 | 3 | 9.3 |
| UICF Brundage | 142.5 | 58.9 | 99 | 6/1 | 32 | 6 | 9.4 |
| UICF Lambert | 142.0 | 58.8 | 100 | 5/31 | 38 | 3 | 9.7 |
| Madsen | 141.7 | 59.4 | 98 | 6/3 | 36 | 4 | 10.4 |
| AP700 CL | 141.7 | 58.9 | 99 | 6/2 | 38 | 3 | 9.8 |
| OR2070870 | 140.8 | 59.4 | 99 | 6/3 | 34 | 3 | 9.6 |
| BZ6W07-427 | 140.6 | 61.8 | 99 | 5/28 | 32 | 3 | 10.3 |
| ORCF-102 | 140.5 | 59.9 | 98 | 6/2 | 38 | 3 | 9.4 |
| AP Legacy | 140.3 | 59.2 | 99 | 6/1 | 37 | 3 | 9.3 |
| WB 528 | 139.5 | 59.9 | 99 | 6/1 | 33 | 3 | 9.6 |
| BZ6W07-436 | 139.4 | 61.9 | 100 | 5/29 | 32 | 3 | 9.2 |
| NSA 94-2153A | 139.3 | 59.1 | 99 | 5/28 | 31 | 3 | 8.4 |
| Brundage 96 | 139.0 | 58.7 | 99 | 5/30 | 34 | 3 | 8.9 |
| ORCF-101 | 137.3 | 59.9 | 99 | 6/1 | 35 | 3 | 9.8 |
| BZ6W07-458 | 135.6 | 61.2 | 99 | 5/26 | 32 | 2 | 9.8 |
| Bitterroot | 133.8 | 59.4 | 99 | 6/3 | 37 | 9 | 8.9 |
| Coda* | 132.8 | 60.4 | 99 | 6/5 | 39 | 29 | 10.6 |
| Skiles | 132.1 | 60.4 | 99 | 6/1 | 32 | 3 | 8.9 |
| Cara* | 128.5 | 57.4 | 99 | 6/6 | 36 | 3 | 10.0 |
| ARS970230-6C* | 127.3 | 59.0 | 99 | 6/4 | 34 | 3 | 8.9 |
| WB 456 | 126.2 | 62.0 | 97 | 5/25 | 31 | 3 | 9.4 |
| WB-1066CL | 123.6 | 61.9 | 99 | 5/30 | 37 | 3 | 9.5 |
| Average | 141.6 | 59.8 | 98 | 5/31 | 34 | 4 | 9.5 |
| LSD ($\alpha = .05$) | 10.4 | 0.7 | 5.3 | 1.5 | 1.3 | 6.0 | 1.3 |
| CV % | 9.1 | 1.4 | 6.6 | 1.2 | 4.7 | 167.3 | 8.4 |
| Pr > F | <.0001 | <.0001 | 0.5289 | <.0001 | <.0001 | <.0001 | 0.3838 |

* indicates club wheat variety

Table 18. Irrigated Winter Barley Data Combined from Rupert and Aberdeen 2012.

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand | Heading Date | Height (in) | Lodging (%) | Protein (%) | Plump (>6/64) | Plump (>5.5/64) | % Thin |
|------------------------|---------------------|------------------------|---------------------|---------------------|--------------------|--------------------|--------------------|-------------------------|---------------------------|---------------|
| Sunstar Pride | 188.2 | 49.7 | 98 | 6/3 | 33 | 0 | 9.5 | 65.0 | 21.4 | 13.5 |
| Eight-Twelve | 182.7 | 48.8 | 97 | 5/25 | 35 | 1 | 10.9 | 82.7 | 12.4 | 5.9 |
| Strider | 180.9 | 48.3 | 98 | 5/22 | 35 | 5 | 12.1 | 92.2 | 6.4 | 2.1 |
| Alba | 180.1 | 49.5 | 97 | 5/22 | 35 | 1 | 11.8 | 93.0 | 5.8 | 2.2 |
| 93Ab669 | 177.9 | 49.8 | 93 | 5/25 | 40 | 0 | 11.0 | 86.5 | 10.5 | 4.0 |
| Schuyler | 175.6 | 49.2 | 99 | 5/26 | 37 | 6 | 11.1 | 66.4 | 22.2 | 12.0 |
| UT9401-19 | 173.9 | 49.7 | 99 | 5/22 | 37 | 0 | 11.7 | 91.1 | 7.0 | 2.2 |
| Sprinter | 173.2 | 48.0 | 97 | 5/22 | 34 | 0 | 11.6 | 89.1 | 7.9 | 3.5 |
| OR92 | 172.0 | 49.2 | 98 | 5/23 | 36 | 0 | 13.7 | 93.4 | 5.0 | 2.0 |
| OR91 | 171.4 | 48.7 | 96 | 5/22 | 35 | 0 | 13.3 | 89.3 | 5.5 | 2.6 |
| 02Ab431 | 163.1 | 52.2 | 96 | 5/26 | 34 | 8 | 12.3 | 97.1 | 2.3 | 1.2 |
| Kamiak | 162.5 | 49.5 | 97 | 5/19 | 36 | 9 | 12.3 | 87.0 | 10.7 | 3.1 |
| Endeavor | 161.9 | 52.4 | 97 | 5/25 | 40 | 14 | 12.0 | 90.4 | 6.8 | 3.7 |
| UTWB9703-19 | 157.5 | 48.3 | 97 | 5/26 | 38 | 0 | 10.9 | 82.3 | 12.7 | 4.9 |
| Maja | 154.2 | 49.6 | 97 | 5/23 | 38 | 0 | 12.1 | 88.6 | 8.3 | 3.7 |
| Charles | 148.9 | 49.7 | 97 | 5/20 | 29 | 31 | 12.2 | 92.4 | 4.4 | 4.4 |
| Kold | 148.1 | 48.3 | 99 | 5/27 | 35 | 1 | 11.9 | 79.6 | 13.0 | 8.0 |
| 02Ab671 | 147.6 | 52.2 | 93 | 5/28 | 35 | 3 | 11.3 | 97.3 | 2.4 | 1.5 |
| OR818 | 145.0 | 48.3 | 97 | 5/23 | 35 | 0 | 12.3 | 91.2 | 6.3 | 2.9 |
| Mathias | 127.7 | 48.7 | 98 | 5/17 | 34 | 0 | 12.9 | 93.0 | 5.5 | 2.1 |
| Streaker* | 125.8 | 54.1 | 94 | 5/20 | 33 | 0 | 10.9 | 55.6 | 21.0 | 24.2 |
| Average | 162.8 | 49.7 | 97 | 5/24 | 35 | 4 | 11.8 | 85.8 | 9.4 | 5.2 |
| LSD ($\alpha = .05$) | 29.1 | 1.2 | 4.1 | 2.3 | 2.8 | 12.4 | 1.1 | 7.5 | 5.7 | 5.3 |
| CV % | 18.1 | 2.5 | 4.3 | 1.6 | 8.0 | 335.8 | 4.4 | 4.2 | 29.1 | 48.5 |
| Pr > F | 0.0003 | <.0001 | 0.1610 | <.0001 | <.0001 | 0.0004 | <.0001 | <.0001 | <.0001 | <.0001 |

*indicates hulless variety

Table 19. Irrigated Hard Spring Wheat Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen, 2012.

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|------------------------|-------------------------|----------------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|
| WA8123 (W) | 113.9 | 61.7 | 100 | 6/21 | 33 | 0 | 13.8 |
| Alzada (D) | 106.7 | 62.4 | 100 | 6/19 | 30 | 0 | 14.4 |
| Glee | 106.0 | 61.8 | 100 | 6/18 | 32 | 0 | 14.2 |
| Kelse | 104.4 | 61.7 | 100 | 6/20 | 33 | 0 | 14.5 |
| Bullseye | 104.1 | 62.7 | 100 | 6/21 | 29 | 0 | 14.5 |
| Blanca Grande (W) | 103.6 | 62.9 | 100 | 6/17 | 29 | 0 | 13.7 |
| Albany | 103.4 | 61.7 | 99 | 6/25 | 33 | 2 | 13.0 |
| IDO862T | 103.0 | 61.8 | 99 | 6/20 | 33 | 0 | 14.4 |
| IDO862E | 102.7 | 62.1 | 99 | 6/18 | 31 | 0 | 14.5 |
| B04-1418 | 102.5 | 62.8 | 100 | 6/22 | 30 | 0 | 14.3 |
| C-2836 | 102.4 | 62.7 | 100 | 6/21 | 33 | 0 | 12.6 |
| Jefferson | 101.5 | 61.6 | 100 | 6/21 | 32 | 0 | 14.1 |
| UI Winchester | 100.7 | 61.7 | 100 | 6/21 | 31 | 0 | 14.1 |
| Choteau | 100.5 | 61.5 | 99 | 6/23 | 33 | 0 | 14.7 |
| SY Capstone (W) | 99.8 | 61.1 | 100 | 6/19 | 28 | 0 | 14.1 |
| Cabernet | 98.9 | 61.8 | 100 | 6/21 | 27 | 0 | 13.8 |
| WB-Paloma (W) | 98.8 | 61.7 | 100 | 6/19 | 29 | 0 | 14.9 |
| WB-Idamax (W) | 98.3 | 61.4 | 100 | 6/20 | 29 | 0 | 14.3 |
| Klasic (W) | 98.1 | 61.7 | 100 | 6/18 | 25 | 0 | 14.0 |
| Buck Pronto | 98.1 | 61.3 | 100 | 6/19 | 32 | 0 | 15.5 |
| C-2801 | 98.0 | 61.4 | 100 | 6/19 | 33 | 0 | 15.5 |
| Volt | 98.0 | 62.9 | 100 | 6/24 | 32 | 0 | 13.8 |
| Snow Crest (W) | 96.0 | 61.4 | 100 | 6/18 | 28 | 0 | 14.8 |
| C-2821 | 95.7 | 61.3 | 99 | 6/22 | 38 | 0 | 13.3 |
| Westbred 936 | 94.6 | 60.0 | 100 | 6/20 | 29 | 0 | 14.9 |
| IDO694C | 92.9 | 61.6 | 95 | 6/18 | 28 | 0 | 13.6 |
| WB-Rockland | 91.4 | 61.9 | 99 | 6/20 | 26 | 0 | 15.4 |
| BZ-401 | 90.4 | 62.6 | 98 | 6/18 | 34 | 0 | 14.4 |
| WB-Rockland +25% | 89.9 | 61.7 | 100 | 6/22 | 27 | 0 | 15.6 |
| WB-Perla | 83.2 | 60.4 | 100 | 6/16 | 27 | 0 | 14.7 |
| Average | 99.2 | 61.8 | 99 | 6/20 | 30 | 0 | 14.3 |
| LSD ($\alpha = .05$) | 5.3 | 0.6 | 0.6 | 0.8 | 1.3 | 1 | 0.6 |
| CV% | 7.7 | 1.3 | 0.9 | 0.7 | 6.0 | 2190.9 | 3.0 |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | 0.4692 | <.0001 |

(W) = white

(D) = durum

Table 20. Irrigated Soft White Spring Wheat Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen 2012.

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|------------------------|--------------|-----------------|--------------|--------------|-------------|-------------|-------------|
| Alpowa | 120.0 | 62.3 | 100 | 6/23 | 36 | 0 | 11.4 |
| Babe | 117.2 | 62.7 | 100 | 6/22 | 34 | 0 | 11.1 |
| UI Stone | 115.1 | 61.7 | 100 | 6/21 | 34 | 0 | 11.1 |
| IDO 671 | 114.3 | 61.7 | 99 | 6/22 | 34 | 0 | 10.6 |
| IDO 687 | 110.4 | 62.4 | 100 | 6/23 | 34 | 0 | 11.2 |
| UI Pettit | 109.0 | 61.7 | 100 | 6/18 | 30 | 0 | 11.2 |
| Alturas | 108.6 | 61.3 | 100 | 6/22 | 33 | 0 | 11.0 |
| Whit | 107.5 | 61.3 | 100 | 6/20 | 33 | 0 | 11.7 |
| Penawawa | 103.5 | 60.7 | 100 | 6/23 | 34 | 0 | 11.8 |
| Nick | 103.0 | 61.5 | 100 | 6/20 | 32 | 0 | 11.5 |
| JD* | 99.1 | 62.4 | 100 | 6/25 | 37 | 12 | 12.1 |
| Cataldo | 97.3 | 60.9 | 100 | 6/19 | 32 | 0 | 11.6 |
| Average | 108.8 | 61.7 | 100 | 6/22 | 33 | 1 | 11.4 |
| LSD ($\alpha = .05$) | 5.3 | 0.4 | 0.5 | 0.6 | 1.0 | 4.0 | 0.5 |
| CV% | 7.0 | 0.9 | 0.7 | 0.5 | 4.4 | 542.6 | 3.0 |
| Pr > F | <.0001 | <.0001 | 0.3607 | <.0001 | <.0001 | <.0001 | <.0001 |

*club wheat

Table 21. Irrigated 6-Row Spring Barley Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen, 2012.

| Variety | Yield (bu/A) | Test Wt (lb/bu) | Spring Stand | Heading Date | Height (in) | Lodging (%) | Protein (%) | Plumps (>6/64) | % Thin (>5.5/64) | % Thin |
|------------------------|--------------|-----------------|--------------|--------------|-------------|-------------|-------------|----------------|------------------|--------|
| Feed | | | | | | | | | | |
| Goldeneye | 145.9 | 50.9 | 100 | 6/20 | 35 | 18 | 13.5 | 84.5 | 10.0 | 5.7 |
| Millennium | 145.3 | 49.7 | 100 | 6/17 | 36 | 8 | 13.1 | 69.7 | 18.5 | 11.9 |
| UT2120-35 | 142.1 | 49.5 | 100 | 6/17 | 33 | 30 | 13.4 | 79.5 | 13.5 | 7.4 |
| UT2120-14 | 140.0 | 49.5 | 100 | 6/16 | 33 | 28 | 13.1 | 80.6 | 12.4 | 7.3 |
| Herald | 135.8 | 49.2 | 100 | 6/19 | 35 | 21 | 11.2 | 79.8 | 12.6 | 8.0 |
| Steptoe | 134.4 | 48.2 | 100 | 6/20 | 35 | 44 | 12.5 | 77.3 | 13.6 | 9.3 |
| Aquila | 125.8 | 51.8 | 100 | 6/14 | 35 | 2 | 13.7 | 85.0 | 9.8 | 5.6 |
| Gustoe | 114.4 | 45.9 | 100 | 6/24 | 25 | 47 | 13.3 | 61.4 | 23.4 | 15.6 |
| Malt | | | | | | | | | | |
| 01Ab9663 | 139.1 | 50.5 | 100 | 6/21 | 38 | 34 | 11.9 | 84.1 | 9.5 | 6.5 |
| Legacy | 131.0 | 49.7 | 100 | 6/21 | 36 | 43 | 13.3 | 80.6 | 12.3 | 7.5 |
| Tradition | 130.6 | 51.2 | 100 | 6/21 | 37 | 25 | 13.2 | 88.4 | 8.4 | 3.4 |
| Quest | 122.1 | 50.3 | 100 | 6/20 | 36 | 38 | 14.1 | 79.7 | 13.1 | 7.4 |
| Maja | 121.0 | 48.5 | 100 | 6/23 | 34 | 49 | 12.7 | 63.9 | 20.8 | 15.7 |
| Celebration | 120.9 | 49.5 | 100 | 6/20 | 34 | 45 | 14.6 | 80.0 | 12.7 | 7.7 |
| Morex | 117.0 | 49.1 | 100 | 6/22 | 36 | 51 | 13.8 | 69.6 | 18.2 | 12.2 |
| Average | 131.0 | 49.6 | 100 | 6/20 | 35 | 32 | 13.2 | 77.6 | 13.9 | 8.7 |
| LSD ($\alpha = .05$) | 10.6 | 0.9 | 0.4 | 1.1 | 1.7 | 14.0 | 1.3 | 8.7 | 4.1 | 5.3 |
| CV% | 11.5 | 2.5 | 0.6 | 0.9 | 6.9 | 61.8 | 7.1 | 7.9 | 20.4 | 42.4 |
| Pr > F | <.0001 | <.0001 | 0.6075 | <.0001 | <.0001 | <.0001 | 0.0020 | <.0001 | <.0001 | 0.0005 |

Table 22. Irrigated 2-Row Spring Malt Barley Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen, 2012.

| Variety | Yield | Test Wt | Spring | Heading | Height | Lodging | Protein | Plumps | | |
|-------------------------|--------|---------|--------|---------|--------|---------|---------|---------|-----------|--------|
| | (bu/A) | (lb/bu) | Stand | Date | (in) | (%) | (%) | (>6/64) | (>5.5/64) | % Thin |
| LN09-0920 | 151.9 | 51.4 | 100 | 6/20 | 28 | 13 | 14.0 | 86.8 | 8.9 | 4.6 |
| Xena (feed check) | 141.8 | 53.2 | 100 | 6/18 | 32 | 23 | 13.4 | 91.3 | 6.2 | 2.7 |
| MT070159 | 139.4 | 52.4 | 100 | 6/18 | 29 | 41 | 13.2 | 93.3 | 4.7 | 2.2 |
| Pinnacle | 138.2 | 54.1 | 100 | 6/17 | 33 | 9 | 13.6 | 96.2 | 2.4 | 1.3 |
| MT080279 | 138.1 | 52.3 | 100 | 6/18 | 30 | 38 | 13.6 | 91.6 | 5.8 | 2.9 |
| Moravian 143 | 136.7 | 49.0 | 100 | 6/22 | 29 | 23 | 14.6 | 89.2 | 7.6 | 3.3 |
| 2Ab07-X031098-31 | 136.1 | 52.2 | 100 | 6/19 | 33 | 22 | 14.6 | 85.3 | 9.3 | 5.5 |
| Moravian 137 | 135.0 | 50.0 | 100 | 6/21 | 29 | 30 | 14.7 | 76.4 | 13.6 | 10.4 |
| Baronesse (feed check) | 134.4 | 51.7 | 100 | 6/19 | 31 | 38 | 12.8 | 84.0 | 9.1 | 7.0 |
| Copeland | 134.0 | 51.5 | 100 | 6/21 | 33 | 21 | 14.0 | 90.0 | 7.1 | 3.2 |
| Voyager (B3719) | 133.4 | 51.6 | 100 | 6/18 | 31 | 32 | 13.7 | 92.0 | 5.3 | 2.8 |
| Moravian 69 | 133.3 | 49.9 | 100 | 6/21 | 28 | 39 | 14.2 | 79.4 | 12.8 | 8.1 |
| Idagold II (feed check) | 133.3 | 51.3 | 100 | 6/20 | 28 | 2 | 13.7 | 78.9 | 14.6 | 6.9 |
| MT070158 | 129.8 | 52.9 | 97 | 6/19 | 29 | 47 | 13.2 | 92.4 | 5.7 | 2.4 |
| C08-150-008 | 129.4 | 50.4 | 100 | 6/23 | 28 | 40 | 13.7 | 87.6 | 8.6 | 4.1 |
| Genie | 127.7 | 50.8 | 100 | 6/21 | 29 | 31 | 14.6 | 81.2 | 11.5 | 7.6 |
| Conrad | 127.5 | 52.2 | 100 | 6/19 | 30 | 30 | 13.9 | 90.6 | 7.0 | 3.0 |
| 2Ab04-X001084-27 | 126.0 | 49.9 | 100 | 6/19 | 30 | 48 | 13.6 | 83.8 | 9.7 | 7.0 |
| Moravian 133 | 123.8 | 48.8 | 100 | 6/22 | 27 | 50 | 14.0 | 72.0 | 18.0 | 10.5 |
| Meredith | 123.1 | 50.0 | 100 | 6/20 | 31 | 35 | 14.6 | 82.9 | 11.3 | 6.2 |
| Hockett | 123.0 | 52.5 | 100 | 6/18 | 32 | 47 | 14.5 | 87.9 | 7.4 | 5.0 |
| Moravian 115 | 122.4 | 48.6 | 100 | 6/23 | 27 | 49 | 14.0 | 82.2 | 11.8 | 6.4 |
| Merit 57 | 122.3 | 50.1 | 100 | 6/20 | 33 | 40 | 14.4 | 78.9 | 13.6 | 7.9 |
| B1202 | 121.7 | 51.5 | 100 | 6/19 | 31 | 34 | 13.8 | 86.1 | 9.4 | 4.9 |
| Metcalfe | 119.7 | 52.1 | 100 | 6/19 | 35 | 45 | 14.1 | 87.8 | 7.6 | 5.0 |
| NSL09-1820-A | 119.7 | 49.5 | 100 | 6/23 | 29 | 38 | 14.2 | 82.7 | 10.5 | 6.9 |
| 02Ab17271 | 118.7 | 51.5 | 100 | 6/23 | 34 | 25 | 14.5 | 85.1 | 8.9 | 6.1 |
| Merit | 114.1 | 50.9 | 100 | 6/22 | 32 | 25 | 14.2 | 82.7 | 10.3 | 7.3 |
| Harrington | 100.5 | 51.3 | 100 | 6/20 | 33 | 48 | 14.6 | 74.6 | 15.5 | 9.7 |
| Average | 128.2 | 51.2 | 100 | 6/20 | 31 | 34 | 14.0 | 85.4 | 9.3 | 5.5 |
| LSD ($\alpha = .05$) | 11.1 | 1.0 | 1.8 | 0.9 | 1.8 | 16.2 | 1.0 | 8.8 | 4.7 | 4.4 |
| CV% | 12.4 | 2.7 | 2.6 | 0.6 | 8.4 | 68.9 | 5.1 | 7.3 | 36.0 | 57.5 |
| Pr > F | <.0001 | <.0001 | 0.5387 | <.0001 | <.0001 | <.0001 | 0.0050 | <.0001 | <.0001 | 0.0005 |

Table 23. Irrigated 2-Row Spring Feed Barley Data Combined from Rupert, Idaho Falls, Ashton, and Aberdeen, 2012.

| Variety | Yield | Test Wt | Spring | Heading | Height | Lodging | Protein | Plumps | | |
|------------------------|--------|---------|--------|---------|--------|---------|---------|---------|-----------|--------|
| | (bu/A) | (lb/bu) | Stand | Date | (in) | (%) | (%) | (>6/64) | (>5.5/64) | % Thin |
| Spaulding | 151.9 | 53.8 | 100 | 6/19 | 32 | 8 | 13.3 | 87.0 | 8.5 | 4.9 |
| Champion | 151.7 | 53.6 | 100 | 6/18 | 33 | 24 | 14.0 | 90.5 | 6.3 | 3.4 |
| Xena | 151.5 | 52.9 | 100 | 6/18 | 32 | 33 | 13.2 | 89.9 | 6.6 | 3.7 |
| Lenetah | 144.2 | 52.7 | 100 | 6/19 | 33 | 23 | 13.8 | 92.2 | 5.0 | 3.2 |
| 08ID2661 | 143.0 | 52.2 | 100 | 6/22 | 33 | 28 | 12.6 | 83.3 | 11.9 | 4.6 |
| MT061035 | 142.6 | 52.0 | 100 | 6/19 | 31 | 44 | 12.2 | 84.9 | 9.4 | 5.9 |
| Idagold II | 140.7 | 51.4 | 100 | 6/21 | 29 | 6 | 13.8 | 83.4 | 11.9 | 5.1 |
| RWA 1758 | 136.9 | 52.9 | 100 | 6/19 | 30 | 28 | 13.1 | 87.1 | 8.3 | 4.8 |
| Baronesse | 136.0 | 52.5 | 100 | 6/19 | 31 | 30 | 12.4 | 85.5 | 10.0 | 4.9 |
| Tetonia | 134.9 | 52.1 | 100 | 6/20 | 31 | 43 | 13.5 | 79.6 | 12.1 | 8.8 |
| Herald | 130.0 | 49.0 | 100 | 6/16 | 35 | 29 | 13.8 | 76.9 | 14.7 | 8.5 |
| 08ID1549* | 123.2 | 59.2 | 93 | 6/22 | 33 | 17 | 14.2 | 75.4 | 16.2 | 8.0 |
| Julie* | 115.9 | 57.8 | 98 | 6/24 | 33 | 19 | 15.5 | 81.5 | 10.1 | 8.8 |
| CDC McGwire* | 111.1 | 58.4 | 99 | 6/21 | 33 | 30 | 13.2 | 60.2 | 24.9 | 15.2 |
| Clearwater* | 110.4 | 57.5 | 99 | 6/20 | 33 | 43 | 15.3 | 65.4 | 21.5 | 13.2 |
| 2Ab09-X06F058HL-30* | 102.9 | 59.6 | 98 | 6/24 | 34 | 19 | 15.8 | 90.4 | 6.8 | 2.7 |
| 2Ab09-X06F058HL-78 * | 99.8 | 58.6 | 97 | 6/20 | 35 | 12 | 16.2 | 92.9 | 5.6 | 2.1 |
| Transit* | 95.3 | 57.1 | 99 | 6/22 | 34 | 23 | 14.7 | 75.4 | 18.2 | 6.5 |
| CDC Fibar* | 88.7 | 57.4 | 99 | 6/20 | 34 | 52 | 16.1 | 75.9 | 17.1 | 7.4 |
| Average | 120.1 | 53.8 | 99 | 6/20 | 32 | 26 | 14.3 | 80.2 | 13.1 | 6.9 |
| LSD ($\alpha = .05$) | 11.4 | 1.1 | 0.8 | 0.7 | 1.6 | 18.0 | 1.4 | 6.4 | 3.8 | 3.4 |
| CV% | 12.8 | 3.0 | 1.2 | 0.5 | 7.1 | 98.0 | 6.8 | 5.5 | 23.4 | 39.4 |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 |

* indicates hulless variety

Table 24. Agronomic data for winter wheat at Kimberly, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand% | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Winter Wheat | | | | | | | | | |
| Keldin | --- | --- | 172.4 | 62.8 | 100 | 5/25 | 35 | 0 | 11.3 |
| Yellowstone | 140.1 | 128.9 | 164.4 | 62.1 | 100 | 5/24 | 39 | 1 | 11.4 |
| Utah 100 | 148.1 | 120.2 | 164.1 | 60.8 | 100 | 5/29 | 43 | 0 | 12.0 |
| Whetstone | 134.7 | 126.3 | 161.5 | 62.6 | 100 | 5/22 | 35 | 0 | 12.1 |
| Moreland | 140.5 | 123.1 | 161.2 | 61.7 | 100 | 5/22 | 35 | 0 | 12.2 |
| Altigo | --- | --- | 157.5 | 56.8 | 100 | 5/23 | 31 | 0 | 10.6 |
| Deloris | 140.5 | 107.4 | 156.8 | 62.9 | 100 | 5/29 | 42 | 69 | 11.6 |
| OR2080156H | --- | --- | 156.5 | 61.1 | 100 | 5/29 | 37 | 0 | 12.8 |
| AP503 CL2 | --- | --- | 156.1 | 64.5 | 100 | 5/22 | 33 | 1 | 11.4 |
| Norwest 553 | 133.9 | 131.8 | 154.3 | 61.3 | 100 | 5/27 | 32 | 0 | 12.0 |
| Promontory | 132.1 | 133.6 | 153.9 | 62.8 | 100 | 5/24 | 38 | 16 | 10.8 |
| WB-Arrowhead | 134.7 | 137.2 | 153.2 | 62.4 | 100 | 5/25 | 38 | 0 | 11.5 |
| Greenville | --- | 119.1 | 152.5 | 59.5 | 100 | 5/25 | 30 | 0 | 12.0 |
| Judee | --- | --- | 152.5 | 62.2 | 100 | 5/26 | 34 | 45 | 13.0 |
| Eddy | 127.4 | 110.0 | 151.4 | 63.4 | 100 | 5/25 | 34 | 1 | 11.2 |
| Manning | 145.9 | 114.0 | 151.4 | 62.1 | 100 | 5/24 | 36 | 84 | 11.2 |
| OR2080277H | --- | --- | 149.6 | 59.9 | 100 | 5/27 | 36 | 0 | 11.0 |
| AgriPro Paladin | 132.9 | 102.7 | 147.7 | 62.0 | 100 | 5/26 | 36 | 0 | 13.1 |
| Boundary | 136.1 | 115.8 | 147.7 | 61.5 | 100 | 5/27 | 35 | 0 | 10.3 |
| Juniper | --- | --- | 147.0 | 63.1 | 100 | 5/28 | 46 | 11 | 13.0 |
| Garland | 132.9 | 81.3 | 142.7 | 58.9 | 100 | 5/30 | 30 | 45 | 12.7 |
| Azimut | --- | --- | 139.8 | 56.7 | 100 | 5/23 | 28 | 0 | 11.2 |
| Golden Spike (W) | 161.5 | 116.2 | 135.8 | 59.9 | 100 | 5/30 | 40 | 93 | 12.5 |
| Bonneville | 142.3 | 103.8 | 127.8 | 62.0 | 100 | 5/31 | 44 | 53 | 14.8 |
| Average | 136.8 | 117.2 | 152.4 | 61.4 | 100 | 5/26 | 36 | 17 | 11.9 |
| LSD ($\alpha=.05$) | 9.8 | 16.6 | 14.1 | 1.4 | 0.7 | 1.9 | 2.2 | 25.6 | |
| CV % | 5.0 | 9.9 | 6.5 | 1.6 | 0.5 | 0.9 | 4.3 | 103.7 | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | 0.7217 | <.0001 | <.0001 | <.0001 | <.0001 |

(W) = White

Table 25. Agronomic data for winter wheat at Rupert, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand% | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Winter Wheat | | | | | | | | | |
| Altigo | --- | --- | 132.5 | 57.3 | 95 | 5/28 | 34 | 0 | 9.9 |
| Keldin | --- | --- | 129.2 | 62.3 | 94 | 5/29 | 35 | 0 | 11.0 |
| Utah 100 | 135.4 | 106.4 | 128.5 | 59.1 | 100 | 6/1 | 38 | 11 | 11.0 |
| Judee | --- | --- | 127.1 | 63.0 | 98 | 5/31 | 40 | 8 | 11.0 |
| Moreland | 99.1 | 93.7 | 124.5 | 59.8 | 99 | 5/25 | 33 | 1 | 11.5 |
| Golden Spike (W) | 85.7 | 110.7 | 124.1 | 60.8 | 96 | 6/4 | 38 | 24 | 10.0 |
| WB-Arrowhead | 125.6 | 99.1 | 123.8 | 62.5 | 98 | 5/28 | 41 | 24 | 10.6 |
| Garland | 100.9 | 100.6 | 121.6 | 59.8 | 98 | 6/2 | 33 | 0 | 12.4 |
| Yellowstone | 104.5 | 102.0 | 121.2 | 62.3 | 92 | 5/30 | 44 | 29 | 10.5 |
| OR2080277H | --- | --- | 119.4 | 59.3 | 96 | 6/2 | 34 | 19 | 9.7 |
| Whetstone | 119.8 | 93.3 | 119.1 | 61.2 | 97 | 5/25 | 35 | 0 | 12.0 |
| Greenville | --- | 111.4 | 118.3 | 59.4 | 85 | 5/28 | 35 | 0 | 11.3 |
| Norwest 553 | 120.9 | 94.7 | 117.6 | 61.3 | 86 | 6/1 | 34 | 0 | 11.0 |
| Eddy | 98.0 | 96.6 | 113.3 | 62.8 | 96 | 5/31 | 37 | 4 | 11.6 |
| AgriPro Paladin | 107.1 | 69.7 | 112.9 | 62.4 | 79 | 5/31 | 35 | 0 | 11.1 |
| Deloris | 125.6 | 111.8 | 112.9 | 61.1 | 93 | 6/2 | 42 | 24 | 11.0 |
| Promontory | 96.9 | 103.8 | 110.7 | 62.7 | 80 | 5/28 | 40 | 1 | 10.1 |
| Boundary | 109.6 | 106.7 | 110.4 | 60.7 | 99 | 6/2 | 41 | 23 | 10.7 |
| Azimut | --- | --- | 109.6 | 55.1 | 85 | 5/27 | 34 | 0 | 11.1 |
| OR2080156H | --- | --- | 109.3 | 60.5 | 78 | 6/2 | 34 | 0 | 11.2 |
| Juniper | --- | --- | 108.5 | 60.2 | 99 | 6/1 | 43 | 13 | 13.0 |
| Manning | 83.1 | 106.7 | 107.4 | 59.8 | 96 | 5/30 | 36 | 44 | 12.4 |
| AP503 CL2 | --- | --- | 106.4 | 62.7 | 93 | 5/26 | 37 | 0 | 11.8 |
| Bonneville | 93.3 | 99.1 | 99.8 | 61.3 | 100 | 6/4 | 38 | 10 | 13.2 |
| Average | 106.3 | 95.7 | 117.0 | 60.7 | 93 | 5/30 | 37 | 10 | 11.2 |
| LSD ($\alpha=.05$) | 27.3 | 15.6 | 19.4 | 1.6 | 17.5 | 2.2 | 7.3 | 32 | |
| CV % | 18.3 | 11.5 | 11.8 | 1.9 | 13.3 | 1.0 | 13.9 | 231.9 | |
| Pr > F | 0.0002 | <.0001 | 0.0979 | <.0001 | 0.2387 | <.0001 | 0.0541 | 0.2601 | |

(W) = White

Table 26. Agronomic data for winter wheat at Aberdeen, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Winter Wheat | | | | | | | | | |
| Yellowstone | 145.6 | 156.9 | 172.5 | 62.5 | 99 | 5/27 | 37 | 0 | 11.3 |
| Deloris | 119.1 | 119.4 | 169.0 | 63.2 | 98 | 6/1 | 41 | 3 | 11.8 |
| Manning | 108.9 | 129.6 | 163.9 | 62.2 | 97 | 5/29 | 37 | 1 | 12.2 |
| Judee | --- | --- | 162.8 | 64.0 | 100 | 5/29 | 33 | 0 | 12.1 |
| OR2080156H | --- | --- | 160.8 | 62.7 | 98 | 5/27 | 37 | 0 | 11.1 |
| OR2080277H | --- | --- | 159.6 | 59.7 | 99 | 5/30 | 37 | 0 | 11.7 |
| Utah 100 | 148.3 | 152.2 | 157.3 | 61.7 | 99 | 5/31 | 40 | 0 | 11.8 |
| Promontory | 124.1 | 135.1 | 156.5 | 63.0 | 99 | 5/27 | 36 | 0 | 10.9 |
| Norwest 553 | 162.8 | 148.3 | 155.7 | 61.3 | 95 | 5/27 | 30 | 0 | 11.4 |
| Golden Spike (W) | 99.5 | 131.1 | 153.4 | 60.6 | 98 | 5/29 | 36 | 15 | 12.7 |
| Keldin | --- | --- | 153.0 | 62.7 | 98 | 5/28 | 33 | 0 | 11.3 |
| Altigo | --- | --- | 152.6 | 58.4 | 96 | 5/27 | 30 | 0 | 11.2 |
| Boundary | 125.7 | 120.2 | 152.6 | 61.1 | 94 | 5/31 | 34 | 0 | 10.6 |
| Garland | 146.4 | 116.3 | 151.5 | 59.8 | 98 | 6/3 | 28 | 0 | 12.3 |
| WB-Arrowhead | --- | 140.5 | 151.5 | 62.3 | 97 | 5/28 | 34 | 0 | 10.5 |
| Moreland | 135.1 | 121.0 | 151.1 | 61.5 | 96 | 5/29 | 35 | 0 | 13.6 |
| AgriPro Paladin | 131.2 | 110.1 | 150.7 | 62.2 | 92 | 5/29 | 35 | 0 | 12.2 |
| Eddy | 134.7 | 116.3 | 150.3 | 63.4 | 99 | 5/29 | 33 | 0 | 11.0 |
| Juniper | --- | 121.8 | 146.8 | 62.8 | 99 | 5/30 | 44 | 0 | 12.9 |
| Azimut | --- | --- | 146.4 | 57.5 | 100 | 5/27 | 28 | 0 | 10.8 |
| Bonneville | 97.2 | 106.9 | 144.4 | 61.2 | 100 | 6/3 | 42 | 0 | 13.6 |
| Greenville | --- | 161.6 | 133.9 | 61.0 | 99 | 5/27 | 29 | 0 | 11.0 |
| Whetstone | 129.2 | 137.4 | 132.3 | 62.7 | 97 | 5/25 | 31 | 0 | 13.8 |
| AP503 CL2 | --- | --- | 123.7 | 63.6 | 96 | 5/26 | 29 | 0 | 12.3 |
| Average | 126.1 | 128.0 | 152.2 | 61.7 | 97 | 5/29 | 34 | 1 | 11.8 |
| LSD ($\alpha=.05$) | 20.6 | --- | 20.1 | 1.1 | 6.1 | 2.8 | 3.5 | 5.7 | |
| CV % | 11.2 | 11.1 | 9.4 | 1.3 | 4.4 | 1.3 | 7.2 | 516.2 | |
| Pr > F | <.0001 | <.0001 | 0.0028 | <.0001 | 0.6761 | <.0001 | <.0001 | 0.0037 | |

(W) = White

Table 27. Agronomic data for winter wheat at Ririe, dryland, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Winter Wheat | | | | | | | | | |
| Yellowstone | 31.2 | 11.3 | 23.6 | 58.7 | 70 | 6/20 | 20 | 0 | 15.5 |
| UI Silver (W) | 22.2 | 9.4 | 21.8 | 59.9 | 53 | 6/21 | 23 | 0 | 15.9 |
| Keldin | --- | --- | 21.4 | 56.4 | 66 | 6/19 | 19 | 0 | 16.6 |
| AP503 CL2 | --- | --- | 20.3 | 59.2 | 46 | 6/18 | 20 | 0 | 14.9 |
| Judee | --- | --- | 20.3 | 58.2 | 74 | 6/19 | 20 | 0 | 17.2 |
| Bearpaw | --- | --- | 20.3 | 57.3 | 71 | 6/19 | 19 | 0 | 17.4 |
| Promontory | 18.5 | 9.8 | 20.0 | 57.0 | 78 | 6/19 | 20 | 0 | 16.0 |
| UI Darwin (W) | 26.5 | 9.4 | 20.0 | 59.0 | 80 | 6/20 | 22 | 0 | 16.5 |
| Golden Spike (W) | 30.5 | 12.3 | 19.6 | 58.0 | 69 | 6/22 | 20 | 0 | 16.4 |
| Greenville | --- | --- | 19.6 | 55.5 | 69 | 6/19 | 18 | 0 | 15.4 |
| UI SRG | --- | 10.9 | 19.2 | 56.2 | 83 | 6/19 | 24 | 0 | 17.1 |
| Utah 100 | 26.5 | 13.8 | 18.9 | 56.5 | 68 | 6/21 | 24 | 0 | 16.7 |
| DW | 28.0 | 14.5 | 18.9 | 57.9 | 78 | 6/20 | 21 | 0 | 15.6 |
| IDO816 | --- | --- | 18.9 | 58.6 | 59 | 6/22 | 21 | 0 | 15.7 |
| Lucin-CL | --- | 15.2 | 18.9 | 58.9 | 60 | 6/21 | 23 | 0 | 16.0 |
| WB-Arrowhead | --- | --- | 18.2 | 55.9 | 74 | 6/19 | 20 | 0 | 16.2 |
| Juniper | 24.7 | 11.6 | 17.8 | 58.2 | 53 | 6/22 | 25 | 0 | 15.8 |
| Gary | 26.9 | 12.0 | 17.8 | 58.2 | 50 | 6/22 | 22 | 0 | 15.8 |
| Deloris | 31.9 | 12.3 | 17.4 | 57.1 | 65 | 6/22 | 23 | 0 | 17.1 |
| Curlew | 26.9 | 18.5 | 17.1 | 58.5 | 58 | 6/20 | 21 | 0 | 16.7 |
| UICF Grace (W) | 32.7 | 13.8 | 17.1 | 56.0 | 63 | 6/20 | 25 | 0 | 16.8 |
| Weston | 22.9 | 11.3 | 17.1 | 57.9 | 48 | 6/21 | 24 | 0 | 16.9 |
| UI LHS (W) | 34.5 | 12.7 | 16.7 | 56.4 | 74 | 6/23 | 21 | 0 | 18.7 |
| OR2080277H | --- | --- | 16.3 | 57.2 | 31 | 6/22 | 21 | 0 | 14.7 |
| OR2080156H | --- | --- | 16.0 | 56.3 | 35 | 6/22 | 19 | 0 | 16.8 |
| Bonneville | 35.2 | 13.1 | 15.6 | 60.2 | 78 | 6/24 | 21 | 0 | 17.5 |
| Altigo | --- | --- | 15.2 | 50.1 | 44 | 6/19 | 21 | 0 | 14.8 |
| Azimut | --- | --- | 14.9 | 49.6 | 36 | 6/19 | 17 | 0 | 16.7 |
| Garland | 24.0 | 11.6 | 13.4 | 55.9 | 50 | 6/22 | 17 | 0 | 18.1 |
| Norwest 553 | --- | 13.1 | 6.5 | 56.5 | 7 | 6/23 | 18 | 0 | 14.0 |
| Average | 27.6 | 12.4 | 18.0 | 57.0 | 59 | 6/20 | 21 | 0 | 16.3 |
| LSD ($\alpha=0.05$) | 10.2 | 4.7 | 6.3 | 2.3 | 25.6 | 1.9 | 3.2 | 0.0 | |
| CV % | 26.3 | 26.8 | 25.0 | 2.9 | 30.6 | 0.8 | 10.9 | . | |
| Pr > F | 0.0934 | 0.0314 | 0.0121 | <.0001 | <.0001 | <.0001 | <.0001 | . | |

(W) = White

Table 28. Agronomic data for winter wheat at Rockland, dryland, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Winter Wheat | | | | | | | | | |
| Keldin | --- | --- | 38.4 | 59.8 | 100 | 5/23 | 22 | 0 | 11.1 |
| Deloris | 45.9 | 27.8 | 37.0 | 60.1 | 100 | 5/31 | 26 | 0 | 11.6 |
| Altigo | --- | --- | 35.9 | 56.0 | 98 | 5/23 | 21 | 0 | 10.8 |
| Lucin-CL | --- | 29.3 | 35.7 | 60.5 | 99 | 5/24 | 28 | 0 | 11.7 |
| IDO816 | --- | --- | 34.9 | 59.5 | 99 | 6/1 | 24 | 0 | 10.8 |
| Yellowstone | 43.5 | 28.9 | 34.6 | 59.9 | 100 | 5/23 | 23 | 0 | 12.5 |
| UICF Grace (W) | 37.1 | 25.4 | 34.1 | 59.6 | 100 | 5/24 | 28 | 0 | 11.7 |
| Juniper | 40.1 | 26.1 | 32.8 | 61.5 | 100 | 5/28 | 29 | 0 | 12.4 |
| AP503 CL2 | --- | --- | 31.7 | 61.4 | 100 | 5/22 | 22 | 0 | 13.0 |
| Utah 100 | 42.3 | 31.4 | 31.6 | 58.9 | 100 | 5/30 | 25 | 0 | 11.4 |
| Curlew | 41.6 | 29.1 | 31.6 | 61.0 | 99 | 5/28 | 27 | 0 | 13.4 |
| UI Darwin (W) | 36.0 | 22.4 | 31.5 | 61.3 | 99 | 5/28 | 27 | 0 | 12.2 |
| OR2080156H | --- | --- | 31.2 | 58.0 | 96 | 5/27 | 22 | 0 | 12.2 |
| Gary (W) | 37.1 | 26.9 | 30.5 | 59.3 | 99 | 5/30 | 25 | 0 | 10.7 |
| UI SRG | --- | 31.4 | 30.3 | 58.9 | 100 | 5/27 | 26 | 0 | 12.6 |
| Golden Spike (W) | 35.6 | 23.1 | 30.0 | 59.9 | 100 | 5/27 | 25 | 0 | 11.7 |
| Bonneville | 35.6 | 29.4 | 29.9 | 60.7 | 100 | 6/2 | 23 | 0 | 12.7 |
| Judee | --- | --- | 29.8 | 60.8 | 100 | 5/24 | 21 | 0 | 13.6 |
| UI Silver (W) | 39.2 | 29.1 | 29.8 | 61.3 | 100 | 5/27 | 24 | 0 | 10.4 |
| Garland | 47.6 | 22.1 | 27.9 | 57.0 | 100 | 5/29 | 19 | 0 | 14.4 |
| OR2080277H | --- | --- | 27.6 | 58.2 | 98 | 5/25 | 21 | 0 | 11.8 |
| Greenville | --- | 26.5 | 27.6 | 59.4 | 100 | 5/24 | 19 | 0 | 11.1 |
| Weston | 34.0 | 29.4 | 26.2 | 61.1 | 100 | 5/25 | 25 | 0 | 13.0 |
| Norwest 553 | --- | 24.5 | 26.1 | 60.5 | 100 | 5/25 | 20 | 0 | 13.1 |
| UI LHS (W) | 41.7 | 28.2 | 26.1 | 59.1 | 100 | 6/1 | 23 | 0 | 12.3 |
| WB-Arrowhead | --- | --- | 25.7 | 59.0 | 98 | 5/24 | 24 | 0 | 13.4 |
| Bearpaw | --- | --- | 25.6 | 59.0 | 99 | 5/24 | 19 | 0 | 13.9 |
| DW | 40.0 | 25.6 | 22.4 | 59.3 | 100 | 5/26 | 20 | 0 | 13.5 |
| Azimut | --- | --- | 21.2 | 57.2 | 99 | 5/23 | 18 | 0 | 11.6 |
| Promontory | 38.7 | 22.3 | 19.6 | 59.4 | 98 | 5/25 | 21 | 0 | 13.9 |
| Average | 39.0 | 26.6 | 29.9 | 59.6 | 99 | 5/26 | 23 | 0 | 12.3 |
| LSD (a=.05) | 7.3 | 5.5 | 7.6 | 1.1 | 2.9 | 2.4 | 3.2 | 0 | |
| CV % | 13.2 | 14.7 | 18.1 | 1.3 | 2.1 | 1.2 | 9.9 | . | |
| Pr >F | <.0001 | 0.0117 | <.0001 | <.0001 | 0.4126 | <.0001 | <.0001 | . | |

(W) = White

Table 29. Agronomic data for winter wheat at Kimberly, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand% | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------------|--------------|--------|--------|---------------------|------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Soft White Winter Wheat | | | | | | | | | |
| SY Ovation | --- | 155.7 | 186.9 | 61.2 | 100 | 5/28 | 37 | 0 | 9.5 |
| LWW 04-4009 | --- | --- | 178.6 | 62.1 | 100 | 6/3 | 34 | 60 | 10.6 |
| Agripro Salute | 141.2 | 139.0 | 169.5 | 59.2 | 100 | 5/30 | 39 | 0 | 11.8 |
| OR2071628 | --- | --- | 169.5 | 59.3 | 100 | 5/28 | 36 | 0 | 10.1 |
| IDO663 | 134.3 | 136.1 | 168.8 | 60.3 | 100 | 5/27 | 35 | 0 | 11.0 |
| Mary | --- | --- | 167.0 | 61.1 | 100 | 5/29 | 34 | 0 | 10.5 |
| WB-Junction | 130.0 | 147.0 | 167.0 | 62.5 | 98 | 5/25 | 35 | 0 | 10.3 |
| WB-1070CL | --- | --- | 165.2 | 64.0 | 100 | 5/22 | 34 | 0 | 10.7 |
| BZ6W07-436 | --- | --- | 164.1 | 62.7 | 100 | 5/26 | 34 | 0 | 10.2 |
| Agripro Legion | 149.2 | 127.8 | 163.4 | 58.8 | 100 | 5/30 | 39 | 0 | 11.2 |
| Stephens | 126.7 | 129.6 | 163.0 | 60.1 | 100 | 5/28 | 35 | 0 | 10.6 |
| Brundage | 135.0 | 102.0 | 161.5 | 61.4 | 78 | 5/23 | 33 | 0 | 11.0 |
| 96-16702 | --- | 152.5 | 160.8 | 61.8 | 100 | 5/28 | 39 | 0 | 10.9 |
| AP Badger | 134.0 | 137.2 | 160.8 | 57.3 | 100 | 5/29 | 34 | 0 | 11.0 |
| Bruneau | 148.1 | 149.2 | 160.8 | 59.6 | 100 | 5/31 | 39 | 0 | 10.8 |
| OR208047P94 | --- | --- | 159.7 | 56.4 | 100 | 5/30 | 33 | 1 | 10.8 |
| UICF Brundage | 128.1 | 110.4 | 159.4 | 59.2 | 100 | 5/31 | 33 | 0 | 10.4 |
| BZ6W07-458 | --- | --- | 159.0 | 62.0 | 100 | 5/23 | 34 | 0 | 10.5 |
| ORCF-102 | 131.8 | 126.3 | 157.5 | 60.8 | 100 | 5/31 | 40 | 0 | 10.3 |
| NSA 94-2153A | --- | --- | 156.8 | 60.1 | 100 | 5/25 | 31 | 0 | 8.7 |
| OR2070870 | --- | --- | 156.1 | 59.8 | 100 | 6/2 | 36 | 0 | 10.9 |
| AP700 CL | --- | --- | 155.4 | 57.9 | 100 | 5/30 | 40 | 0 | 12.3 |
| Madsen | 130.0 | 127.8 | 155.0 | 59.2 | 100 | 5/31 | 38 | 0 | 11.5 |
| BZ6W07-427 | --- | --- | 155.0 | 62.5 | 100 | 5/26 | 33 | 0 | 11.5 |
| AP Legacy | 134.0 | 108.5 | 153.9 | 59.5 | 99 | 5/31 | 39 | 0 | 11.0 |
| Bitterroot | 138.3 | 131.4 | 153.9 | 59.4 | 100 | 6/1 | 39 | 19 | 11.6 |
| Brundage 96 | 133.9 | 123.8 | 153.5 | 58.9 | 100 | 5/30 | 36 | 0 | 10.3 |
| WB-1066CL | --- | --- | 152.8 | 62.8 | 100 | 5/28 | 40 | 0 | 11.3 |
| WB 456 | 123.4 | 134.7 | 151.7 | 62.6 | 100 | 5/23 | 32 | 0 | 11.1 |
| ORCF-101 | 122.4 | 120.2 | 151.0 | 59.6 | 100 | 5/30 | 37 | 0 | 12.1 |
| WB 528 | 137.6 | 132.5 | 151.0 | 58.8 | 100 | 5/30 | 35 | 0 | 12.1 |
| Skiles | 119.8 | 134.3 | 149.2 | 60.5 | 99 | 5/30 | 34 | 0 | 10.9 |
| UICF Lambert | 137.9 | 133.2 | 149.2 | 58.3 | 100 | 5/29 | 39 | 0 | 12.2 |
| Coda* | 119.1 | 125.2 | 133.6 | 59.2 | 99 | 6/4 | 42 | 69 | 12.7 |
| ARS970230-6C* | --- | --- | 130.0 | 59.1 | 100 | 6/2 | 35 | 0 | 10.6 |
| Cara* | --- | --- | 126.3 | 56.9 | 100 | 6/4 | 37 | 0 | 11.0 |
| Average | 132.9 | 129.0 | 157.7 | 60.1 | 99 | 5/29 | 36 | 4 | 10.9 |
| LSD ($\alpha=.05$) | 11.1 | 19.0 | 12.1 | 1.4 | 11 | 1.4 | 1.8 | 16.5 | |
| CV % | 5.9 | 10.5 | 5.5 | 1.7 | 8 | 0.7 | 3.5 | 285.6 | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | 0.5071 | <.0001 | <.0001 | <.0001 | |

* = Club Wheat

Table 30. Agronomic data for winter wheat at Rupert, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand% | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------------|--------------|--------|--------|---------------------|------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Soft White Winter Wheat | | | | | | | | | |
| Bruneau | 115.5 | 98.4 | 151.4 | 60.2 | 99 | 6/4 | 37 | 2 | 7.9 |
| Mary | --- | --- | 148.8 | 60.0 | 100 | 5/31 | 34 | 0 | 9.1 |
| IDO663 | 115.5 | 91.8 | 145.9 | 59.8 | 99 | 5/29 | 34 | 0 | 8.9 |
| Brundage | 141.6 | 95.8 | 142.7 | 60.9 | 100 | 5/28 | 35 | 0 | 8.8 |
| LWW 04-4009 | --- | --- | 139.8 | 60.7 | 100 | 6/4 | 34 | 10 | 8.9 |
| BZ6W07-436 | --- | --- | 139.8 | 61.3 | 100 | 5/30 | 33 | 0 | 8.3 |
| Agripro Legion | 109.6 | 107.8 | 139.4 | 57.7 | 100 | 6/2 | 39 | 0 | 8.3 |
| Agripro Salute | 124.2 | 94.4 | 139.4 | 59.0 | 99 | 6/2 | 36 | 0 | 8.6 |
| OR2071628 | --- | --- | 138.3 | 57.1 | 98 | 6/4 | 35 | 0 | 9.0 |
| AP Badger | 136.1 | 92.6 | 136.9 | 57.4 | 99 | 6/3 | 33 | 0 | 9.0 |
| OR208047P94 | --- | --- | 136.9 | 56.9 | 96 | 6/2 | 33 | 0 | 8.2 |
| Stephens | 110.4 | 106.4 | 136.9 | 58.3 | 99 | 6/1 | 35 | 0 | 9.3 |
| BZ6W07-458 | --- | --- | 136.9 | 60.7 | 99 | 5/28 | 33 | 0 | 9.1 |
| Brundage 96 | 128.9 | 100.2 | 136.5 | 58.8 | 100 | 6/1 | 34 | 0 | 8.7 |
| WB 528 | 128.5 | 96.9 | 136.5 | 60.4 | 98 | 6/2 | 34 | 0 | 8.9 |
| NSA 94-2153A | --- | --- | 135.8 | 58.3 | 100 | 5/29 | 32 | 0 | 8.8 |
| SY Ovation | --- | 94.7 | 134.3 | 58.7 | 100 | 6/1 | 34 | 0 | 8.4 |
| UICF Lambert | 129.2 | 106.7 | 133.9 | 58.9 | 100 | 6/1 | 39 | 0 | 8.3 |
| WB-1070CL | --- | --- | 133.6 | 62.0 | 99 | 5/23 | 32 | 0 | 8.4 |
| OR2070870 | --- | --- | 133.2 | 58.8 | 99 | 6/3 | 36 | 0 | 9.4 |
| BZ6W07-427 | --- | --- | 130.3 | 61.1 | 98 | 5/30 | 33 | 0 | 9.4 |
| 96-16702 | --- | 120.5 | 130.0 | 60.7 | 98 | 5/31 | 39 | 0 | 8.0 |
| ORCF-102 | 114.4 | 116.2 | 129.2 | 59.0 | 98 | 6/3 | 39 | 0 | 9.7 |
| AP700 CL | --- | --- | 128.9 | 59.4 | 98 | 6/3 | 37 | 0 | 8.6 |
| WB-Junction | 117.3 | 104.2 | 128.9 | 60.3 | 99 | 5/28 | 36 | 0 | 8.1 |
| Skiles | 126.7 | 89.5 | 128.1 | 60.5 | 99 | 6/3 | 33 | 0 | 8.4 |
| ARS970230-6C* | --- | --- | 127.8 | 58.9 | 99 | 6/5 | 36 | 0 | 9.0 |
| UICF Brundage | 120.1 | 109.3 | 126.3 | 58.8 | 100 | 6/2 | 32 | 9 | 9.0 |
| AP Legacy | 126.3 | 99.5 | 125.6 | 58.7 | 100 | 6/2 | 36 | 0 | 7.5 |
| ORCF-101 | 125.3 | 102.1 | 125.6 | 59.7 | 99 | 6/3 | 35 | 0 | 8.4 |
| Coda* | 94.4 | 100.2 | 123.8 | 60.4 | 98 | 6/4 | 39 | 8 | 9.1 |
| Bitterroot | 110.7 | 109.4 | 119.8 | 59.5 | 100 | 6/5 | 39 | 0 | 7.9 |
| Cara* | --- | --- | 118.3 | 57.3 | 100 | 6/5 | 38 | 0 | 8.6 |
| Madsen | 120.2 | 96.6 | 118.0 | 59.3 | 96 | 6/3 | 36 | 5 | 8.0 |
| WB 456 | 131.8 | 92.9 | 118.0 | 61.1 | 94 | 5/25 | 32 | 0 | 8.6 |
| WB-1066CL | --- | --- | 113.3 | 61.5 | 98 | 5/31 | 37 | 0 | 8.8 |
| Average | 121.0 | 100.6 | 132.5 | 59.5 | 99 | 6/1 | 35 | 1 | 8.6 |
| LSD ($\alpha=.05$) | 13.6 | 13.9 | 16.4 | 1.2 | 4.4 | 2.1 | 2.5 | 7.2 | |
| CV % | 8.0 | 9.5 | 8.8 | 1.4 | 3.2 | 1.0 | 5.2 | 559.5 | |
| Pr > F | <.0001 | 0.0004 | 0.0008 | <.0001 | 0.8168 | <.0001 | <.0001 | 0.4787 | |

* = Club Wheat

Table 31. Agronomic data for winter wheat at Aberdeen, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Soft White Winter Wheat | | | | | | | | | |
| LWW 04-4009 | --- | --- | 157.2 | 61.3 | 98 | 6/9 | 35 | 9 | 8.7 |
| OR2071628 | --- | --- | 153.0 | 59.4 | 99 | 6/2 | 33 | 8 | 9.6 |
| Madsen | 140.5 | 152.2 | 152.2 | 59.8 | 98 | 6/6 | 34 | 8 | 11.7 |
| Agripro Legion | 130.0 | 154.6 | 148.7 | 58.2 | 96 | 6/4 | 36 | 9 | 9.1 |
| SY Ovation | --- | 178.8 | 147.2 | 60.6 | 100 | 5/30 | 33 | 9 | 9.0 |
| UICF Lambert | 128.8 | 146.8 | 142.9 | 59.1 | 100 | 6/1 | 37 | 10 | 8.6 |
| IDO663 | --- | 130.4 | 142.5 | 59.3 | 98 | 5/30 | 31 | 8 | 8.5 |
| 96-16702 | --- | 158.5 | 142.1 | 60.3 | 76 | 6/1 | 35 | 9 | 7.6 |
| UICF Brundage | 141.7 | 151.4 | 141.7 | 58.7 | 99 | 6/2 | 32 | 8 | 9.0 |
| AP Badger | 153.4 | 129.6 | 141.3 | 57.7 | 98 | 6/2 | 31 | 8 | 8.9 |
| AP Legacy | 144.4 | 151.4 | 141.3 | 59.6 | 97 | 6/2 | 35 | 10 | 9.5 |
| Bruneau | 139.3 | 157.7 | 141.3 | 60.1 | 98 | 6/3 | 32 | 9 | 10.1 |
| Mary | --- | --- | 141.3 | 60.5 | 97 | 6/1 | 31 | 8 | 9.0 |
| AP700 CL | --- | --- | 140.9 | 59.5 | 100 | 6/3 | 37 | 10 | 8.5 |
| Cara* | --- | --- | 140.9 | 57.8 | 99 | 6/10 | 35 | 9 | 10.4 |
| Coda* | 130.4 | 128.0 | 140.9 | 61.6 | 99 | 6/7 | 38 | 10 | 10.0 |
| WB-Junction | 138.6 | 175.6 | 137.0 | 60.6 | 98 | 5/29 | 31 | 8 | 7.7 |
| OR208047P94 | --- | --- | 136.6 | 56.1 | 96 | 6/3 | 30 | 8 | 8.3 |
| BZ6W07-427 | --- | --- | 136.6 | 61.7 | 100 | 5/29 | 30 | 8 | 10.1 |
| WB-1070CL | --- | --- | 136.2 | 62.8 | 99 | 5/27 | 30 | 8 | 10.8 |
| ORCF-101 | 155.7 | 146.0 | 135.4 | 60.5 | 99 | 6/3 | 34 | 8 | 8.9 |
| ORCF-102 | 140.9 | 149.1 | 134.7 | 59.8 | 96 | 6/3 | 35 | 9 | 8.2 |
| OR2070870 | --- | --- | 133.1 | 59.5 | 97 | 6/4 | 31 | 9 | 8.5 |
| Stephens | 125.3 | 156.1 | 132.3 | 59.0 | 99 | 6/1 | 31 | 8 | 8.9 |
| WB 528 | 139.3 | 167.1 | 131.2 | 60.5 | 99 | 6/1 | 30 | 8 | 8.0 |
| Agripro Salute | 146.4 | 163.9 | 128.8 | 58.4 | 98 | 6/1 | 34 | 9 | 8.2 |
| Bitterroot | 144.4 | 169.4 | 127.6 | 59.4 | 96 | 6/3 | 34 | 9 | 7.3 |
| Brundage 96 | 131.9 | 160.0 | 126.9 | 58.4 | 97 | 5/29 | 31 | 8 | 7.7 |
| Brundage | 146.4 | 139.0 | 125.7 | 60.7 | 96 | 5/28 | 30 | 9 | 8.0 |
| NSA 94-2153A | --- | --- | 125.3 | 59.1 | 96 | 5/31 | 30 | 8 | 7.7 |
| ARS970230-6C* | --- | --- | 124.1 | 59.1 | 99 | 6/4 | 30 | 8 | 7.1 |
| Skiles | 156.1 | 169.4 | 119.1 | 60.3 | 99 | 6/1 | 30 | 8 | 7.3 |
| BZ6W07-436 | --- | --- | 114.4 | 61.6 | 99 | 5/30 | 29 | 8 | 9.1 |
| BZ6W07-458 | --- | --- | 110.9 | 61.1 | 97 | 5/27 | 29 | 7 | 9.8 |
| WB 456 | 139.7 | 156.1 | 108.9 | 62.3 | 98 | 5/28 | 30 | 8 | 8.5 |
| WB-1066CL | --- | --- | 104.6 | 61.3 | 99 | 5/31 | 33 | 9 | 8.5 |
| Average | 140.0 | 154.1 | 134.6 | 59.9 | 97 | 6/1 | 32 | 8 | 8.8 |
| LSD ($\alpha=0.05$) | 13.6 | --- | 23.9 | 1.0 | 11.0 | 3.6 | 2.4 | 2.1 | |
| CV % | 6.9 | 8.6 | 12.6 | 1.2 | 8.0 | 1.7 | 5.4 | 18.2 | |
| Pr > F | 0.0001 | <.0001 | 0.0019 | <.0001 | 0.5498 | <.0001 | <.0001 | 0.4816 | |

* = Club Wheat

Table 32. Agronomic data for winter wheat at Ririe, dryland, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Soft White Winter Wheat | | | | | | | | | |
| Eltan | --- | --- | 29.0 | 58.4 | 66 | 6/23 | 20 | 0 | 15.3 |
| Bruneau | 24.7 | 8.3 | 25.8 | 57.9 | 49 | 6/22 | 20 | 0 | 13.4 |
| Coda* | 33.4 | 10.5 | 25.8 | 60.1 | 54 | 6/23 | 18 | 0 | 15.1 |
| Bitterroot | 28.7 | 7.6 | 25.4 | 59.7 | 54 | 6/22 | 20 | 0 | 14.8 |
| ORCF-102 | 28.3 | 11.3 | 24.7 | 58.5 | 38 | 6/22 | 21 | 0 | 15.1 |
| UICF Brundage | 29.4 | 9.1 | 24.3 | 56.0 | 56 | 6/21 | 20 | 0 | 15.2 |
| WB-Junction | 16.7 | 8.0 | 24.3 | 57.9 | 65 | 6/18 | 20 | 0 | 14.5 |
| Brundage 96 | 24.3 | 9.8 | 22.1 | 55.4 | 66 | 6/21 | 18 | 0 | 15.5 |
| ORCF-101 | 28.0 | 9.4 | 21.8 | 58.0 | 34 | 6/22 | 20 | 0 | 15.8 |
| ARS970230-6C* | --- | --- | 21.4 | 58.8 | 58 | 6/24 | 18 | 0 | 15.4 |
| Madsen | 23.2 | 7.6 | 21.4 | 58.1 | 54 | 6/23 | 19 | 0 | 16.3 |
| UICF Lambert | 25.8 | 8.0 | 21.4 | 56.9 | 40 | 6/22 | 18 | 0 | 15.1 |
| WB-1066CL | --- | --- | 21.1 | 58.4 | 39 | 6/21 | 20 | 0 | 14.7 |
| LWW 04-4009 | --- | --- | 20.0 | 58.6 | 35 | 6/23 | 19 | 0 | 14.5 |
| Stephens | 30.5 | 7.6 | 20.0 | 56.3 | 55 | 6/22 | 23 | 0 | 17.4 |
| WB 528 | 23.2 | 11.6 | 20.0 | 56.6 | 38 | 6/22 | 17 | 0 | 15.4 |
| AP700 CL | --- | --- | 19.6 | 57.3 | 53 | 6/22 | 21 | 0 | 16.2 |
| Mary | --- | --- | 19.6 | 57.6 | 28 | 6/21 | 20 | 0 | 15.1 |
| WB-1070CL | --- | --- | 19.6 | 58.2 | 43 | 6/18 | 20 | 0 | 15.5 |
| OR208047P94 | --- | --- | 19.2 | 55.1 | 39 | 6/22 | 19 | 0 | 13.1 |
| 96-16702 | --- | 12.0 | 18.9 | 58.3 | 44 | 6/23 | 21 | 0 | 14.0 |
| Brundage | 20.3 | 8.7 | 18.5 | 57.0 | 48 | 6/19 | 20 | 0 | 14.3 |
| NSA 94-2153A | --- | --- | 18.2 | 57.2 | 22 | 6/21 | 15 | 0 | 12.4 |
| Skiles | 22.1 | 10.5 | 17.4 | 57.4 | 22 | 6/23 | 18 | 0 | 14.8 |
| IDO663 | --- | --- | 17.1 | 55.0 | 24 | 6/21 | 20 | 0 | 15.1 |
| OR2070870 | --- | --- | 16.7 | 54.7 | 26 | 6/22 | 18 | 0 | 15.7 |
| OR2071628 | --- | --- | 15.6 | 53.9 | 25 | 6/22 | 17 | 0 | 14.1 |
| Average | 25.2 | 9.3 | 21.1 | 57.3 | 43 | 6/22 | 19 | 0 | 15.0 |
| LSD ($\alpha=.05$) | 6.0 | 4.2 | 6.2 | 1.9 | 28.7 | 1.3 | 3.1 | 0 | |
| CV % | 16.8 | 32.4 | 20.9 | 2.3 | 47.0 | 0.5 | 11.3 | . | |
| Pr > F | <.0001 | 0.1428 | 0.0044 | <.0001 | 0.0213 | <.0001 | 0.0047 | . | |

* = Club Wheat

Table 33. Agronomic data for winter wheat at Soda Springs, dryland, 2012.

| Variety | Yield (bu/A) | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|----------------------|--------------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|
| | 2011 | 2012 | | | | | | |
| Yellowstone | --- | 83.8 | 60.2 | 88 | 6/20 | 27 | 0 | 14.6 |
| Keldin | --- | 83.4 | 58.8 | 87 | 6/22 | 27 | 0 | 13.8 |
| UICF Brundage SWW | 66.3 | 80.7 | 57.6 | 90 | 6/24 | 25 | 0 | 14.2 |
| Juniper | 78.4 | 79.8 | 61.2 | 90 | 6/25 | 39 | 0 | 14.3 |
| Eltan SWW | --- | 79.6 | 57.9 | 90 | 6/27 | 26 | 0 | 14.2 |
| Bruneau SWW | --- | 79.0 | 57.9 | 90 | 6/26 | 26 | 0 | 13.1 |
| Greenville | --- | 78.9 | 58.4 | 88 | 6/25 | 22 | 0 | 13.7 |
| Curlew | --- | 78.5 | 60.6 | 88 | 6/23 | 31 | 0 | 14.1 |
| Deloris | --- | 77.3 | 61.0 | 90 | 6/25 | 35 | 0 | 15.0 |
| Promontory | --- | 76.3 | 58.9 | 88 | 6/23 | 28 | 0 | 14.7 |
| UICF Lambert SWW | --- | 75.7 | 56.0 | 90 | 6/24 | 27 | 0 | 14.7 |
| Madsen | --- | 74.7 | 56.8 | 90 | 6/27 | 26 | 0 | 14.8 |
| Bearpaw | --- | 73.2 | 59.8 | 90 | 6/23 | 27 | 0 | 14.7 |
| Brundage SWW | --- | 72.9 | 56.9 | 90 | 6/21 | 25 | 0 | 15.3 |
| Boundary | --- | 72.3 | 58.5 | 90 | 6/24 | 26 | 0 | 14.9 |
| Gary | --- | 72.2 | 60.0 | 88 | 6/26 | 27 | 0 | 14.0 |
| UICF Grace | 69.7 | 71.8 | 58.5 | 90 | 6/23 | 34 | 0 | 15.9 |
| Judee | --- | 71.8 | 59.9 | 92 | 6/21 | 26 | 0 | 16.6 |
| Golden Spike | 72.1 | 71.5 | 58.8 | 88 | 6/26 | 28 | 0 | 14.9 |
| UI SRG | --- | 70.2 | 57.7 | 88 | 6/24 | 32 | 0 | 15.5 |
| DW | 75.0 | 68.7 | 59.5 | 95 | 6/25 | 27 | 0 | 13.7 |
| Weston | --- | 67.3 | 61.0 | 92 | 6/24 | 36 | 0 | 16.0 |
| Bonneville | --- | 66.6 | 62.8 | 93 | 6/26 | 35 | 0 | 14.9 |
| Norwest 553 | --- | 65.5 | 58.9 | 87 | 6/21 | 22 | 0 | 15.3 |
| Garland | 54.7 | 63.6 | 56.6 | 88 | 6/27 | 18 | 0 | 16.5 |
| ORCF-102 SWW | 64.4 | 63.2 | 57.7 | 83 | 6/25 | 26 | 0 | 16.3 |
| Average | 70.4 | 73.8 | 58.9 | 89 | 6/24 | 28 | 0 | 14.8 |
| LSD ($\alpha=.05$) | 17.9 | 13.2 | 1.5 | 6.1 | 2.0 | 3.7 | 0.0 | |
| CV % | 15.2 | 10.9 | 1.5 | 4.2 | 0.7 | 8.1 | . | |
| Pr > F | 0.3857 | 0.0864 | <.0001 | 0.4231 | <.0001 | <.0001 | . | |

Table 34. Agronomic data for winter barley at Rupert, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in) | Lodging (%) | Protein (%) | Plump | | |
|----------------------|--------------|--------|--------|---------------------|-------------------|-----------------|----------------|----------------|----------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| Sunstar Pride | 158.4 | 172.4 | 191.5 | 49.4 | 98 | 6/2 | 35 | 0 | 9.5 | 64.8 | 21.3 | 13.3 |
| Alba | 169.7 | 141.1 | 187.0 | 48.8 | 95 | 5/21 | 37 | 3 | 11.1 | 88.8 | 8.8 | 3.5 |
| 93Ab669 | 151.6 | 139.3 | 185.6 | 48.7 | 88 | 5/19 | 40 | 0 | 10.7 | 83.5 | 12.1 | 5.5 |
| Sprinter | 154.9 | 145.7 | 176.1 | 46.7 | 96 | 5/22 | 34 | 0 | 11.4 | 83.1 | 11.9 | 5.6 |
| Eight-Twelve | 163.8 | 144.3 | 174.7 | 47.0 | 97 | 5/21 | 34 | 1 | 10.7 | 77.4 | 15.4 | 8.4 |
| Strider | 138.9 | 141.6 | 172.9 | 47.1 | 100 | 5/20 | 36 | 10 | 11.7 | 89.4 | 8.5 | 2.8 |
| UT9401-19 | --- | --- | 170.2 | 47.9 | 100 | 5/22 | 37 | 0 | 12.1 | 88.9 | 8.0 | 2.8 |
| 02Ab431 | --- | --- | 166.1 | 51.2 | 95 | 5/25 | 35 | 15 | 11.9 | 96.6 | 2.8 | 1.3 |
| Endeavor | 92.6 | 119.3 | 165.6 | 51.7 | 98 | 5/25 | 43 | 28 | 11.6 | 90.5 | 7.1 | 3.9 |
| Schuyler | 162.1 | 144.3 | 164.3 | 47.3 | 100 | 5/24 | 38 | 13 | 11.1 | 64.7 | 22.2 | 13.9 |
| OR92 | 154.7 | 123.4 | 162.4 | 48.1 | 98 | 5/21 | 37 | 0 | 13.2 | 93.8 | 4.4 | 2.2 |
| Charles | 103.5 | 113.4 | 159.3 | 48.9 | 95 | 5/19 | 32 | 61 | 11.8 | 92.5 | 3.9 | 5.0 |
| OR91 | 167.4 | 134.9 | 159.3 | 47.4 | 94 | 5/20 | 35 | 0 | 13.2 | 92.6 | 5.5 | 2.7 |
| Kamiak | 165.8 | 106.6 | 148.8 | 47.9 | 95 | 5/19 | 38 | 19 | 11.4 | 84.0 | 13.0 | 4.2 |
| UTWB9703-19 | --- | 153.4 | 139.3 | 46.6 | 97 | 5/26 | 38 | 0 | 10.6 | 74.8 | 17.1 | 7.6 |
| Streaker* | 141.6 | 120.7 | 138.4 | 52.8 | 95 | 5/19 | 33 | 0 | 11.1 | 53.9 | 28.1 | 18.7 |
| Kold | --- | 112.1 | 136.6 | 47.4 | 100 | 5/26 | 38 | 1 | 12.0 | 75.9 | 13.1 | 11.5 |
| Maja | 156.1 | 123.0 | 136.1 | 47.9 | 98 | 5/21 | 39 | 0 | 11.4 | 82.9 | 11.6 | 6.3 |
| 02Ab671 | --- | --- | 135.7 | 50.5 | 90 | 5/26 | 37 | 6 | 10.4 | 94.7 | 4.3 | 2.6 |
| OR818 | 117.5 | 133.9 | 133.4 | 47.2 | 99 | 5/21 | 35 | 0 | 12.0 | 89.4 | 7.5 | 3.9 |
| Mathias | 151.3 | 114.4 | 122.5 | 47.5 | 98 | 5/17 | 36 | 0 | 12.0 | 91.5 | 6.7 | 2.8 |
| Average | 147.1 | 133.2 | 158.4 | 48.5 | 96 | 5/22 | 36 | 7 | 11.5 | 83.5 | 11.1 | 6.1 |
| LSD ($\alpha=.05$) | 32.6 | 26.0 | 39.2 | 2.0 | 7.7 | 2.2 | 3.6 | 25 | | | | |
| CV % | 14.9 | 13.7 | 17.5 | 2.8 | 5.6 | 1.1 | 6.9 | 237 | | | | |
| Pr > F | 0.0019 | 0.0002 | 0.0152 | <.0001 | 0.2134 | <.0001 | <.0001 | 0.0015 | | | | |

*indicates hulless variety

Table 35. Agronomic data for winter barley at Aberdeen, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|----------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| Eight-Twelve | 143.0 | 173.2 | 190.8 | 50.6 | 98 | 5/28 | 36 | 0 | 11.0 | 88.0 | 9.4 | 3.4 |
| Strider | 182.0 | 169.8 | 188.8 | 49.6 | 96 | 5/24 | 34 | 0 | 12.5 | 95.0 | 4.2 | 1.4 |
| Schuyler | 131.7 | 146.4 | 186.9 | 51.1 | 98 | 5/28 | 36 | 0 | 11.1 | 68.0 | 22.2 | 10.0 |
| Sunstar Pride | 172.2 | 157.1 | 184.9 | 49.9 | 98 | 6/5 | 32 | 0 | 9.4 | 65.2 | 21.5 | 13.7 |
| OR91 | 178.6 | 186.9 | 183.5 | 50.0 | 99 | 5/25 | 36 | 0 | 13.5 | 85.9 | 5.4 | 2.4 |
| OR92 | 184.9 | 200.0 | 181.5 | 50.3 | 97 | 5/25 | 35 | 0 | 14.2 | 93.0 | 5.5 | 1.8 |
| UT9401-19 | --- | --- | 177.6 | 51.5 | 98 | 5/23 | 37 | 0 | 11.3 | 93.2 | 5.9 | 1.6 |
| Kamiak | 113.2 | 144.9 | 176.1 | 51.1 | 99 | 5/20 | 35 | 0 | 13.2 | 90.0 | 8.3 | 1.9 |
| UTWB9703-19 | --- | 129.8 | 175.7 | 50.0 | 97 | 5/27 | 37 | 0 | 11.2 | 89.8 | 8.2 | 2.2 |
| Alba | 132.7 | 159.5 | 173.2 | 50.3 | 98 | 5/23 | 33 | 0 | 12.5 | 97.1 | 2.7 | 0.9 |
| Maja | 171.7 | 155.2 | 172.2 | 51.3 | 97 | 5/25 | 37 | 0 | 12.7 | 94.2 | 4.9 | 1.1 |
| 93Ab669 | 186.4 | 173.7 | 170.3 | 51.0 | 98 | 5/31 | 39 | 0 | 11.3 | 89.4 | 8.8 | 2.4 |
| Sprinter | 134.7 | 193.7 | 170.3 | 49.2 | 98 | 5/23 | 34 | 0 | 11.9 | 95.0 | 3.9 | 1.3 |
| 02Ab431 | --- | --- | 160.0 | 53.3 | 97 | 5/27 | 32 | 0 | 12.7 | 97.5 | 1.7 | 1.0 |
| 02Ab671 | --- | --- | 159.5 | 53.9 | 96 | 5/31 | 33 | 0 | 12.3 | 99.9 | 0.4 | 0.3 |
| Kold | 169.8 | 157.1 | 159.5 | 49.2 | 97 | 5/28 | 33 | 0 | 11.8 | 83.2 | 12.9 | 4.4 |
| Endeavor | 154.7 | 170.8 | 158.1 | 53.2 | 96 | 5/25 | 37 | 0 | 12.5 | 90.3 | 6.4 | 3.5 |
| OR818 | 196.1 | 179.6 | 156.6 | 49.4 | 95 | 5/26 | 35 | 0 | 12.6 | 93.0 | 5.0 | 1.8 |
| Charles | 142.0 | 177.1 | 138.6 | 50.5 | 98 | 5/21 | 27 | 0 | 12.5 | 92.2 | 4.8 | 3.7 |
| Mathias | 137.6 | 180.0 | 133.0 | 49.8 | 98 | 5/17 | 32 | 0 | 13.8 | 94.5 | 4.2 | 1.4 |
| Streaker* | 147.8 | 141.5 | 113.2 | 55.4 | 93 | 5/21 | 34 | 0 | 10.8 | 57.2 | 13.8 | 29.7 |
| Average | 157.7 | 164.2 | 167.2 | 51.0 | 97 | 5/25 | 34 | 0 | 12.1 | 88.2 | 7.6 | 4.3 |
| LSD ($\alpha=.05$) | 39.4 | 35.8 | 43.9 | 1.5 | 3.2 | 4.1 | 4.4 | 0.0 | | | | |
| CV % | 17.6 | 15.4 | 18.6 | 2.1 | 2.4 | 1.9 | 9.0 | . | | | | |
| Pr > F | <.0001 | 0.0119 | 0.0781 | <.0001 | 0.0571 | <.0001 | 0.0005 | . | | | | |

*indicates hulless variety

Table 36. Agronomic data for spring wheat at Rupert, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand% | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|------------------|-----------------|----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Spring Wheat | | | | | | | | | |
| Bullseye | 112.2 | 91.5 | 122.0 | 63.2 | 100 | 6/16 | 33 | 0 | 13.5 |
| Glee | --- | --- | 121.2 | 62.7 | 100 | 6/12 | 34 | 0 | 13.2 |
| WA8123 (W) | --- | 109.3 | 120.2 | 61.4 | 100 | 6/17 | 35 | 0 | 13.1 |
| IDO862E | --- | --- | 118.7 | 62.5 | 100 | 6/12 | 34 | 0 | 13.7 |
| C-2836 | --- | --- | 117.2 | 63.4 | 100 | 6/16 | 37 | 0 | 11.6 |
| Jefferson | 110.4 | 92.6 | 116.9 | 61.9 | 100 | 6/16 | 36 | 0 | 13.5 |
| Cabernet | 114.7 | 99.8 | 115.4 | 62.9 | 100 | 6/15 | 29 | 0 | 13.3 |
| Kelse | 103.8 | 88.2 | 115.1 | 62.0 | 100 | 6/16 | 36 | 0 | 13.8 |
| B04-1418 | --- | --- | 114.7 | 63.6 | 100 | 6/16 | 32 | 0 | 13.2 |
| IDO862T | --- | --- | 113.6 | 62.5 | 98 | 6/16 | 35 | 0 | 13.5 |
| Albany | --- | 95.1 | 112.9 | 62.2 | 99 | 6/22 | 35 | 0 | 12.3 |
| UI Winchester | 108.5 | 91.1 | 111.1 | 62.8 | 100 | 6/16 | 33 | 0 | 13.6 |
| Alzada (D) | 107.4 | 104.5 | 111.1 | 63.4 | 100 | 6/12 | 33 | 0 | 13.8 |
| SY Capstone (W) | 107.1 | 87.1 | 109.3 | 62.5 | 100 | 6/13 | 31 | 0 | 13.4 |
| WB-Idamax (W) | 118.0 | 94.4 | 108.2 | 62.4 | 100 | 6/15 | 30 | 0 | 13.4 |
| Blanca Grande (W) | 114.3 | 95.1 | 107.1 | 63.1 | 100 | 6/11 | 31 | 0 | 13.1 |
| Volt | 101.3 | 97.6 | 106.7 | 63.6 | 100 | 6/19 | 33 | 0 | 12.5 |
| WB-Rockland | 94.0 | 88.6 | 106.4 | 63.1 | 100 | 6/14 | 28 | 0 | 14.7 |
| C-2801 | --- | --- | 106.0 | 61.4 | 99 | 6/14 | 35 | 0 | 14.6 |
| Westbred 936 | 110.7 | 46.5 | 106.0 | 60.6 | 100 | 6/14 | 31 | 0 | 14.0 |
| C-2821 | --- | --- | 104.5 | 61.0 | 99 | 6/19 | 41 | 0 | 12.5 |
| Snow Crest (W) | 108.5 | 95.5 | 104.2 | 62.5 | 100 | 6/10 | 27 | 0 | 13.8 |
| IDO694C | --- | --- | 103.5 | 62.3 | 99 | 6/13 | 32 | 0 | 12.6 |
| Buck Pronto | --- | 93.3 | 101.6 | 60.9 | 100 | 6/13 | 33 | 0 | 15.3 |
| Choteau | 104.5 | 101.6 | 99.8 | 61.0 | 100 | 6/21 | 35 | 0 | 14.1 |
| Klasic (W) | 100.6 | 92.2 | 98.7 | 62.0 | 100 | 6/12 | 28 | 0 | 13.4 |
| WB-Paloma (W) | 112.2 | 91.1 | 98.0 | 60.5 | 100 | 6/12 | 29 | 0 | 15.4 |
| WB-Rockland +25% | --- | --- | 97.6 | 61.5 | 100 | 6/17 | 29 | 0 | 15.0 |
| BZ-401 | --- | --- | 90.4 | 62.6 | 97 | 6/13 | 37 | 0 | 14.4 |
| WB-Perla | --- | --- | 78.8 | 58.9 | 100 | 6/10 | 28 | 0 | 14.5 |
| Average | 110.6 | 91.5 | 107.9 | 62.1 | 100 | 6/15 | 33 | 0 | 13.6 |
| LSD ($\alpha=.05$) | 9.6 | 12.5 | 10.9 | 1.5 | 1.5 | 1.7 | 2.8 | 0.0 | |
| CV % | 6.1 | 9.7 | 7.2 | 1.8 | 1.1 | 0.7 | 6.2 | . | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | 0.0045 | <.0001 | <.0001 | . | |

(W) = White

(D) = Durum

Table 37. Agronomic data for spring wheat at Aberdeen, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Spring Wheat | | | | | | | | | |
| Alzada (D) | 125.3 | 113.2 | 150.7 | 61.6 | 100 | 6/14 | 32 | 0 | 14.3 |
| WA8123 (W) | --- | 107.7 | 146.8 | 61.1 | 99 | 6/16 | 36 | 0 | 13.7 |
| Jefferson | 115.5 | 96.8 | 140.5 | 61.6 | 100 | 6/15 | 37 | 0 | 13.4 |
| Klasic (W) | 111.2 | 90.6 | 140.5 | 62.2 | 100 | 6/13 | 28 | 0 | 13.2 |
| IDO862T | --- | --- | 139.3 | 61.3 | 100 | 6/15 | 39 | 0 | 14.1 |
| Glee | --- | --- | 138.2 | 61.0 | 100 | 6/13 | 36 | 0 | 14.2 |
| B04-1418 | --- | --- | 137.8 | 63.4 | 100 | 6/18 | 33 | 0 | 13.9 |
| Choteau | 133.9 | 114.8 | 135.1 | 61.9 | 98 | 6/17 | 38 | 0 | 14.5 |
| Blanca Grande (W) | 121.0 | 96.8 | 134.7 | 63.1 | 100 | 6/12 | 33 | 0 | 13.4 |
| C-2801 | --- | --- | 133.5 | 61.7 | 100 | 6/13 | 38 | 0 | 15.2 |
| Kelse | 122.2 | 117.9 | 133.5 | 61.7 | 100 | 6/14 | 39 | 0 | 14.1 |
| UI Winchester | 119.4 | 97.6 | 133.5 | 61.9 | 100 | 6/15 | 36 | 0 | 13.5 |
| C-2836 | --- | --- | 132.3 | 62.3 | 100 | 6/17 | 37 | 0 | 12.1 |
| Albany | --- | 92.1 | 131.5 | 61.5 | 97 | 6/22 | 39 | 6 | 13.2 |
| IDO862E | --- | --- | 131.5 | 61.8 | 98 | 6/13 | 37 | 0 | 14.2 |
| Volt | 123.3 | 115.5 | 131.5 | 62.9 | 99 | 6/20 | 37 | 0 | 13.6 |
| Buck Pronto | --- | 103.0 | 130.0 | 61.3 | 99 | 6/13 | 36 | 0 | 15.7 |
| Bullseye | 128.8 | 114.8 | 129.6 | 61.9 | 100 | 6/15 | 33 | 0 | 14.5 |
| SY Capstone (W) | 123.3 | 109.3 | 128.8 | 59.9 | 100 | 6/14 | 31 | 0 | 14.1 |
| IDO694C | --- | --- | 128.4 | 61.1 | 97 | 6/13 | 32 | 0 | 13.7 |
| WB-Paloma (W) | 119.0 | 96.8 | 127.2 | 61.7 | 99 | 6/14 | 34 | 0 | 14.7 |
| Snow Crest (W) | 119.8 | 79.6 | 126.1 | 60.9 | 100 | 6/12 | 33 | 0 | 14.7 |
| WB-Idamax (W) | 126.5 | 101.5 | 125.3 | 60.3 | 100 | 6/14 | 34 | 0 | 15.3 |
| BZ-401 | --- | --- | 124.1 | 62.6 | 99 | 6/11 | 39 | 0 | 14.3 |
| C-2821 | --- | --- | 124.1 | 61.4 | 98 | 6/16 | 45 | 0 | 13.0 |
| Cabernet | 121.8 | 104.6 | 124.1 | 60.8 | 100 | 6/18 | 30 | 0 | 13.5 |
| Westbred 936 | 119.0 | 85.1 | 123.0 | 59.2 | 100 | 6/15 | 35 | 0 | 14.3 |
| WB-Rockland +25% | --- | --- | 117.5 | 61.6 | 100 | 6/19 | 30 | 0 | 15.5 |
| WB-Rockland | 110.1 | 85.1 | 113.6 | 60.8 | 97 | 6/15 | 28 | 0 | 15.8 |
| WB-Perla | --- | --- | 108.5 | 59.0 | 100 | 6/11 | 30 | 0 | 14.9 |
| Average | 121.1 | 102.2 | 130.7 | 61.4 | 99 | 6/15 | 35 | 0 | 14.2 |
| LSD ($\alpha=0.05$) | 14.4 | --- | 10.3 | 1.0 | 1.7 | 2.2 | 2.1 | 3.2 | |
| CV % | 8.5 | 14.1 | 5.6 | 1.2 | 1.2 | 1.0 | 4.3 | 1095.4 | |
| Pr > F | 0.0210 | 0.1887 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | 0.4798 | |

(W) = White

(D) = Durum

Table 38. Agronomic data for spring wheat, Idaho Falls, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand% | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|------------------|-----------------|----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Spring Wheat | | | | | | | | | |
| WA8123 (W) | --- | 137.6 | 119.8 | 63.0 | 100 | 6/20 | 33 | 0 | 13.6 |
| Kelse | 110.7 | 118.6 | 115.1 | 62.2 | 100 | 6/20 | 33 | 0 | 13.9 |
| Choteau | 119.4 | 125.6 | 109.6 | 62.7 | 100 | 6/22 | 32 | 0 | 14.0 |
| Blanca Grande (W) | 115.1 | 112.2 | 109.6 | 63.5 | 100 | 6/17 | 27 | 0 | 13.8 |
| Klasic (W) | 109.3 | 119.8 | 109.6 | 63.1 | 100 | 6/17 | 24 | 0 | 13.7 |
| Snow Crest (W) | 111.8 | 114.0 | 109.3 | 62.8 | 100 | 6/18 | 28 | 0 | 14.8 |
| Alzada (D) | 118.3 | 134.9 | 108.5 | 63.0 | 100 | 6/18 | 31 | 0 | 14.3 |
| Albany | --- | 127.2 | 107.8 | 63.0 | 100 | 6/23 | 34 | 0 | 12.0 |
| IDO862E | --- | --- | 107.8 | 62.9 | 100 | 6/18 | 32 | 0 | 14.1 |
| IDO862T | --- | --- | 106.7 | 62.4 | 100 | 6/20 | 33 | 0 | 13.9 |
| B04-1418 | --- | --- | 106.4 | 62.9 | 100 | 6/20 | 30 | 0 | 13.8 |
| Westbred 936 | 116.5 | 111.3 | 105.3 | 61.6 | 100 | 6/21 | 29 | 0 | 14.8 |
| Jefferson | 130.3 | 129.8 | 104.9 | 62.7 | 100 | 6/21 | 32 | 0 | 13.6 |
| Bullseye | 131.4 | 125.1 | 103.5 | 63.1 | 100 | 6/21 | 30 | 0 | 14.5 |
| C-2801 | --- | --- | 102.7 | 62.5 | 100 | 6/19 | 32 | 0 | 14.8 |
| Buck Pronto | --- | 115.4 | 102.4 | 62.4 | 100 | 6/19 | 32 | 0 | 14.9 |
| Glee | --- | --- | 102.4 | 62.7 | 100 | 6/18 | 31 | 0 | 14.2 |
| SY Capstone (W) | 125.2 | 118.7 | 102.4 | 62.0 | 100 | 6/20 | 29 | 0 | 14.0 |
| WB-Paloma (W) | 124.5 | 131.5 | 102.0 | 63.0 | 100 | 6/20 | 29 | 0 | 14.4 |
| WB-Idamax (W) | 127.8 | 128.3 | 101.6 | 62.9 | 100 | 6/20 | 29 | 0 | 13.7 |
| Cabernet | 114.7 | 114.7 | 100.9 | 63.2 | 100 | 6/21 | 27 | 0 | 13.7 |
| Volt | 123.1 | 124.4 | 100.6 | 63.6 | 100 | 6/24 | 33 | 0 | 13.6 |
| UI Winchester | 120.5 | 122.1 | 100.2 | 62.2 | 100 | 6/22 | 33 | 0 | 13.9 |
| C-2821 | --- | --- | 99.8 | 61.5 | 100 | 6/21 | 36 | 0 | 12.9 |
| C-2836 | --- | --- | 97.6 | 63.2 | 100 | 6/21 | 34 | 0 | 12.5 |
| BZ-401 | --- | --- | 97.3 | 63.4 | 100 | 6/18 | 33 | 0 | 14.3 |
| WB-Rockland | 94.7 | 98.0 | 96.9 | 62.9 | 100 | 6/22 | 28 | 0 | 14.9 |
| WB-Rockland +25% | --- | --- | 92.6 | 63.0 | 100 | 6/22 | 27 | 0 | 15.1 |
| WB-Perla | --- | --- | 90.8 | 62.2 | 100 | 6/15 | 27 | 0 | 14.4 |
| IDO694C | --- | --- | 88.9 | 62.2 | 100 | 6/18 | 28 | 0 | 13.5 |
| Average | 123.2 | 125.2 | 103.4 | 62.7 | 100 | 6/20 | 30 | 0 | 14.0 |
| LSD ($\alpha=.05$) | 8.7 | 9.5 | 8.7 | 0.7 | 0 | 1.1 | 1.8 | 0.0 | |
| CV % | 5.0 | 5.4 | 6.0 | 0.7 | 0 | 0.4 | 4.2 | . | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | . | <.0001 | <.0001 | . | |

(W) = White

(D) = Durum

Table 39. Agronomic data for spring wheat at Ashton, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Spring Wheat | | | | | | | | | |
| WA8123 (W) | --- | 98.1 | 69.0 | 61.3 | 100 | 7/1 | 27 | 0 | 14.8 |
| WB-Paloma (W) | 69.0 | 93.2 | 67.9 | 61.3 | 100 | 7/1 | 25 | 0 | 15.0 |
| Blanca Grande (W) | 48.3 | 84.5 | 63.2 | 61.8 | 100 | 6/29 | 24 | 0 | 14.6 |
| C-2836 | --- | --- | 62.4 | 61.8 | 100 | 7/2 | 26 | 0 | 14.2 |
| Glee | --- | --- | 62.1 | 60.9 | 100 | 6/30 | 25 | 0 | 15.3 |
| Albany | --- | 92.7 | 61.3 | 60.2 | 99 | 7/5 | 26 | 0 | 14.6 |
| Bullseye | 62.4 | 87.1 | 61.3 | 62.6 | 100 | 7/1 | 22 | 0 | 15.5 |
| SY Capstone (W) | 51.5 | 101.1 | 58.8 | 60.1 | 100 | 6/30 | 23 | 0 | 15.0 |
| Buck Pronto | --- | 97.6 | 58.4 | 60.8 | 100 | 7/1 | 27 | 0 | 16.1 |
| UI Winchester | 53.0 | 107.0 | 58.1 | 59.7 | 100 | 7/1 | 24 | 0 | 15.3 |
| WB-Idamax (W) | 55.9 | 112.4 | 58.1 | 59.9 | 100 | 7/1 | 23 | 0 | 15.0 |
| Choteau | 53.0 | 88.9 | 57.4 | 60.5 | 100 | 7/3 | 25 | 0 | 16.3 |
| Alzada (D) | 53.7 | 98.6 | 56.6 | 61.6 | 99 | 7/1 | 25 | 0 | 15.2 |
| Cabernet | 44.3 | 94.8 | 55.2 | 60.1 | 100 | 6/30 | 21 | 0 | 14.9 |
| WB-Perla | --- | --- | 54.8 | 61.4 | 100 | 6/29 | 23 | 0 | 15.1 |
| C-2821 | --- | --- | 54.5 | 61.1 | 100 | 7/1 | 30 | 0 | 14.8 |
| Kelse | 54.8 | 94.6 | 54.1 | 60.9 | 100 | 7/1 | 23 | 0 | 16.1 |
| Jefferson | 57.0 | 99.7 | 53.4 | 60.4 | 100 | 7/2 | 23 | 0 | 15.9 |
| Volt | 53.7 | 90.7 | 53.0 | 61.5 | 100 | 7/6 | 25 | 0 | 15.5 |
| IDO862E | --- | --- | 52.6 | 61.1 | 99 | 6/30 | 23 | 0 | 15.9 |
| IDO862T | --- | --- | 52.3 | 61.0 | 100 | 7/1 | 24 | 0 | 16.3 |
| WB-Rockland +25% | --- | --- | 51.9 | 61.2 | 100 | 7/1 | 21 | 0 | 16.9 |
| B04-1418 | --- | --- | 51.2 | 61.5 | 100 | 7/2 | 23 | 0 | 16.3 |
| IDO694C | --- | --- | 50.8 | 60.6 | 85 | 6/30 | 23 | 0 | 14.6 |
| BZ-401 | --- | --- | 49.7 | 61.8 | 97 | 6/29 | 27 | 0 | 14.9 |
| C-2801 | --- | --- | 49.7 | 59.9 | 100 | 7/1 | 25 | 0 | 17.3 |
| WB-Rockland | 33.8 | 76.4 | 48.6 | 60.9 | 100 | 7/1 | 22 | 0 | 16.4 |
| Westbred 936 | 45.0 | 79.8 | 44.3 | 58.7 | 100 | 7/1 | 22 | 0 | 16.5 |
| Snow Crest (W) | 47.2 | 91.1 | 44.3 | 59.4 | 100 | 6/30 | 25 | 0 | 16.1 |
| Klasic (W) | 54.5 | 72.2 | 43.6 | 59.4 | 100 | 6/30 | 18.3 | 0 | 15.6 |
| Average | 53.6 | 94.2 | 55.3 | 60.8 | 99 | 7/1 | 24 | 0 | 15.5 |
| LSD ($\alpha=.05$) | 9.8 | 14.0 | 12.7 | 1.1 | 1.3 | 1.2 | 3.3 | 0 | |
| CV % | 12.9 | 10.6 | 16.3 | 1.3 | 0.9 | 0.5 | 9.7 | . | |
| Pr > F | <.0001 | <.0001 | 0.0070 | <.0001 | <.0001 | <.0001 | <.0001 | . | |

(W) = White

(D) = Durum

Table 40. Agronomic data for spring wheat at Soda Springs, dryland, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|--------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|----------------|----------------|----------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Hard Spring Wheat | | | | | | | | | |
| Glee | --- | --- | 34.5 | 59.6 | 70 | 7/7 | 24 | 0 | 15.2 |
| Westbred 936 | 32.7 | 33.4 | 33.0 | 58.7 | 84 | 7/9 | 21 | 0 | 15.5 |
| Pristine (W) | 31.9 | 40.3 | 33.0 | 61.2 | 83 | 7/7 | 22 | 0 | 15.6 |
| WA8123 (W) | --- | 37.0 | 32.3 | 59.0 | 76 | 7/8 | 22 | 0 | 14.3 |
| Kelse | 30.1 | 41.7 | 31.6 | 60.4 | 60 | 7/7 | 21 | 0 | 15.5 |
| Choteau | 25.0 | 30.5 | 31.2 | 58.6 | 80 | 7/9 | 19 | 0 | 15.0 |
| Blanca Grande (W) | 31.6 | 34.8 | 30.1 | 61.4 | 74 | 7/6 | 19 | 0 | 15.0 |
| IDO862E | --- | --- | 29.8 | 59.9 | 78 | 7/5 | 21 | 0 | 15.0 |
| Snow Crest (W) | 30.9 | 36.3 | 29.8 | 58.6 | 80 | 7/5 | 19 | 0 | 14.4 |
| Volt | 27.6 | 25.0 | 29.0 | 60.3 | 81 | 7/11 | 21 | 0 | 13.6 |
| Utopia (D) | 31.6 | 33.8 | 28.7 | 59.0 | 78 | 7/9 | 21 | 0 | 14.8 |
| SY Capstone (W) | --- | --- | 28.0 | 59.5 | 80 | 7/7 | 19 | 0 | 14.2 |
| Klasic (W) | 30.9 | 44.6 | 27.6 | 60.4 | 84 | 7/5 | 16 | 0 | 13.9 |
| UI Winchester | 32.7 | 34.8 | 26.9 | 59.7 | 80 | 7/8 | 19 | 0 | 14.6 |
| IDO694C | --- | --- | 25.8 | 61.3 | 85 | 7/6 | 20 | 0 | 13.9 |
| WB-Paloma (W) | --- | --- | 25.0 | 60.6 | 86 | 7/8 | 19 | 0 | 14.2 |
| Jefferson | 33.4 | 41.0 | 24.7 | 60.3 | 80 | 7/9 | 21 | 0 | 15.4 |
| Cabernet | --- | --- | 24.3 | 59.6 | 89 | 7/9 | 16 | 0 | 13.7 |
| Average | 31.9 | 36.9 | 29.2 | 59.9 | 79 | 7/7 | 20 | 0 | 14.6 |
| LSD ($\alpha=.05$) | 6.1 | 7.1 | 9.4 | 1.9 | 13.7 | 1.3 | 2.8 | 0 | |
| CV % | 13.5 | 13.6 | 22.8 | 2.3 | 12.2 | 0.5 | 9.8 | . | |
| Pr > F | <.0001 | <.0001 | 0.6194 | 0.0639 | 0.0484 | <.0001 | <.0001 | . | |

(W) = White

(D) = Durum

Table 41. Agronomic data for spring wheat at Rupert, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. | Spring | Heading | Height | Lodging | Protein |
|--------------------------------|--------------|--------|--------|----------|--------|---------|--------|---------|---------|
| | 2010 | 2011 | 2012 | (lb/bu) | Stand% | Date | (in) | (%) | (%) |
| Soft White Spring Wheat | | | | | | | | | |
| Babe | 115.1 | 104.2 | 128.1 | 63.1 | 100 | 6/17 | 36 | 0 | 10.7 |
| Alpowa | 118.4 | 94.0 | 125.6 | 62.5 | 100 | 6/18 | 37 | 0 | 11.3 |
| UI Stone | 116.9 | 103.8 | 124.1 | 62.0 | 100 | 6/16 | 36 | 0 | 10.7 |
| Whit | 120.2 | 91.1 | 121.2 | 61.6 | 100 | 6/15 | 36 | 0 | 11.3 |
| UI Whitmore | 116.6 | 110.7 | 116.5 | 61.5 | 100 | 6/17 | 36 | 0 | 10.5 |
| UI Pettit | 118.7 | 88.2 | 112.5 | 61.6 | 100 | 6/12 | 35 | 0 | 10.6 |
| IDO 687 | 116.9 | 123.4 | 111.8 | 63.0 | 100 | 6/19 | 36 | 0 | 10.5 |
| Penawawa | 115.1 | 101.6 | 110.7 | 60.0 | 100 | 6/20 | 37 | 1 | 11.3 |
| Alturas | 120.2 | 115.8 | 107.4 | 61.1 | 100 | 6/17 | 36 | 0 | 10.8 |
| Nick | 114.7 | 82.8 | 104.9 | 61.9 | 100 | 6/15 | 34 | 0 | 11.1 |
| JD* | 108.2 | 80.2 | 104.2 | 62.5 | 100 | 6/23 | 38 | 10 | 11.7 |
| Cataldo | 105.3 | 90.8 | 95.1 | 60.5 | 100 | 6/12 | 35 | 0 | 11.8 |
| Average | 115.8 | 101.3 | 113.5 | 61.7 | 100 | 6/17 | 36 | 1 | 11.0 |
| LSD ($\alpha=0.05$) | 11.8 | 10.8 | 11.7 | 0.8 | 0.0 | 1.1 | 2.4 | 8.3 | |
| CV % | 7.1 | 7.5 | 7.2 | 0.9 | 0.0 | 0.4 | 4.6 | 657.7 | |
| Pr > F | 0.1238 | <.0001 | <.0001 | <.0001 | . | <.0001 | 0.1366 | 0.4671 | |

* = club wheat

Table 42. Agronomic data for spring wheat at Aberdeen, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) |
|--------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Soft White Spring Wheat | | | | | | | | | |
| Babe | 135.4 | 131.1 | 156.9 | 63.0 | 99 | 6/18 | 39 | 0 | 10.1 |
| UI Stone | 134.7 | 135.1 | 154.2 | 61.7 | 100 | 6/14 | 39 | 0 | 10.6 |
| Alpowa | 133.9 | 138.2 | 153.0 | 62.2 | 98 | 6/18 | 41 | 0 | 11.2 |
| UI Whitmore | 122.6 | 128.8 | 149.5 | 61.5 | 98 | 6/17 | 40 | 0 | 10.3 |
| UI Pettit | 126.5 | 130.4 | 147.9 | 61.1 | 100 | 6/13 | 34 | 0 | 10.8 |
| Alturas | 124.5 | 129.6 | 146.8 | 61.5 | 100 | 6/18 | 38 | 0 | 10.6 |
| IDO 687 | 131.9 | 131.9 | 145.2 | 62.1 | 99 | 6/18 | 38 | 0 | 10.6 |
| Whit | 128.0 | 132.7 | 144.2 | 60.4 | 100 | 6/15 | 38 | 1 | 11.5 |
| Nick | 132.3 | 114.0 | 140.9 | 61.3 | 100 | 6/15 | 37 | 0 | 10.4 |
| Penawawa | 109.3 | 119.4 | 140.1 | 61.0 | 100 | 6/18 | 39 | 0 | 11.8 |
| Cataldo | 128.8 | 112.4 | 131.5 | 60.9 | 100 | 6/14 | 37 | 0 | 11.2 |
| JD* | 102.3 | 119.4 | 126.5 | 62.3 | 100 | 6/22 | 44 | 39 | 12.1 |
| Average | 125.2 | 126.8 | 144.7 | 61.6 | 99 | 6/16 | 39 | 3 | 10.9 |
| LSD ($\alpha=0.05$) | 15.5 | --- | 11.0 | 0.9 | 1.8 | 0.8 | 2.1 | 14.2 | |
| CV % | 8.7 | 9.3 | 5.2 | 1.1 | 1.3 | 0.3 | 3.8 | 295.8 | |
| Pr > F | 0.0016 | 0.0005 | <.0001 | 0.0003 | 0.3122 | <.0001 | <.0001 | 0.0001 | |

*club wheat

Table 43. Agronomic data for spring wheat, Idaho Falls, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|--------------------------------|--------------|-------|--------|------------------|----------------|--------------|-------------|-------------|-------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Soft White Spring Wheat | | | | | | | | | |
| Alpowa | 130.3 | 138.6 | 129.2 | 62.5 | 100 | 6/22 | 37 | 0 | 11.3 |
| UI Whitmore | 132.9 | 132.0 | 126.0 | 62.1 | 100 | 6/21 | 34 | 0 | 10.4 |
| Babe | 127.8 | 131.2 | 122.0 | 63.1 | 100 | 6/22 | 35 | 0 | 11.3 |
| IDO 687 | 137.6 | 139.2 | 120.5 | 63.0 | 100 | 6/22 | 35 | 0 | 10.9 |
| UI Pettit | 132.9 | 130.0 | 120.5 | 62.0 | 100 | 6/18 | 29 | 0 | 10.9 |
| UI Stone | 137.9 | 140.6 | 116.5 | 61.7 | 100 | 6/20 | 34 | 0 | 11.0 |
| Alturas | 131.0 | 131.4 | 116.2 | 61.6 | 100 | 6/22 | 34 | 0 | 10.6 |
| Whit | 130.0 | 129.4 | 112.5 | 62.2 | 100 | 6/21 | 34 | 0 | 11.7 |
| Nick | 133.9 | 132.9 | 108.5 | 61.7 | 100 | 6/21 | 32 | 0 | 11.5 |
| JD* | 119.1 | 143.3 | 106.7 | 62.8 | 100 | 6/23 | 38 | 0 | 11.7 |
| Penawawa | 121.6 | 125.5 | 104.9 | 61.0 | 100 | 6/22 | 35 | 0 | 11.6 |
| Cataldo | 115.8 | 116.5 | 103.1 | 61.1 | 100 | 6/19 | 32 | 0 | 11.3 |
| Average | 129.8 | 133.2 | 115.6 | 62.0 | 100 | 6/21 | 34 | 0 | 11.2 |
| LSD ($\alpha=0.05$) | 9.2 | 12.2 | 8.5 | 0.6 | 0.0 | 0.7 | 1.4 | 0.0 | |
| CV % | 5.0 | 6.5 | 5.1 | 0.7 | 0.0 | 0.3 | 2.9 | . | |
| Pr > F | <.0001 | 0.007 | <.0001 | <.0001 | . | <.0001 | <.0001 | . | |

*= club wheat

Table 44. Agronomic data for spring wheat at Ashton, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Heading Height (in) | Lodging (%) | Protein (%) |
|--------------------------------|--------------|--------|-------|------------------|----------------|--------------|---------------------|-------------|-------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Soft White Spring Wheat | | | | | | | | | |
| Alpowa | 45.4 | 95.4 | 72.2 | 62.0 | 100 | 7/5 | 28 | 0 | 12.0 |
| UI Stone | 58.1 | 112.2 | 65.7 | 61.5 | 100 | 7/2 | 26 | 0 | 12.0 |
| UI Whitmore | 64.3 | 101.3 | 65.3 | 61.7 | 100 | 7/4 | 25 | 0 | 11.2 |
| IDO 687 | 58.1 | 104.3 | 64.3 | 61.5 | 100 | 7/3 | 26 | 0 | 12.7 |
| Alturas | 69.7 | 96.6 | 63.9 | 61.2 | 100 | 7/2 | 24 | 0 | 12.2 |
| Babe | 57.4 | 108.1 | 61.7 | 61.5 | 100 | 7/2 | 25 | 0 | 12.2 |
| Whit | 49.4 | 97.8 | 61.3 | 61.2 | 100 | 7/1 | 25 | 0 | 12.4 |
| Cataldo | 68.2 | 91.3 | 59.5 | 61.0 | 100 | 6/30 | 24 | 0 | 11.9 |
| JD* | 54.1 | 102.1 | 59.2 | 62.2 | 100 | 7/5 | 27 | 0 | 12.8 |
| Penawawa | 51.2 | 101.0 | 58.1 | 61.0 | 100 | 7/4 | 24 | 0 | 12.5 |
| Nick | 59.5 | 100.9 | 57.7 | 61.3 | 100 | 7/1 | 24 | 0 | 12.8 |
| UI Pettit | 58.8 | 94.9 | 55.2 | 62.2 | 100 | 6/29 | 22 | 0 | 12.4 |
| Average | 58.7 | 99.8 | 62.0 | 61.5 | 100 | 7/2 | 25 | 0 | 12.3 |
| LSD ($\alpha=0.05$) | 9.2 | 14.7 | 12.3 | 0.8 | 0.7 | 1.7 | 2.5 | 0.0 | |
| CV % | 11.1 | 10.2 | 13.8 | 0.9 | 0.5 | 0.7 | 6.8 | . | |
| Pr > F | <.0001 | 0.1967 | 0.348 | 0.0563 | 0.6650 | <.0001 | 0.003 | . | |

* = club wheat

Table 45. Agronomic data for spring wheat at Soda Springs, dryland, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in) | Lodging (%) | Protein (%) |
|--------------------------------|--------------|--------|--------|------------------|----------------|--------------|-------------|-------------|-------------|
| | 2010 | 2011 | 2012 | | | | | | |
| Soft White Spring Wheat | | | | | | | | | |
| JD* | 37.0 | 52.3 | 37.4 | 61.6 | 79 | 7/10 | 24 | 0 | 12.4 |
| Babe | 37.4 | 33.8 | 35.6 | 59.5 | 56 | 7/10 | 22 | 0 | 12.4 |
| IDO 687 | 37.8 | 51.2 | 35.6 | 61.7 | 71 | 7/9 | 22 | 0 | 12.1 |
| UI Pettit | 39.6 | 41.0 | 35.2 | 58.8 | 58 | 7/5 | 20 | 0 | 12.1 |
| UI Stone | 39.9 | 59.5 | 34.8 | 61.4 | 80 | 7/8 | 20 | 0 | 11.7 |
| Nick | 35.2 | 47.2 | 34.5 | 60.0 | 69 | 7/8 | 19 | 0 | 13.5 |
| Whit | 36.7 | 52.3 | 34.5 | 59.6 | 80 | 7/8 | 21 | 0 | 12.4 |
| Alpowa | 29.4 | 35.6 | 34.1 | 59.9 | 80 | 7/11 | 21 | 0 | 12.3 |
| UI Whitmore | 36.7 | 47.6 | 31.6 | 60.2 | 78 | 7/9 | 19 | 0 | 11.5 |
| Alturas | 41.4 | 56.6 | 31.2 | 60.3 | 76 | 7/9 | 18 | 0 | 12.2 |
| Cataldo | 39.9 | 55.9 | 29.0 | 60.5 | 74 | 7/6 | 20 | 0 | 12.4 |
| Penawawa | 37.8 | 47.9 | 28.7 | 59.6 | 73 | 7/10 | 18 | 0 | 12.1 |
| Average | 38.2 | 50.2 | 33.5 | 60.3 | 73 | 7/9 | 20 | 0 | 12.2 |
| LSD ($\alpha=.05$) | 7.1 | 8.5 | 7.7 | 2.5 | 19.9 | 0.7 | 2.6 | 0 | |
| CV % | 13.1 | 11.9 | 16.0 | 2.9 | 19.0 | 0.3 | 9.0 | . | |
| Pr > F | 0.2017 | <.0001 | 0.4328 | 0.3831 | 0.2085 | <.0001 | 0.0019 | . | |

* = club wheat

Table 46. Agronomic data for spring barley at Rupert, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|----------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 6- Row Spring Feed Barley | | | | | | | | | | | | |
| Millennium | 122.1 | 135.7 | 137.0 | 49.5 | 100 | 6/12 | 44 | 19 | 12.6 | 67.5 | 19.7 | 12.8 |
| UT2120-35 | 127.1 | 132.9 | 134.3 | 49.2 | 100 | 6/12 | 41 | 18 | 13.9 | 81.9 | 13.2 | 5.3 |
| UT2120-14 | 130.7 | 137.5 | 133.9 | 49.0 | 100 | 6/12 | 39 | 23 | 13.2 | 82.7 | 11.9 | 5.5 |
| Herald | 116.6 | 118.9 | 132.5 | 49.2 | 99 | 6/16 | 41 | 20 | 13.2 | 85.6 | 10.9 | 3.9 |
| Goldeneye | 119.3 | 146.1 | 118.4 | 49.8 | 100 | 6/15 | 38 | 44 | 14.0 | 78.5 | 11.8 | 9.8 |
| Stephoe | 114.8 | 108.9 | 117.5 | 47.6 | 100 | 6/16 | 38 | 68 | 12.5 | 75.7 | 14.7 | 9.9 |
| Aquila | 108.0 | --- | 95.3 | 50.8 | 100 | 6/8 | 42 | 0 | 13.8 | 83.8 | 10.6 | 5.8 |
| Gustoe | --- | --- | 92.1 | 44.7 | 99 | 6/20 | 31 | 52 | 13.3 | 59.9 | 23.5 | 16.7 |
| 6- Row Spring Malt Barley | | | | | | | | | | | | |
| Tradition | 92.6 | 112.5 | 135.2 | 49.6 | 99 | 6/16 | 42 | 39 | 13.3 | 83.2 | 12.2 | 4.8 |
| 01Ab9663 | --- | 97.6 | 125.7 | 48.6 | 100 | 6/16 | 41 | 69 | 12.3 | 73.5 | 13.3 | 13.7 |
| Quest | --- | --- | 119.8 | 49.1 | 100 | 6/17 | 41 | 27 | 12.9 | 78.2 | 14.0 | 7.8 |
| Legacy | 115.3 | 123.9 | 116.2 | 47.7 | 99 | 6/18 | 42 | 53 | 12.4 | 70.3 | 17.3 | 12.3 |
| Maja | --- | --- | 109.4 | 47.4 | 100 | 6/20 | 38 | 50 | 12.1 | 62.8 | 21.6 | 16.1 |
| Morex | 103.0 | 92.1 | 108.9 | 47.0 | 99 | 6/19 | 43 | 72 | 14.7 | 57.7 | 21.3 | 20.8 |
| Celebration | 99.8 | 109.4 | 102.5 | 47.4 | 100 | 6/17 | 40 | 71 | 14.6 | 72.9 | 16.5 | 10.9 |
| Average | 116.6 | 122.9 | 118.6 | 48.4 | 100 | 6/16 | 40 | 42 | 13.2 | 74.3 | 15.5 | 10.4 |
| LSD ($\alpha=.05$) | 17.5 | 17.6 | 20.1 | 2.1 | 1.6 | 2.0 | 4.9 | 39.4 | | | | |
| CV % | 10.5 | 10.1 | 11.9 | 3.0 | 1.1 | 0.8 | 8.6 | 66.5 | | | | |
| Pr > F | 0.0001 | <.0001 | 0.0001 | 0.0002 | 0.6532 | <.0001 | 0.0010 | 0.0051 | | | | |

Table 47. Agronomic data for spring barley, Aberdeen, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 6-Row Spring Feed Barley | | | | | | | | | | | | |
| Millennium | 138.6 | 161.0 | 178.6 | 49.7 | 100 | 6/11 | 45 | 13 | 14.1 | 70.2 | 18.1 | 11.2 |
| UT2120-35 | 133.2 | 161.0 | 160.0 | 48.6 | 100 | 6/10 | 37 | 84 | 14.9 | 73.5 | 16.4 | 10.4 |
| UT2120-14 | 121.5 | 174.7 | 155.6 | 48.8 | 100 | 6/11 | 38 | 61 | 14.1 | 77.0 | 13.4 | 9.8 |
| Aquila | 118.1 | --- | 149.3 | 52.7 | 100 | 6/6 | 42 | 4 | 14.8 | 89.1 | 8.1 | 3.2 |
| Goldeneye | 119.5 | 166.9 | 145.4 | 51.1 | 100 | 6/14 | 42 | 30 | 15.6 | 85.5 | 9.6 | 5.2 |
| Herald | 149.8 | 150.8 | 144.9 | 47.2 | 100 | 6/14 | 42 | 54 | 8.2 | 61.2 | 20.8 | 18.5 |
| Gustoe | --- | --- | 139.5 | 45.1 | 100 | 6/17 | 33 | 80 | 14.1 | 51.7 | 29.1 | 19.8 |
| Steptoe | 122.5 | 151.7 | 128.8 | 47.0 | 100 | 6/13 | 44 | 88 | 13.9 | 70.7 | 15.9 | 13.3 |
| 6-Row Spring Malt Barley | | | | | | | | | | | | |
| 01Ab9663 | --- | 135.6 | 149.8 | 50.8 | 100 | 6/14 | 48 | 69 | 12.7 | 87.0 | 8.7 | 4.7 |
| Legacy | 124.9 | 142.5 | 143.0 | 49.3 | 100 | 6/14 | 43 | 65 | 14.4 | 77.5 | 12.9 | 9.9 |
| Celebration | 114.2 | 126.9 | 140.0 | 50.1 | 100 | 6/15 | 41 | 84 | 16.0 | 81.1 | 11.6 | 7.9 |
| Maja | --- | --- | 128.8 | 47.2 | 98 | 6/17 | 45 | 98 | 14.5 | 48.5 | 24.7 | 27.2 |
| Tradition | 118.6 | 142.5 | 128.8 | 51.5 | 100 | 6/14 | 44 | 34 | 13.7 | 90.3 | 6.8 | 3.1 |
| Morex | 108.3 | 118.6 | 126.9 | 47.7 | 100 | 6/16 | 45 | 98 | 15.3 | 65.9 | 19.5 | 14.7 |
| Quest | --- | --- | 114.2 | 50.0 | 100 | 6/14 | 44 | 89 | 15.1 | 77.4 | 13.8 | 9.1 |
| Average | 127.6 | 147.6 | 142.2 | 49.1 | 100 | 6/13 | 42 | 63 | 14.1 | 73.8 | 15.3 | 11.2 |
| LSD ($\alpha=.05$) | 22.7 | 17.5 | 21.5 | 2.1 | 0.9 | 1.0 | 2.6 | 37.9 | | | | |
| CV % | 12.4 | 8.3 | 10.6 | 3.0 | 0.6 | 0.4 | 4.4 | 42.1 | | | | |
| Pr > F | 0.0120 | <.0001 | <.0001 | <.0001 | 0.0386 | <.0001 | <.0001 | <.0001 | | | | |

Table 48. Agronomic data for spring barley at Idaho Falls, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|-----------------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 6 - Row Spring Feed Barley | | | | | | | | | | | | |
| Goldeneye | 129.3 | 132.9 | 211.4 | 51.0 | 100 | 6/19 | 33 | 0 | 11.8 | 89.7 | 6.9 | 3.3 |
| UT2120-35 | 138.4 | 143.8 | 203.7 | 50.1 | 100 | 6/14 | 30 | 20 | 11.6 | 87.1 | 9.1 | 4.4 |
| Herald | 138.8 | 146.1 | 196.9 | 49.6 | 100 | 6/17 | 34 | 10 | 11.3 | 84.4 | 10.4 | 5.5 |
| Stephoe | 119.3 | 134.3 | 196.0 | 48.5 | 100 | 6/16 | 34 | 20 | 11.2 | 83.1 | 11.5 | 5.8 |
| UT2120-14 | 139.8 | 146.6 | 193.8 | 49.9 | 100 | 6/13 | 30 | 28 | 11.8 | 87.9 | 7.8 | 4.6 |
| Millennium | 130.7 | 154.3 | 191.0 | 49.7 | 100 | 6/13 | 34 | 3 | 12.2 | 73.9 | 17.6 | 8.7 |
| Aquila | 107.5 | --- | 182.9 | 52.0 | 100 | 6/11 | 32 | 5 | 12.0 | 87.5 | 8.0 | 4.9 |
| Gustoe | --- | --- | 152.0 | 45.4 | 100 | 6/21 | 22 | 58 | 12.3 | 60.4 | 24.8 | 15.4 |
| 6 - Row Spring Malt Barley | | | | | | | | | | | | |
| 01Ab9663 | --- | 142.0 | 196.9 | 50.8 | 100 | 6/19 | 38 | 0 | 10.7 | 86.9 | 9.1 | 4.5 |
| Tradition | 104.8 | 104.8 | 186.0 | 51.5 | 100 | 6/19 | 35 | 28 | 11.5 | 94.8 | 4.2 | 0.9 |
| Legacy | 123.9 | 116.6 | 181.0 | 49.9 | 100 | 6/20 | 35 | 55 | 12.2 | 87.3 | 8.8 | 4.4 |
| Quest | --- | --- | 181.0 | 50.4 | 100 | 6/17 | 36 | 38 | 12.8 | 80.2 | 13.9 | 5.9 |
| Maja | --- | --- | 177.9 | 49.4 | 100 | 6/20 | 33 | 50 | 11.1 | 77.2 | 16.2 | 6.7 |
| Celebration | 114.8 | 116.2 | 174.7 | 50.3 | 100 | 6/17 | 35 | 25 | 12.8 | 88.5 | 8.3 | 3.4 |
| Morex | 96.6 | 107.1 | 165.6 | 50.2 | 100 | 6/20 | 35 | 35 | 11.7 | 77.5 | 15.9 | 6.7 |
| Average | 126.7 | 134.6 | 186.1 | 49.9 | 100 | 6/17 | 33 | 25 | 11.8 | 83.1 | 11.5 | 5.7 |
| LSD ($\alpha=.05$) | 15.4 | 15.1 | 14.3 | 1.1 | 0.0 | 1.7 | 2.0 | 16.4 | | | | |
| CV % | 8.5 | 7.8 | 5.4 | 1.5 | 0.0 | 0.7 | 4.2 | 46.3 | | | | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | . | <.0001 | <.0001 | <.0001 | | | | |

Table 49. Agronomic data for spring barley at Ashton, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 6-Row Spring Feed Barley | | | | | | | | | | | | |
| Goldeneye | 44.5 | 138.8 | 108.5 | 48.7 | 100 | 7/1 | 25 | 0 | 12.8 | 84.1 | 11.5 | 4.5 |
| Step toe | 58.5 | 116.2 | 82.3 | 43.7 | 100 | 7/5 | 24 | 0 | 12.3 | 79.8 | 12.2 | 8.2 |
| UT2120-14 | 60.3 | 133.9 | 76.7 | 45.7 | 100 | 6/30 | 25 | 0 | 13.4 | 74.8 | 16.4 | 9.3 |
| Aquila | 36.8 | --- | 75.8 | 47.2 | 100 | 7/1 | 24 | 0 | 14.1 | 79.5 | 12.3 | 8.5 |
| Millennium | 49.5 | 119.8 | 74.4 | 46.4 | 100 | 6/30 | 24 | 0 | 13.4 | 67.0 | 18.7 | 14.7 |
| Gustoe | --- | --- | 74.0 | 44.4 | 100 | 7/9 | 15 | 0 | 13.4 | 73.5 | 16.3 | 10.4 |
| UT2120-35 | 56.7 | 130.2 | 70.3 | 44.4 | 100 | 7/2 | 23 | 0 | 13.4 | 75.4 | 15.4 | 9.5 |
| Herald | 54.5 | 118.9 | 69.0 | 45.8 | 100 | 7/1 | 24 | 0 | 12.3 | 88.0 | 8.3 | 4.0 |
| 6-Row Spring Malt Barley | | | | | | | | | | | | |
| 01Ab9663 | --- | 132.0 | 83.9 | 47.6 | 100 | 7/4 | 26 | 0 | 12.0 | 89.0 | 6.8 | 3.0 |
| Legacy | 48.6 | 119.3 | 83.9 | 48.0 | 100 | 7/2 | 25 | 0 | 14.2 | 87.2 | 10.0 | 3.2 |
| Quest | --- | --- | 73.5 | 48.2 | 100 | 7/2 | 23 | 0 | 15.6 | 82.8 | 10.8 | 6.7 |
| Tradition | 31.3 | 118.0 | 72.2 | 48.5 | 100 | 7/4 | 27 | 0 | 14.4 | 85.4 | 10.3 | 4.7 |
| Maja | --- | --- | 68.1 | 44.2 | 100 | 7/4 | 22 | 0 | 13.0 | 67.2 | 20.6 | 12.6 |
| Morex | 43.1 | 91.7 | 66.7 | 45.6 | 100 | 7/3 | 23 | 0 | 13.3 | 77.2 | 16.2 | 6.7 |
| Celebration | 39.9 | 102.5 | 66.3 | 45.6 | 100 | 7/2 | 22 | 0 | 14.9 | 77.6 | 14.3 | 8.5 |
| Average | 48.9 | 118.6 | 76.4 | 46.2 | 100 | 7/3 | 23 | 0 | 13.5 | 79.2 | 13.3 | 7.6 |
| LSD ($\alpha=0.05$) | 14.8 | 19.3 | 28.4 | 2.9 | 0 | 3.4 | 3.5 | 0.0 | | | | |
| CV % | 21.2 | 11.4 | 25.8 | 4.2 | 0 | 1.3 | 10.5 | . | | | | |
| Pr > F | 0.0003 | 0.0016 | 0.3449 | 0.0049 | . | 0.0005 | <.0001 | . | | | | |

Table 50. Agronomic data for spring barley at Rupert, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 2-Row Spring Malt Barley | | | | | | | | | | | | |
| LN09-0920 | --- | --- | 160.2 | 50.8 | 100 | 6/18 | 33 | 30 | 14.9 | 81.0 | 12.5 | 6.7 |
| Moravian 143 | --- | --- | 150.2 | 48.2 | 100 | 6/22 | 34 | 24 | 15.3 | 88.2 | 8.4 | 3.4 |
| Xena (feed check) | 128.0 | 133.4 | 148.8 | 53.1 | 100 | 6/17 | 36 | 4 | 12.8 | 91.1 | 6.0 | 2.6 |
| Copeland | 122.1 | 115.7 | 147.0 | 50.9 | 100 | 6/21 | 35 | 19 | 14.6 | 85.4 | 11.4 | 3.7 |
| MT080279 | --- | --- | 146.1 | 52.9 | 100 | 6/17 | 33 | 53 | 13.2 | 93.1 | 4.6 | 2.4 |
| Idagold II (feed check) | 134.8 | 106.6 | 145.7 | 50.7 | 100 | 6/21 | 32 | 1 | 14.1 | 73.2 | 17.9 | 8.8 |
| Voyager | --- | 133.9 | 145.2 | 51.2 | 100 | 6/17 | 33 | 44 | 13.2 | 92.5 | 5.0 | 2.4 |
| Moravian 69 | 128.0 | 105.3 | 144.7 | 49.3 | 100 | 6/22 | 35 | 35 | 13.5 | 76.3 | 14.1 | 9.7 |
| 2Ab04-X001084-27 | 132.0 | 119.3 | 142.9 | 51.3 | 100 | 6/18 | 33 | 54 | 12.0 | 90.5 | 6.9 | 2.6 |
| MT070159 | --- | --- | 142.5 | 53.2 | 100 | 6/17 | 33 | 30 | 13.1 | 96.0 | 2.9 | 1.3 |
| Moravian 137 | 142.5 | 102.1 | 141.6 | 48.6 | 100 | 6/21 | 31 | 13 | 14.2 | 66.6 | 18.6 | 15.2 |
| 2Ab07-X031098-31 | --- | --- | 140.2 | 50.7 | 100 | 6/19 | 36 | 39 | 14.9 | 76.5 | 13.3 | 10.2 |
| Pinnacle | 112.5 | 107.1 | 139.8 | 54.2 | 100 | 6/16 | 36 | 31 | 12.9 | 95.6 | 2.8 | 1.6 |
| C08-150-008 | --- | --- | 139.3 | 50.3 | 100 | 6/23 | 29 | 45 | 13.4 | 86.9 | 9.2 | 4.1 |
| Baronesse (feed check) | 131.1 | 120.2 | 138.4 | 51.0 | 100 | 6/18 | 35 | 56 | 13.8 | 77.7 | 9.5 | 12.8 |
| Conrad | 125.2 | 113.4 | 137.9 | 52.3 | 100 | 6/18 | 33 | 35 | 14.2 | 91.2 | 7.0 | 2.1 |
| Moravian 115 | 143.8 | 95.3 | 136.1 | 49.7 | 100 | 6/23 | 30 | 59 | 13.2 | 91.6 | 6.2 | 2.3 |
| 02Ab17271 | 141.1 | 90.8 | 133.4 | 50.3 | 100 | 6/23 | 36 | 35 | 14.6 | 79.8 | 10.8 | 9.3 |
| Genie | --- | --- | 131.1 | 49.0 | 100 | 6/22 | 33 | 40 | 14.6 | 76.3 | 15.9 | 8.0 |
| MT070158 | --- | --- | 127.1 | 53.4 | 100 | 6/18 | 31 | 61 | 13.7 | 96.4 | 2.7 | 1.5 |
| B1202 | 112.1 | 108.5 | 124.3 | 52.3 | 100 | 6/18 | 32 | 48 | 12.7 | 90.1 | 8.0 | 2.4 |
| Merit 57 | 135.5 | 112.1 | 124.3 | 48.1 | 100 | 6/21 | 39 | 68 | 14.8 | 70.9 | 20.0 | 9.8 |
| Metcalfe | --- | 95.3 | 124.3 | 51.9 | 100 | 6/19 | 39 | 86 | 14.1 | 87.3 | 7.6 | 5.6 |
| NSL09-1820-A | --- | --- | 122.5 | 47.9 | 100 | 6/23 | 33 | 40 | 13.7 | 77.0 | 12.8 | 10.1 |
| Merit | 122.1 | 86.7 | 122.1 | 49.6 | 100 | 6/23 | 33 | 28 | 13.8 | 77.2 | 14.9 | 8.4 |
| Hockett | 108.9 | 103.0 | 121.2 | 52.3 | 100 | 6/16 | 36 | 70 | 14.4 | 93.1 | 4.8 | 2.7 |
| Moravian 133 | --- | --- | 115.3 | 46.4 | 100 | 6/23 | 28 | 51 | 14.5 | 56.9 | 25.3 | 17.8 |
| Harrington | 105.3 | 101.6 | 108.0 | 51.5 | 100 | 6/20 | 36 | 51 | 14.9 | 72.1 | 18.7 | 8.2 |
| Average | 121.5 | 108.2 | 135.4 | 50.7 | 100 | 6/20 | 33 | 41 | 13.9 | 83.1 | 10.7 | 6.3 |
| LSD ($\alpha=0.05$) | 14.6 | 20.8 | 18.7 | 2.7 | 0.6 | 1.7 | 4.8 | 52.1 | | | | |
| CV % | 8.5 | 13.7 | 9.8 | 3.8 | 0.4 | 0.7 | 10.2 | 89.7 | | | | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | 0.6333 | <.0001 | 0.0008 | 0.1132 | | | | |

Table 51. Agronomic data for spring barley, Aberdeen, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|---------------------|-------------------|-----------------|-----------------|----------------|----------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 2-Row Spring Malt Barley | | | | | | | | | | | | |
| LN09-0920 | --- | --- | 187.4 | 51.2 | 100 | 6/18 | 33 | 16 | 14.6 | 81.6 | 11.0 | 8.2 |
| Moravian 143 | --- | --- | 175.2 | 47.6 | 100 | 6/21 | 34 | 46 | 16.4 | 84.1 | 10.6 | 5.5 |
| MT070159 | --- | --- | 174.2 | 52.9 | 99 | 6/16 | 35 | 76 | 14.7 | 92.4 | 5.0 | 2.9 |
| C08-150-008 | --- | --- | 170.8 | 50.0 | 99 | 6/21 | 35 | 86 | 14.7 | 83.9 | 10.4 | 6.1 |
| Pinnacle | 96.1 | 154.7 | 169.8 | 53.9 | 100 | 6/15 | 41 | 4 | 14.9 | 97.2 | 2.0 | 1.1 |
| Moravian 137 | --- | --- | 169.3 | 48.4 | 100 | 6/19 | 36 | 61 | 16.0 | 59.9 | 20.2 | 20.3 |
| Idagold II (feed check) | 169.3 | 150.3 | 167.8 | 50.7 | 100 | 6/17 | 33 | 8 | 14.7 | 68.5 | 19.9 | 11.8 |
| 2Ab07-X031098-31 | --- | --- | 166.4 | 52.7 | 100 | 6/17 | 40 | 33 | 16.4 | 85.6 | 8.4 | 6.2 |
| Moravian 69 | --- | --- | 163.9 | 49.0 | 100 | 6/20 | 32 | 88 | 15.7 | 64.0 | 20.4 | 16.0 |
| Moravian 133 | --- | --- | 163.9 | 47.7 | 100 | 6/20 | 33 | 90 | 14.8 | 60.1 | 24.3 | 16.3 |
| MT080279 | --- | --- | 163.4 | 51.3 | 100 | 6/16 | 35 | 61 | 14.5 | 87.7 | 8.2 | 4.6 |
| Copeland | 124.9 | 142.0 | 162.5 | 51.5 | 100 | 6/20 | 42 | 39 | 14.6 | 87.6 | 7.0 | 5.7 |
| Voyager | --- | 158.6 | 161.0 | 51.5 | 100 | 6/16 | 40 | 68 | 15.1 | 86.3 | 7.6 | 5.8 |
| MT070158 | --- | --- | 159.5 | 52.7 | 100 | 6/16 | 36 | 85 | 14.5 | 89.9 | 7.0 | 3.6 |
| Xena (feed check) | 125.9 | 162.0 | 158.6 | 52.9 | 100 | 6/16 | 40 | 70 | 15.5 | 90.8 | 6.2 | 3.2 |
| Baronesse (feed check) | 126.9 | 151.3 | 153.7 | 50.7 | 100 | 6/17 | 37 | 58 | 14.1 | 80.0 | 11.8 | 8.3 |
| Genie | --- | --- | 152.2 | 48.2 | 100 | 6/18 | 34 | 45 | 15.9 | 62.5 | 19.9 | 17.9 |
| Moravian 115 | --- | --- | 147.8 | 46.7 | 99 | 6/22 | 33 | 86 | 16.0 | 66.3 | 20.2 | 14.0 |
| 2Ab04-X001084-27 | 127.8 | 158.6 | 146.9 | 48.1 | 100 | 6/18 | 37 | 86 | 16.8 | 66.5 | 15.5 | 18.5 |
| Conrad | 122.0 | 148.3 | 144.9 | 51.7 | 100 | 6/17 | 37 | 59 | 15.4 | 88.7 | 7.1 | 4.9 |
| 02Ab17271 | 116.1 | 132.2 | 141.0 | 51.9 | 100 | 6/21 | 42 | 50 | 15.1 | 84.0 | 8.9 | 7.2 |
| B1202 | 123.9 | 142.5 | 139.5 | 50.3 | 100 | 6/17 | 39 | 64 | 16.2 | 82.2 | 10.4 | 7.6 |
| Hockett | 112.7 | 140.0 | 139.1 | 50.5 | 100 | 6/15 | 38 | 86 | 16.6 | 72.6 | 14.7 | 12.8 |
| NSL09-1820-A | --- | --- | 135.1 | 48.0 | 99 | 6/21 | 35 | 75 | 16.0 | 70.1 | 17.3 | 12.7 |
| Metcalfe | --- | 142.0 | 130.8 | 51.2 | 100 | 6/17 | 44 | 78 | 16.4 | 77.7 | 12.1 | 10.6 |
| Meredith | --- | --- | 128.8 | 48.4 | 100 | 6/18 | 43 | 98 | 16.1 | 76.6 | 14.2 | 9.3 |
| Merit | 117.6 | 144.9 | 127.8 | 49.8 | 99 | 6/21 | 42 | 61 | 16.2 | 73.2 | 11.9 | 15.2 |
| Merit 57 | 109.8 | 138.1 | 125.4 | 48.3 | 100 | 6/18 | 38 | 76 | 16.8 | 65.6 | 18.9 | 15.9 |
| Harrington | 110.3 | 129.3 | 119.0 | 50.1 | 100 | 6/18 | 41 | 80 | 17.0 | 66.6 | 16.5 | 17.0 |
| Average | 119.1 | 138.6 | 152.4 | 50.3 | 100 | 6/18 | 37 | 64 | 15.6 | 78.0 | 12.5 | 9.8 |
| LSD ($\alpha=0.05$) | 24.2 | 17.8 | 19.8 | 2.2 | 0.9 | 1.7 | 3.8 | 30.7 | | | | |
| CV % | 14.4 | 9.2 | 9.3 | 3.1 | 0.6 | 0.7 | 7.2 | 34.1 | | | | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | 0.0098 | <.0001 | <.0001 | <.0001 | | | | |

Table 52. Agronomic data for spring barley at Idaho Falls, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|---------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 2-Row Spring Malt Barley | | | | | | | | | | | | |
| Xena (feed check) | 147.0 | 155.1 | 168.3 | 53.6 | 100 | 6/22 | 31 | 20 | 12.3 | 94.1 | 4.3 | 2.0 |
| Voyager | --- | 143.7 | 161.5 | 52.5 | 100 | 6/22 | 31 | 18 | 12.7 | 95.9 | 3.0 | 1.5 |
| LN09-0920 | --- | --- | 160.2 | 51.7 | 100 | 6/23 | 26 | 8 | 12.8 | 93.3 | 5.1 | 1.9 |
| 2Ab07-X031098-31 | --- | --- | 159.7 | 52.5 | 100 | 6/22 | 32 | 18 | 12.6 | 90.7 | 6.9 | 2.7 |
| Merit 57 | 128.9 | 121.3 | 154.7 | 51.9 | 100 | 6/22 | 32 | 15 | 12.7 | 90.1 | 7.1 | 3.4 |
| MT070158 | --- | --- | 154.3 | 53.1 | 100 | 6/22 | 29 | 40 | 11.8 | 95.3 | 3.9 | 1.3 |
| Pinnacle | 132.5 | 142.9 | 154.3 | 53.9 | 100 | 6/21 | 32 | 3 | 12.4 | 95.8 | 2.1 | 1.5 |
| MT080279 | --- | --- | 151.1 | 52.2 | 100 | 6/22 | 28 | 38 | 12.3 | 92.7 | 5.3 | 2.5 |
| Meredith | --- | --- | 149.7 | 50.4 | 100 | 6/22 | 32 | 40 | 13.2 | 90.6 | 6.9 | 3.1 |
| Moravian 143 | --- | --- | 149.3 | 49.7 | 100 | 6/24 | 26 | 23 | 13.3 | 92.7 | 5.3 | 2.0 |
| Copeland | 135.7 | 115.7 | 148.8 | 52.1 | 100 | 6/22 | 34 | 25 | 12.7 | 94.1 | 4.5 | 1.8 |
| Idagold II (feed check) | 140.7 | 136.6 | 148.8 | 50.9 | 100 | 6/22 | 25 | 0 | 12.9 | 85.5 | 11.3 | 3.6 |
| Merit | 136.1 | 106.2 | 147.5 | 51.7 | 100 | 6/24 | 32 | 10 | 12.3 | 91.1 | 6.4 | 3.0 |
| NSL09-1820-A | --- | --- | 147.5 | 49.8 | 100 | 6/24 | 28 | 36 | 13.8 | 90.2 | 7.1 | 3.1 |
| MT070159 | --- | --- | 144.7 | 51.1 | 100 | 6/22 | 29 | 60 | 12.9 | 90.3 | 6.6 | 3.0 |
| Moravian 133 | --- | --- | 144.3 | 49.5 | 100 | 6/23 | 27 | 60 | 12.9 | 82.8 | 12.8 | 4.5 |
| Conrad | 140.2 | 137.5 | 143.8 | 52.8 | 100 | 6/22 | 30 | 25 | 12.2 | 94.5 | 4.4 | 2.0 |
| Metcalfe | --- | 119.2 | 142.9 | 52.3 | 100 | 6/22 | 32 | 15 | 12.7 | 94.3 | 4.3 | 1.7 |
| Moravian 137 | --- | 129.8 | 142.9 | 50.5 | 100 | 6/23 | 28 | 45 | 13.2 | 86.7 | 9.3 | 4.1 |
| Baronesse (feed check) | 141.6 | 129.3 | 141.6 | 52.3 | 100 | 6/22 | 30 | 40 | 11.5 | 89.0 | 7.4 | 3.7 |
| Moravian 69 | 139.8 | 132.5 | 141.6 | 49.7 | 100 | 6/23 | 25 | 33 | 12.3 | 85.8 | 9.9 | 4.7 |
| Genie | --- | --- | 140.2 | 52.3 | 100 | 6/23 | 27 | 40 | 12.8 | 91.6 | 6.0 | 2.7 |
| Hockett | 112.1 | 125.2 | 140.2 | 53.3 | 100 | 6/22 | 30 | 30 | 12.5 | 94.9 | 3.1 | 2.1 |
| C08-150-008 | --- | --- | 138.8 | 49.8 | 100 | 6/24 | 27 | 28 | 12.2 | 88.1 | 8.8 | 3.6 |
| 2Ab04-X001084-27 | 127.5 | 126.1 | 134.3 | 49.8 | 100 | 6/22 | 28 | 50 | 12.1 | 86.0 | 10.0 | 4.6 |
| B1202 | 125.7 | 115.7 | 133.4 | 51.4 | 100 | 6/22 | 31 | 25 | 12.8 | 90.6 | 6.7 | 3.3 |
| 02Ab17271 | 140.7 | 109.8 | 128.4 | 51.1 | 100 | 6/25 | 35 | 15 | 12.9 | 96.5 | 2.7 | 1.6 |
| Moravian 115 | --- | 119.8 | 118.4 | 47.4 | 100 | 6/24 | 24 | 53 | 13.2 | 84.6 | 9.5 | 6.0 |
| Harrington | 117.1 | 106.6 | 103.5 | 50.3 | 100 | 6/22 | 31 | 60 | 13.6 | 88.6 | 9.1 | 2.9 |
| Average | 129.7 | 123.9 | 144.2 | 51.4 | 100 | 6/22 | 29 | 30 | 13.9 | 73.5 | 16.4 | 10.1 |
| LSD ($\alpha=0.05$) | 15.1 | 14.4 | 18.7 | 1.3 | 0.0 | 1.0 | 2.0 | 24.8 | 12.7154 | 90.33 | 6.873333 | 3.13333 |
| CV % | 8.3 | 8.3 | 9.2 | 1.8 | 0.0 | 0.4 | 4.9 | 59.7 | | | | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | . | <.0001 | <.0001 | <.0001 | | | | |

Table 53. Agronomic data for spring barley at Ashton, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 2-Row Spring Malt Barley | | | | | | | | | | | | |
| Baronesse (feed check) | 82.1 | 115.6 | 103.9 | 53.0 | 100 | --- | 23 | 0 | 11.9 | 89.2 | 7.6 | 3.1 |
| LN09-0920 | --- | --- | 99.8 | 52.1 | 100 | --- | 21 | 0 | 13.8 | 91.4 | 7.0 | 1.7 |
| MT070159 | --- | --- | 96.2 | 52.4 | 100 | --- | 21 | 0 | 11.8 | 94.4 | 4.1 | 1.4 |
| Hockett | 48.1 | 109.5 | 91.7 | 53.7 | 100 | --- | 25 | 0 | 14.5 | 90.9 | 7.0 | 2.4 |
| MT080279 | --- | --- | 91.7 | 52.7 | 100 | --- | 24 | 0 | 14.4 | 92.7 | 5.2 | 2.2 |
| Xena (feed check) | 77.6 | 140.6 | 91.7 | 53.1 | 100 | --- | 23 | 0 | 13.1 | 89.3 | 8.2 | 2.8 |
| Pinnacle | 51.7 | 111.6 | 88.9 | 54.5 | 100 | --- | 22 | 0 | 14.3 | 96.3 | 2.6 | 1.0 |
| Genie | --- | --- | 87.1 | 53.6 | 100 | --- | 22 | 0 | 15.0 | 94.3 | 4.1 | 1.6 |
| Moravian 137 | --- | --- | 86.2 | 52.6 | 100 | --- | 21 | 0 | 15.4 | 92.2 | 6.2 | 1.8 |
| Merit 57 | 64.4 | 110.5 | 84.9 | 52.2 | 100 | --- | 24 | 0 | 13.5 | 89.0 | 8.5 | 2.6 |
| Moravian 69 | --- | --- | 83.0 | 51.6 | 100 | --- | 19 | 0 | 15.3 | 91.6 | 6.8 | 2.0 |
| Metcalfe | --- | 111.3 | 80.8 | 53.1 | 100 | --- | 24 | 0 | 13.2 | 91.8 | 6.3 | 2.2 |
| 2Ab04-X001084-27 | 85.3 | 113.4 | 79.9 | 50.5 | 100 | --- | 22 | 0 | 13.6 | 92.0 | 6.3 | 2.2 |
| B1202 | 59.9 | 105.5 | 78.7 | 52.1 | 100 | --- | 20 | 0 | 13.7 | 81.4 | 12.3 | 6.1 |
| MT070158 | --- | --- | 78.5 | 52.3 | 86 | --- | 21 | 0 | 12.7 | 87.9 | 9.0 | 3.1 |
| 2Ab07-X031098-31 | --- | --- | 78.1 | 52.7 | 100 | --- | 23 | 0 | 14.7 | 88.3 | 8.7 | 2.9 |
| Copeland | 59.4 | 103.8 | 77.6 | 51.5 | 100 | --- | 23 | 0 | 14.3 | 92.9 | 5.4 | 1.7 |
| Meredith | --- | --- | 77.6 | 51.6 | 100 | --- | 22 | 0 | 14.9 | 93.5 | 5.3 | 1.5 |
| Moravian 115 | --- | --- | 75.6 | 50.8 | 100 | --- | 20 | 0 | 13.3 | 82.1 | 11.5 | 6.2 |
| NSL09-1820-A | --- | --- | 73.5 | 52.3 | 100 | --- | 21 | 0 | 13.4 | 93.6 | 4.9 | 1.7 |
| 02Ab17271 | 55.4 | 102.3 | 72.2 | 52.9 | 100 | --- | 22 | 0 | 15.0 | 91.8 | 6.2 | 2.0 |
| Moravian 143 | --- | --- | 72.2 | 50.6 | 100 | --- | 22 | 0 | 13.3 | 91.8 | 6.0 | 2.3 |
| Harrington | 55.8 | 101.3 | 71.7 | 53.3 | 100 | --- | 24 | 0 | 12.6 | 86.1 | 10.5 | 3.3 |
| Moravian 133 | --- | --- | 71.7 | 51.6 | 99 | --- | 20 | 0 | 13.7 | 88.0 | 9.5 | 3.2 |
| Idagold II (feed check) | 64.0 | 101.2 | 70.8 | 53.0 | 100 | --- | 22 | 0 | 13.3 | 88.5 | 9.1 | 3.3 |
| C08-150-008 | --- | --- | 68.5 | 51.7 | 100 | --- | 23 | 0 | 14.6 | 91.4 | 5.9 | 2.5 |
| Conrad | 53.1 | 124.4 | 68.4 | 52.1 | 100 | --- | 20 | 0 | 13.8 | 88.0 | 9.3 | 2.8 |
| Voyager | --- | 112.6 | 65.8 | 51.2 | 100 | --- | 22 | 0 | 13.9 | 93.2 | 5.5 | 1.4 |
| Merit | 49.0 | 106.7 | 59.0 | 52.7 | 100 | --- | 23 | 0 | 14.6 | 89.2 | 8.0 | 2.5 |
| Average | 61.4 | 106.8 | 79.7 | 52.3 | 99 | --- | 22 | 0 | 13.9 | 90.3 | 7.2 | 2.6 |
| LSD ($\alpha=.05$) | 13.6 | 16.2 | 31.0 | 1.2 | 7.1 | --- | 3.2 | 0.0 | | | | |
| CV % | 15.8 | 10.9 | 27.1 | 1.6 | 5.1 | --- | 10.6 | . | | | | |
| Pr > F | <.0001 | <.0001 | 0.4627 | <.0001 | 0.4985 | --- | 0.0308 | . | | | | |

Table 54. Agronomic data for spring barley at Rupert, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protien (%) | Plump | | |
|---------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 2-Row Spring Feed Barley | | | | | | | | | | | | |
| Xena | 128.0 | 133.4 | 143.8 | 51.2 | 100 | 6/17 | 35 | 85 | 14.4 | 80.6 | 11.9 | 7.6 |
| Champion | 126.1 | 134.3 | 143.4 | 53.9 | 100 | 6/17 | 37 | 55 | 14.5 | 94.4 | 4.0 | 1.8 |
| MT061035 | --- | --- | 141.6 | 51.9 | 100 | 6/18 | 36 | 75 | 13.2 | 81.0 | 11.0 | 7.5 |
| RWA 1758 | 136.1 | 127.1 | 141.6 | 53.0 | 100 | 6/18 | 37 | 61 | 13.4 | 89.3 | 7.1 | 3.4 |
| Baronesse | 131.1 | 120.2 | 137.5 | 52.2 | 100 | 6/18 | 36 | 50 | 13.6 | 83.6 | 10.9 | 5.7 |
| Spaulding | 135.7 | 123.9 | 137.0 | 53.7 | 100 | 6/18 | 37 | 23 | 13.4 | 84.2 | 9.2 | 6.5 |
| Idagold II | 134.8 | 106.6 | 135.7 | 50.5 | 100 | 6/21 | 33 | 3 | 14.1 | 79.0 | 13.9 | 7.4 |
| 08ID2661 | --- | 142.0 | 134.3 | 51.7 | 99 | 6/22 | 35 | 68 | 13.7 | 77.2 | 15.3 | 7.7 |
| Herald | --- | 117.1 | 131.6 | 47.7 | 100 | 6/16 | 41 | 51 | 13.8 | 70.6 | 18.5 | 11.2 |
| Lenetah | 127.1 | 118.4 | 130.2 | 52.7 | 100 | 6/18 | 36 | 31 | 15.0 | 92.2 | 4.8 | 3.1 |
| Tetonia | 141.1 | 123.4 | 128.0 | 52.0 | 100 | 6/20 | 36 | 81 | 14.0 | 77.0 | 12.7 | 10.6 |
| 08ID1549* | --- | --- | 109.4 | 57.9 | 97 | 6/22 | 39 | 35 | 14.0 | 77.5 | 15.0 | 7.8 |
| CDC McGwire* | --- | 108.9 | 106.6 | 57.6 | 100 | 6/22 | 39 | 68 | 13.5 | 56.5 | 28.8 | 14.7 |
| Julie* | 111.2 | 101.2 | 106.2 | 57.5 | 98 | 6/23 | 37 | 31 | 13.9 | 79.1 | 6.4 | 14.7 |
| Clearwater* | 95.7 | 93.9 | 94.8 | 55.4 | 99 | 6/20 | 37 | 72 | 14.7 | 58.3 | 24.1 | 17.4 |
| 2Ab09-X06F058HL-78* | --- | --- | 90.8 | 57.9 | 96 | 6/21 | 39 | 21 | 16.0 | 90.2 | 7.4 | 3.1 |
| Transit* | 85.8 | 88.5 | 87.1 | 56.3 | 100 | 6/22 | 39 | 53 | 15.4 | 67.2 | 24.0 | 9.2 |
| 2Ab09-X06F058HL-30* | --- | --- | 79.4 | 59.8 | 100 | 6/24 | 38 | 21 | 15.7 | 89.2 | 6.9 | 4.1 |
| CDC Fibar* | --- | --- | 79.0 | 56.2 | 99 | 6/20 | 38 | 91 | 16.0 | 75.8 | 16.5 | 8.1 |
| Average | 121.5 | 108.2 | 121.4 | 53.9 | 99 | 6/20 | 37 | 50 | 14.3 | 79.6 | 13.0 | 7.6 |
| LSD ($\alpha=0.05$) | 14.6 | 20.8 | 20.9 | 2.7 | 1.9 | 1.4 | 3.9 | 55.0 | | | | |
| CV % | 8.5 | 13.7 | 12.2 | 3.5 | 1.3 | 0.6 | 7.5 | 78.3 | | | | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | 0.0022 | <.0001 | 0.0025 | 0.0313 | | | | |

* indicates hullless variety

Table 55. Agronomic data for spring barley, Aberdeen, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 2-Row Spring Feed Barley | | | | | | | | | | | | |
| Spaulding | 137.6 | 171.7 | 182.0 | 54.0 | 100 | 6/16 | 39 | 5 | 14.4 | 88.4 | 7.5 | 4.3 |
| Xena | 125.9 | 162.0 | 176.6 | 53.6 | 99 | 6/17 | 39 | 35 | 13.9 | 94.1 | 3.7 | 2.2 |
| 08ID2661 | --- | 163.0 | 169.8 | 52.4 | 100 | 6/21 | 40 | 40 | 13.4 | 86.8 | 10.0 | 3.2 |
| Idagold II | 169.3 | 150.3 | 169.8 | 51.2 | 99 | 6/21 | 36 | 21 | 15.5 | 76.9 | 15.5 | 7.6 |
| Champion | 134.2 | 161.0 | 167.8 | 53.2 | 100 | 6/16 | 40 | 16 | 15.3 | 85.5 | 9.4 | 5.0 |
| MT061035 | --- | --- | 167.4 | 52.3 | 100 | 6/18 | 37 | 60 | 12.6 | 85.5 | 9.1 | 5.7 |
| Lenetah | 136.1 | 147.8 | 161.5 | 51.9 | 100 | 6/15 | 40 | 40 | 15.9 | 89.1 | 7.0 | 4.4 |
| Herald | --- | 154.7 | 154.7 | 48.7 | 100 | 6/14 | 42 | 59 | 13.8 | 80.9 | 12.8 | 6.6 |
| Baronesse | 126.9 | 151.3 | 154.2 | 52.7 | 100 | 6/17 | 37 | 42 | 13.0 | 92.5 | 5.4 | 2.6 |
| RWA 1758 | 131.3 | 131.7 | 153.2 | 52.7 | 100 | 6/17 | 34 | 33 | 14.4 | 83.9 | 9.2 | 7.1 |
| Tetonia | 124.9 | 154.7 | 153.2 | 51.9 | 100 | 6/18 | 38 | 71 | 14.2 | 79.8 | 11.4 | 9.2 |
| 08ID1549* | --- | 142.0 | 148.3 | 58.6 | 94 | 6/21 | 39 | 15 | 14.2 | 76.0 | 14.4 | 8.6 |
| 2Ab09-X06F058HL-30* | --- | --- | 144.9 | 59.8 | 97 | 6/24 | 40 | 55 | 16.6 | 92.1 | 5.7 | 2.4 |
| CDC McGwire* | --- | 130.8 | 138.1 | 57.6 | 98 | 6/20 | 40 | 41 | 14.3 | 64.9 | 22.2 | 13.2 |
| Julie* | 103.0 | 115.1 | 136.1 | 56.7 | 98 | 6/24 | 42 | 45 | 17.0 | 74.9 | 15.9 | 9.1 |
| 2Ab09-X06F058HL-78* | --- | --- | 132.2 | 57.5 | 98 | 6/19 | 41 | 26 | 16.6 | 91.6 | 5.6 | 3.2 |
| Transit* | 101.0 | 113.7 | 121.5 | 57.3 | 100 | 6/20 | 40 | 41 | 15.8 | 76.4 | 15.9 | 7.6 |
| Clearwater* | 97.6 | 111.2 | 116.6 | 55.9 | 99 | 6/18 | 39 | 72 | 16.3 | 63.4 | 21.4 | 15.2 |
| CDC Fibar* | --- | --- | 107.8 | 56.3 | 100 | 6/19 | 44 | 68 | 16.7 | 78.6 | 16.5 | 5.3 |
| Average | 119.1 | 138.6 | 152.1 | 54.3 | 99 | 6/18 | 39 | 41 | 14.9 | 82.7 | 11.2 | 6.2 |
| LSD ($\alpha=0.05$) | 24.2 | 17.8 | 19.7 | 1.7 | 1.8 | 1.4 | 3.8 | 45.4 | | | | |
| CV % | 14.4 | 9.2 | 9.2 | 2.2 | 1.3 | 0.6 | 6.9 | 78.8 | | | | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | 0.0008 | 0.0987 | | | | |

* indicates hullless variety

Table 56. Agronomic data for spring barley at Idaho Falls, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 2-Row Spring Feed Barley | | | | | | | | | | | | |
| Spaulding | 151.1 | 140.5 | 191.0 | 52.9 | 100 | 6/23 | 30 | 5 | 12.1 | 86.9 | 8.2 | 5.7 |
| Champion | 141.1 | 136.7 | 186.0 | 53.0 | 100 | 6/22 | 31 | 25 | 13.4 | 88.6 | 7.2 | 4.6 |
| 08ID2661 | --- | 150.2 | 181.0 | 52.7 | 100 | 6/24 | 32 | 3 | 11.0 | 86.5 | 9.1 | 3.0 |
| Xena | 147.0 | 155.1 | 177.9 | 53.7 | 100 | 6/22 | 31 | 13 | 12.8 | 94.4 | 3.4 | 2.2 |
| Lenetah | 138.4 | 132.5 | 172.0 | 52.3 | 100 | 6/23 | 31 | 20 | 11.5 | 90.4 | 5.6 | 4.4 |
| Baronesse | 141.6 | 129.3 | 170.6 | 53.0 | 100 | 6/22 | 32 | 28 | 11.2 | 87.9 | 8.3 | 4.3 |
| RWA 1758 | 138.8 | 137.7 | 168.8 | 53.3 | 100 | 6/22 | 28 | 20 | 12.6 | 90.2 | 6.2 | 3.4 |
| Herald | --- | 141.1 | 167.4 | 48.6 | 100 | 6/19 | 34 | 8 | 12.2 | 83.8 | 10.5 | 5.6 |
| Tetonia | 132.9 | 148.8 | 167.4 | 51.9 | 100 | 6/23 | 29 | 20 | 14.5 | 80.6 | 10.8 | 9.0 |
| MT061035 | --- | --- | 163.8 | 51.0 | 100 | 6/22 | 30 | 40 | 11.8 | 84.6 | 8.9 | 6.7 |
| Idagold II | 140.7 | 136.6 | 161.5 | 51.4 | 100 | 6/23 | 27 | 0 | 12.2 | 87.4 | 10.2 | 3.1 |
| CDC McGwire* | --- | 127.3 | 155.2 | 59.5 | 100 | 6/22 | 33 | 13 | 12.5 | 69.2 | 22.7 | 8.5 |
| 08ID1549* | --- | 132.4 | 149.3 | 60.2 | 97 | 6/23 | 33 | 18 | 12.8 | 75.2 | 16.0 | 7.4 |
| Julie* | 128.0 | 116.2 | 144.3 | 59.3 | 100 | 6/24 | 31 | 0 | 14.3 | 88.6 | 6.4 | 5.7 |
| Clearwater* | 112.1 | 99.1 | 140.7 | 59.2 | 100 | 6/22 | 31 | 28 | 14.2 | 79.3 | 15.2 | 6.0 |
| 2Ab09-X06F058HL-30* | --- | --- | 128.9 | 59.9 | 99 | 6/23 | 35 | 0 | 15.3 | 91.2 | 5.8 | 1.9 |
| 2Ab09-X06F058HL-78* | --- | --- | 114.3 | 58.2 | 100 | 6/21 | 34 | 0 | 15.2 | 95.0 | 4.4 | 1.1 |
| CDC Fibar* | --- | 79.4 | 113.9 | 58.5 | 100 | 6/21 | 35 | 48 | 16.4 | 75.7 | 17.3 | 7.6 |
| Transit* | 100.7 | 101.9 | 110.3 | 57.1 | 99 | 6/23 | 32 | 0 | 11.6 | 83.7 | 12.3 | 3.7 |
| Average | 129.7 | 123.9 | 157.5 | 54.7 | 100 | 6/22 | 31 | 15 | 13.0 | 85.6 | 9.6 | 4.8 |
| LSD ($\alpha=0.05$) | 15.1 | 14.4 | 15.6 | 1.6 | 0.9 | 0.7 | 2.3 | 15.7 | | | | |
| CV % | 8.3 | 8.3 | 7.0 | 2.1 | 0.7 | 0.3 | 5.3 | 74.1 | | | | |
| Pr > F | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 | <.0001 |

* indicates hulless variety

Table 57. Agronomic data for spring barley at Ashton, irrigated, 2012.

| Variety | Yield (bu/A) | | | Test Wt. (lb/bu) | Spring Stand % | Heading Date | Height (in.) | Lodging (%) | Protein (%) | Plump | | |
|---------------------------------|--------------|--------|--------|------------------|----------------|--------------|--------------|-------------|-------------|---------|-----------|--------|
| | 2010 | 2011 | 2012 | | | | | | | (>6/64) | (>5.5/64) | % Thin |
| 2-Row Spring Feed Barley | | | | | | | | | | | | |
| Lenetah | 65.3 | 121.6 | 113.0 | 53.8 | 100 | --- | 24 | 0 | 12.8 | 97.2 | 2.5 | 1.0 |
| Champion | 69.9 | 123.6 | 109.4 | 54.2 | 100 | --- | 23 | 0 | 12.9 | 93.4 | 4.6 | 2.2 |
| Xena | 77.6 | 140.6 | 107.5 | 53.0 | 100 | --- | 23 | 0 | 11.8 | 90.5 | 7.2 | 2.8 |
| MT061035 | --- | --- | 97.6 | 52.8 | 100 | --- | 21 | 0 | 11.1 | 88.5 | 8.4 | 3.7 |
| Spaulding | 60.8 | 131.4 | 97.6 | 54.7 | 100 | --- | 23 | 0 | 13.3 | 88.3 | 9.0 | 3.2 |
| Idagold II | 64.0 | 101.2 | 95.7 | 52.6 | 100 | --- | 21 | 0 | 13.4 | 90.2 | 7.9 | 2.3 |
| Tetonia | 71.2 | 117.3 | 91.2 | 52.8 | 100 | --- | 20 | 0 | 11.5 | 81.0 | 13.3 | 6.2 |
| Clearwater* | 54.5 | 99.0 | 89.4 | 59.5 | 97 | --- | 24 | 0 | 15.8 | 60.6 | 25.1 | 14.3 |
| 08ID2661 | --- | 101.0 | 86.7 | 51.9 | 99 | --- | 25 | 0 | 12.3 | 82.5 | 13.2 | 4.5 |
| 08ID1549* | --- | 107.1 | 85.8 | 60.0 | 84 | --- | 23 | 0 | 15.7 | 72.8 | 19.3 | 8.3 |
| RWA 1758 | 87.1 | 111.3 | 83.9 | 52.5 | 100 | --- | 21 | 0 | 12.1 | 85.0 | 10.5 | 5.1 |
| Baronesse | 82.1 | 115.6 | 81.7 | 51.9 | 100 | --- | 20 | 0 | 11.6 | 77.9 | 15.3 | 6.9 |
| Julie* | 42.2 | 94.5 | 77.1 | 57.5 | 97 | --- | 22 | 0 | 16.7 | 83.3 | 11.6 | 5.8 |
| Herald | --- | 97.6 | 66.3 | 51.2 | 100 | --- | 24 | 0 | 15.6 | 72.2 | 17.0 | 10.7 |
| Transit* | 35.4 | 79.3 | 62.2 | 57.8 | 99 | --- | 26 | 0 | 16.0 | 74.2 | 20.5 | 5.6 |
| 2Ab09-X06F058HL-78* | --- | --- | 61.7 | 60.8 | 96 | --- | 25 | 0 | 17.1 | 94.6 | 4.8 | 0.8 |
| 2Ab09-X06F058HL-30* | --- | --- | 58.5 | 58.9 | 95 | --- | 23 | 0 | 15.4 | 89.2 | 8.7 | 2.5 |
| CDC Fibar* | --- | 79.4 | 54.0 | 58.8 | 97 | --- | 21 | 0 | 15.2 | 73.4 | 18.1 | 8.4 |
| CDC McGwire* | --- | 103.4 | 44.5 | 58.9 | 97 | --- | 23 | 0 | 12.6 | 50.1 | 25.7 | 24.2 |
| Average | 61.4 | 106.8 | 80.6 | 55.3 | 98 | --- | 22 | 0 | 13.9 | 81.8 | 12.5 | 6.0 |
| LSD ($\alpha=.05$) | 13.6 | 16.2 | 32.6 | 3.0 | 2.0 | --- | 2.6 | 0.0 | | | | |
| CV % | 15.8 | 10.9 | 28.6 | 3.8 | 1.5 | --- | 8.2 | . | | | | |
| Pr > F | <.0001 | <.0001 | 0.0009 | <.0001 | <.0001 | --- | <.0001 | . | | | | |

* indicates hulless variety

Table 58. Hard Winter Wheat Yield Percentage of Location Averages, 2012.

| Variety | (100% =Average) | | | | | Variety Average |
|-------------------------|-----------------|--------|----------|-------|----------|--------------------|
| | Kimberly | Rupert | Aberdeen | Ririe | Rockland | |
| Yellowstone | 108 | 104 | 113 | 131 | 116 | 114 |
| Keldin | 113 | 110 | 101 | 119 | 128 | 114 |
| Lucin-CL | --- | --- | --- | 105 | 119 | 112 |
| IDO816 | --- | --- | --- | 105 | 117 | 111 |
| UI Silver (W) | --- | --- | --- | 121 | 100 | 110 |
| UI Darwin (W) | --- | --- | --- | 111 | 105 | 108 |
| Utah 100 | 108 | 110 | 103 | 105 | 106 | 106 |
| Deloris | 103 | 96 | 111 | 97 | 124 | 106 |
| Judee | 100 | 109 | 107 | 113 | 100 | 106 |
| UICF Grace (W) | --- | --- | --- | 95 | 114 | 104 |
| Altigo | 103 | 113 | 100 | 85 | 120 | 104 |
| UI SRG | --- | --- | --- | 107 | 101 | 104 |
| Moreland | 106 | 106 | 99 | --- | --- | 104 |
| Golden Spike (W) | 89 | 106 | 101 | 109 | 100 | 101 |
| Gary (W) | --- | --- | --- | 99 | 102 | 100 |
| Curlew | --- | --- | --- | 95 | 106 | 100 |
| Manning | 99 | 92 | 108 | --- | --- | 100 |
| Bearpaw | --- | --- | --- | 113 | 86 | 99 |
| OR2080156H | 103 | 93 | 106 | 89 | 104 | 99 |
| Juniper | 96 | 93 | 96 | 99 | 110 | 99 |
| AP503 CL2 | 102 | 91 | 81 | 113 | 106 | 99 |
| WB-Arrowhead | 101 | 106 | 100 | 101 | 86 | 99 |
| Eddy | 99 | 97 | 99 | --- | --- | 98 |
| Whetstone | 106 | 102 | 87 | --- | --- | 98 |
| Greenville | 100 | 101 | 88 | 109 | 92 | 98 |
| OR2080277H | 98 | 102 | 105 | 91 | 92 | 98 |
| AgriPro Paladin | 97 | 96 | 99 | --- | --- | 97 |
| Boundary | 97 | 94 | 100 | --- | --- | 97 |
| Promontory | 101 | 95 | 103 | 111 | 66 | 95 |
| Garland | 94 | 104 | 100 | 75 | 93 | 93 |
| Weston | --- | --- | --- | 95 | 88 | 91 |
| Bonneville | 84 | 85 | 95 | 87 | 100 | 90 |
| UI LHS (W) | --- | --- | --- | 93 | 87 | 90 |
| DW | --- | --- | --- | 105 | 75 | 90 |
| Azimut | 92 | 94 | 96 | 83 | 71 | 87 |
| Norwest 553 | 101 | 101 | 102 | 36 | 87 | 86 |
| Location Average (bu/A) | 152 | 117 | 152 | 18 | 30 | |

(W) = White

Table 59. Soft White Winter Wheat Yield Percentage of Location Averages, 2012.

| | (100% =Average) | | | | Variety Average |
|-------------------------|-----------------|--------|----------|-------|--------------------|
| | Kimberly | Rupert | Aberdeen | Ririe | |
| Eltan | --- | --- | --- | 138 | 138 |
| Bruneau | 102 | 114 | 105 | 122 | 111 |
| SY Ovation | 119 | 101 | 109 | --- | 110 |
| LWW 04-4009 | 113 | 106 | 117 | 95 | 108 |
| Agripro Legion | 104 | 105 | 111 | --- | 106 |
| WB-Junction | 106 | 97 | 102 | 115 | 105 |
| UICF Brundage | 101 | 95 | 105 | 115 | 104 |
| Mary | 106 | 112 | 105 | 93 | 104 |
| ORCF-102 | 100 | 98 | 100 | 117 | 104 |
| AP Badger | 102 | 103 | 105 | --- | 103 |
| Agripro Salute | 108 | 105 | 96 | --- | 103 |
| Coda* | 85 | 93 | 105 | 122 | 101 |
| IDO663 | 107 | 110 | 106 | 81 | 101 |
| UICF Lambert | 95 | 101 | 106 | 102 | 101 |
| Bitterroot | 98 | 90 | 95 | 121 | 101 |
| Madsen | 98 | 89 | 113 | 102 | 101 |
| WB-1070CL | 105 | 101 | 101 | 93 | 100 |
| Brundage 96 | 97 | 103 | 94 | 105 | 100 |
| Stephens | 103 | 103 | 98 | 95 | 100 |
| OR2071628 | 108 | 104 | 114 | 74 | 100 |
| BZ6W07-427 | 98 | 98 | 102 | --- | 99 |
| OR208047P94 | 101 | 103 | 102 | 91 | 99 |
| AP Legacy | 98 | 95 | 105 | --- | 99 |
| 96-16702 | 102 | 98 | 106 | 90 | 99 |
| ORCF-101 | 96 | 95 | 101 | 103 | 99 |
| AP700 CL | 99 | 97 | 105 | 93 | 98 |
| BZ6W07-436 | 104 | 106 | 85 | --- | 98 |
| Brundage | 102 | 108 | 93 | 88 | 98 |
| WB 528 | 96 | 103 | 97 | 95 | 98 |
| BZ6W07-458 | 101 | 103 | 82 | --- | 96 |
| NSA 94-2153A | 99 | 102 | 93 | 86 | 95 |
| OR2070870 | 99 | 101 | 99 | 79 | 94 |
| ARS970230-6C* | 82 | 96 | 92 | 102 | 93 |
| Cara* | 80 | 89 | 105 | --- | 91 |
| Skiles | 95 | 97 | 88 | 83 | 91 |
| WB-1066CL | 97 | 86 | 78 | 100 | 90 |
| WB 456 | 96 | 89 | 81 | --- | 89 |
| Location Average (bu/A) | 158 | 132 | 135 | 21 | |

* = Club Wheat

Table 60. Winter Barley Yield Percentage of Location Averages, 2012.

| | (100% =Average) | | Variety Average |
|-------------------------|-----------------|----------|--------------------|
| | Rupert | Aberdeen | |
| Sunstar Pride | 121 | 111 | 116 |
| Eight-Twelve | 110 | 114 | 112 |
| Strider | 109 | 113 | 111 |
| Alba | 118 | 104 | 111 |
| 93Ab669 | 117 | 102 | 110 |
| Schuyler | 104 | 112 | 108 |
| UT9401-19 | 107 | 106 | 107 |
| Sprinter | 111 | 102 | 107 |
| OR92 | 103 | 109 | 106 |
| OR91 | 101 | 110 | 105 |
| 02Ab431 | 105 | 96 | 100 |
| Kamiak | 94 | 105 | 100 |
| Endeavor | 105 | 95 | 100 |
| UTWB9703-19 | 88 | 105 | 97 |
| Maja | 86 | 103 | 94 |
| Charles | 101 | 83 | 92 |
| Kold | 86 | 95 | 91 |
| 02Ab671 | 86 | 95 | 91 |
| OR818 | 84 | 94 | 89 |
| Mathias | 77 | 80 | 78 |
| Streaker* | 87 | 68 | 78 |
| Location Average (bu/A) | 158 | 167 | |

* indicates hullless variety

Table 61. Hard Spring Wheat Yield Percentage of Location Averages, 2012.

| Variety | (100% =Average) | | | | Soda Springs | Variety Average |
|-------------------------|-----------------|----------|-------------|--------|--------------|-----------------|
| | Rupert | Aberdeen | Idaho Falls | Ashton | | |
| WA8123 (W) | 111 | 112 | 116 | 125 | 111 | 115 |
| Glee | 112 | 106 | 99 | 112 | 118 | 110 |
| Bullseye | 113 | 99 | 100 | 111 | --- | 106 |
| Kelse | 107 | 102 | 111 | 98 | 108 | 105 |
| Blanca Grande (W) | 99 | 103 | 106 | 114 | 103 | 105 |
| Albany | 105 | 101 | 104 | 111 | --- | 105 |
| C-2836 | 109 | 101 | 94 | 113 | --- | 104 |
| Choteau | 93 | 103 | 106 | 104 | 107 | 103 |
| IDO862E | 110 | 101 | 104 | 95 | 102 | 102 |
| IDO862T | 105 | 107 | 103 | 95 | --- | 102 |
| B04-1418 | 106 | 105 | 103 | 93 | --- | 102 |
| SY Capstone (W) | 101 | 99 | 99 | 106 | 96 | 100 |
| WB-Idamax (W) | 100 | 96 | 98 | 105 | --- | 100 |
| UI Winchester | 103 | 102 | 97 | 105 | 92 | 100 |
| Jefferson | 108 | 108 | 101 | 97 | 85 | 100 |
| Buck Pronto | 94 | 99 | 99 | 106 | --- | 100 |
| WB-Paloma (W) | 91 | 97 | 99 | 123 | 86 | 99 |
| Volt | 99 | 101 | 97 | 96 | 100 | 98 |
| Westbred 936 | 98 | 94 | 102 | 80 | 113 | 97 |
| C-2801 | 98 | 102 | 99 | 90 | --- | 97 |
| C-2821 | 97 | 95 | 97 | 98 | --- | 97 |
| Cabernet | 107 | 95 | 98 | 100 | 83 | 97 |
| Snow Crest (W) | 97 | 96 | 106 | 80 | 102 | 96 |
| Klasic (W) | 92 | 108 | 106 | 79 | 95 | 96 |
| IDO694C | 96 | 98 | 86 | 92 | 88 | 92 |
| WB-Rockland | 99 | 87 | 94 | 88 | --- | 92 |
| WB-Rockland +25% | 91 | 90 | 89 | 94 | --- | 91 |
| BZ-401 | 84 | 95 | 94 | 90 | --- | 91 |
| WB-Perla | 73 | 83 | 88 | 99 | --- | 86 |
| Durum Wheat | | | | | | |
| Alzada | 103 | 115 | 105 | 102 | --- | 106 |
| Utopia | --- | --- | --- | --- | 98 | 98 |
| Location Average (bu/A) | 108 | 131 | 103 | 55 | 29 | |

(W) = White

Table 62. Soft White Spring Wheat Yield Percentage of Location Averages, 2012.

| | (100% =Average) | | | | Soda | Variety Average |
|-------------------------|-----------------|----------|-------------|--------|---------|--------------------|
| | Rupert | Aberdeen | Idaho Falls | Ashton | Springs | |
| Alpowa | 111 | 106 | 112 | 116 | 102 | 109 |
| Babe | 113 | 108 | 106 | 100 | 106 | 106 |
| UI Stone | 109 | 107 | 101 | 106 | 104 | 105 |
| UI Whitmore | 103 | 103 | 109 | 105 | 94 | 103 |
| IDO 687 | 98 | 100 | 104 | 104 | 106 | 103 |
| Whit | 107 | 100 | 97 | 99 | 103 | 101 |
| UI Pettit | 99 | 102 | 104 | 89 | 105 | 100 |
| Alturas | 95 | 101 | 101 | 103 | 93 | 99 |
| Nick | 92 | 97 | 94 | 93 | 103 | 96 |
| JD* | 92 | 87 | 92 | 95 | 112 | 96 |
| Penawawa | 98 | 97 | 91 | 94 | 86 | 93 |
| Cataldo | 84 | 91 | 89 | 96 | 87 | 89 |
| Location Average (bu/A) | 114 | 145 | 116 | 62 | 34 | |

*= club wheat

Table 63. 6-Row Barley Yield Percentage of Location Averages, 2012.

| | (100% =Average) | | | | Variety Average |
|-------------------------|-----------------|----------|-------------|--------|--------------------|
| | Rupert | Aberdeen | Idaho Falls | Ashton | |
| Feed | | | | | |
| Goldeneye | 100 | 102 | 114 | 142 | 114 |
| Millennium | 116 | 126 | 103 | 97 | 110 |
| UT2120-35 | 113 | 113 | 109 | 92 | 107 |
| UT2120-14 | 113 | 109 | 104 | 100 | 107 |
| Herald | 112 | 102 | 106 | 90 | 102 |
| Steptoe | 99 | 91 | 105 | 108 | 101 |
| Aquila | 80 | 105 | 98 | 99 | 96 |
| Gustoe | 78 | 98 | 82 | 97 | 89 |
| Malt | | | | | |
| 01Ab9663 | 106 | 105 | 106 | 110 | 107 |
| Legacy | 98 | 101 | 97 | 110 | 101 |
| Tradition | 114 | 91 | 100 | 94 | 100 |
| Quest | 101 | 80 | 97 | 96 | 94 |
| Maja | 92 | 91 | 96 | 89 | 92 |
| Celebration | 86 | 98 | 94 | 87 | 91 |
| Morex | 92 | 89 | 89 | 87 | 89 |
| Location Average (bu/A) | 119 | 142 | 186 | 76 | |

Table 64. 2-Row Malt Barley Yield Percentage of Location Averages, 2012.

| | (100% =Average) | | | | Variety Average |
|-------------------------|-----------------|----------|-------------|--------|--------------------|
| | Rupert | Aberdeen | Idaho Falls | Ashton | |
| LN09-0920 | 118 | 123 | 111 | 127 | 120 |
| Xena (SB2 check) | 110 | 104 | 117 | 117 | 112 |
| MT070159 | 105 | 114 | 100 | 123 | 111 |
| MT080279 | 108 | 107 | 105 | 117 | 109 |
| Pinnacle | 103 | 111 | 107 | 113 | 109 |
| Baronesse (SB2 check) | 102 | 101 | 98 | 132 | 108 |
| Moravian 137 | 105 | 111 | 99 | 110 | 106 |
| 2Ab07-X031098-31 | 104 | 109 | 111 | 99 | 106 |
| Moravian 143 | 111 | 115 | 104 | 92 | 105 |
| Moravian 69 | 107 | 108 | 98 | 106 | 105 |
| Copeland | 109 | 107 | 103 | 99 | 104 |
| Idagold II (SB2 check) | 108 | 110 | 103 | 90 | 103 |
| Voyager | 107 | 106 | 112 | 84 | 102 |
| MT070158 | 94 | 105 | 107 | 100 | 101 |
| Genie | 97 | 100 | 97 | 111 | 101 |
| C08-150-008 | 103 | 112 | 96 | 87 | 100 |
| 2Ab04-X001084-27 | 106 | 96 | 93 | 102 | 99 |
| Hockett | 89 | 91 | 97 | 117 | 99 |
| Merit 57 | 92 | 82 | 107 | 108 | 97 |
| Meredith | 101 | 85 | 104 | 99 | 97 |
| Moravian 133 | 85 | 108 | 100 | 91 | 96 |
| Conrad | 102 | 95 | 100 | 87 | 96 |
| Metcalfe | 92 | 86 | 99 | 103 | 95 |
| NSL09-1820-A | 90 | 89 | 102 | 94 | 94 |
| 02Ab17271 | 99 | 93 | 89 | 92 | 93 |
| B1202 | 92 | 92 | 93 | 76 | 88 |
| Moravian 115 | 101 | 97 | 82 | 72 | 88 |
| Merit | 90 | 84 | 102 | 75 | 88 |
| Harrington | 80 | 78 | 72 | 91 | 80 |
| Location Average (bu/A) | 135 | 152 | 144 | 78 | |

Table 65. 2-Row Feed Barley Yield Percentage of Location Averages, 2012.

| | (100% =Average) | | | | Variety Average |
|-------------------------|-----------------|----------|-------------|--------|--------------------|
| | Rupert | Aberdeen | Idaho Falls | Ashton | |
| Champion | 118 | 110 | 118 | 136 | 121 |
| Xena | 118 | 116 | 113 | 133 | 120 |
| Spaulding | 113 | 120 | 121 | 121 | 119 |
| Lenetah | 107 | 106 | 109 | 140 | 116 |
| MT061035 | 117 | 110 | 104 | 121 | 113 |
| 08ID2661 | 111 | 112 | 115 | 108 | 111 |
| Idagold II | 112 | 112 | 103 | 119 | 111 |
| RWA 1758 | 117 | 101 | 107 | 104 | 107 |
| Tetonia | 105 | 101 | 106 | 113 | 106 |
| Baronesse | 113 | 101 | 108 | 101 | 106 |
| Herald | 108 | 102 | 106 | 82 | 100 |
| 08ID1549* | 90 | 98 | 95 | 106 | 97 |
| Julie* | 87 | 90 | 92 | 96 | 91 |
| Clearwater* | 78 | 77 | 89 | 111 | 89 |
| CDC McGwire* | 88 | 91 | 99 | 55 | 83 |
| 2Ab09-X06F058HL-30* | 65 | 95 | 82 | 73 | 79 |
| 2Ab09-X06F058HL-78 * | 75 | 87 | 73 | 77 | 78 |
| Transit* | 72 | 80 | 70 | 77 | 75 |
| CDC Fibar* | 65 | 71 | 72 | 67 | 69 |
| Location Average (bu/A) | 121 | 152 | 158 | 81 | |

* indicates hulless variety

2012 Winter Grain Yield Percentage Across All Locations Charts

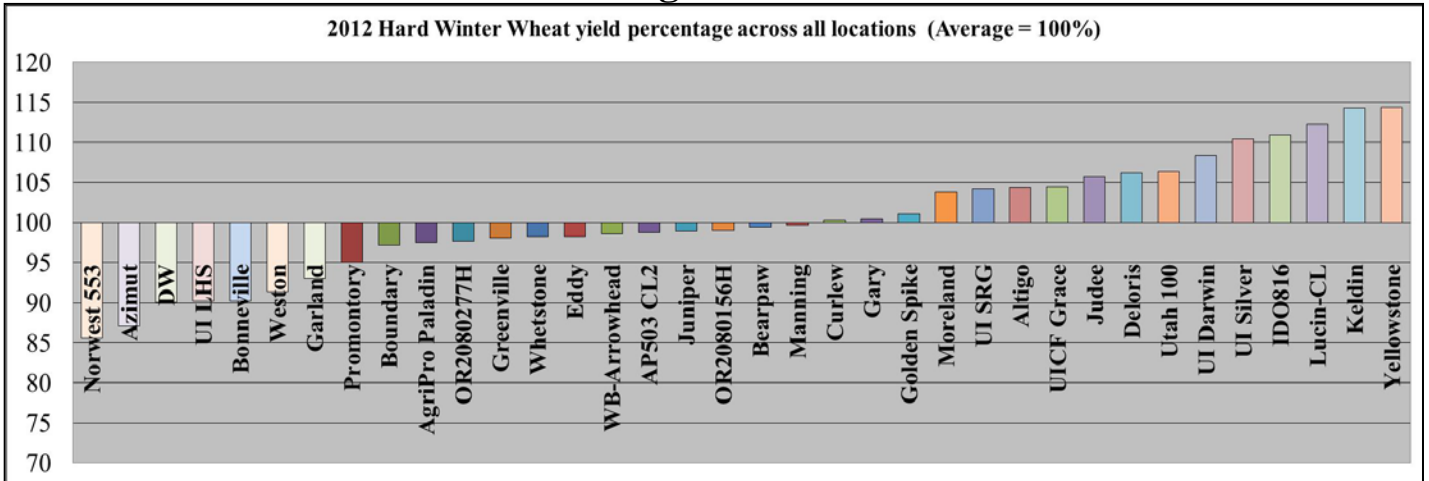


Chart 2. Hard Winter Wheat Yield Percentage Across All Locations.

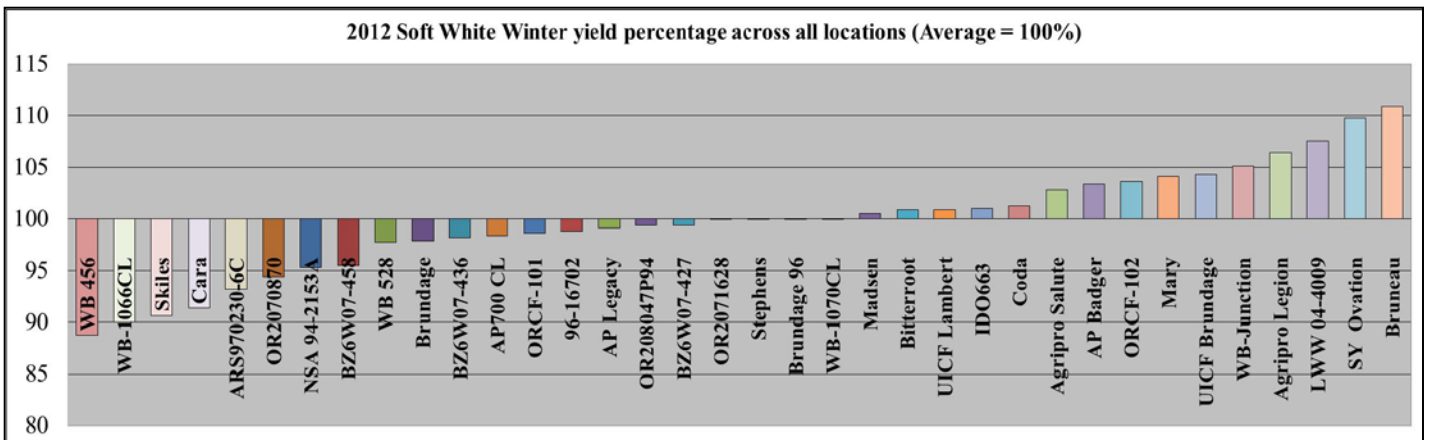


Chart 3. Soft White Winter Wheat Yield Percentage Across All Locations.

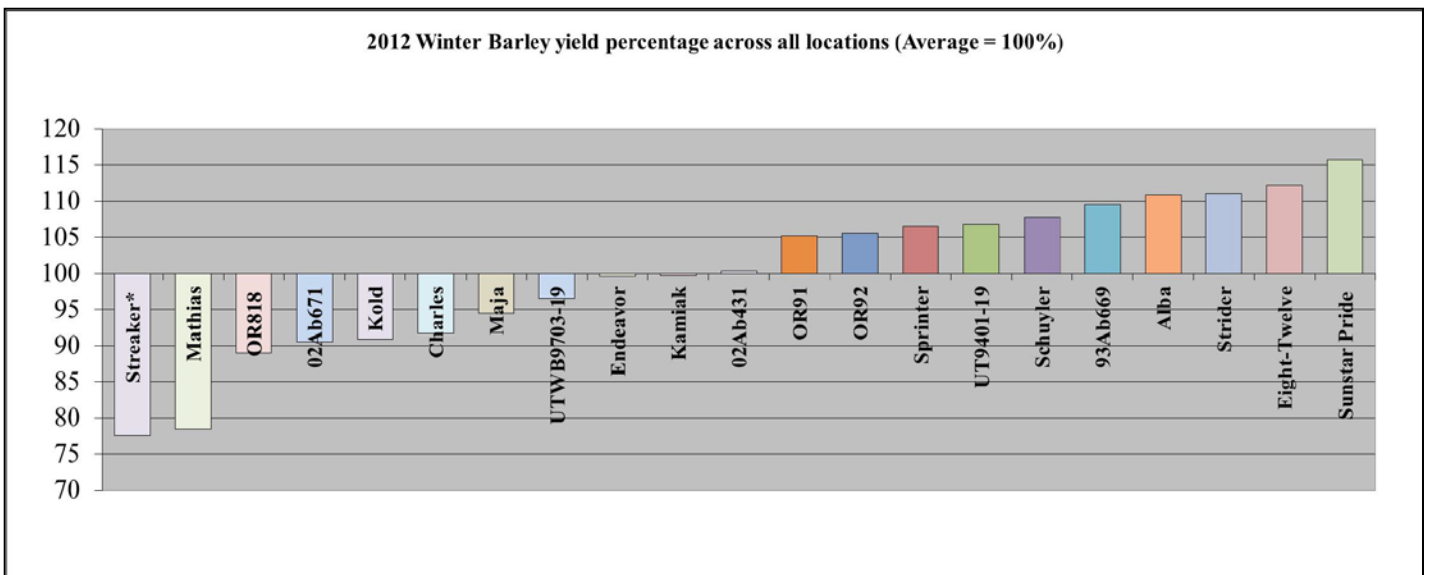


Chart 4. Winter Barley Yield Percentage Across All Locations. * indicates hullless variety.

2012 Spring Grain Yield Percentages Across All Locations Charts

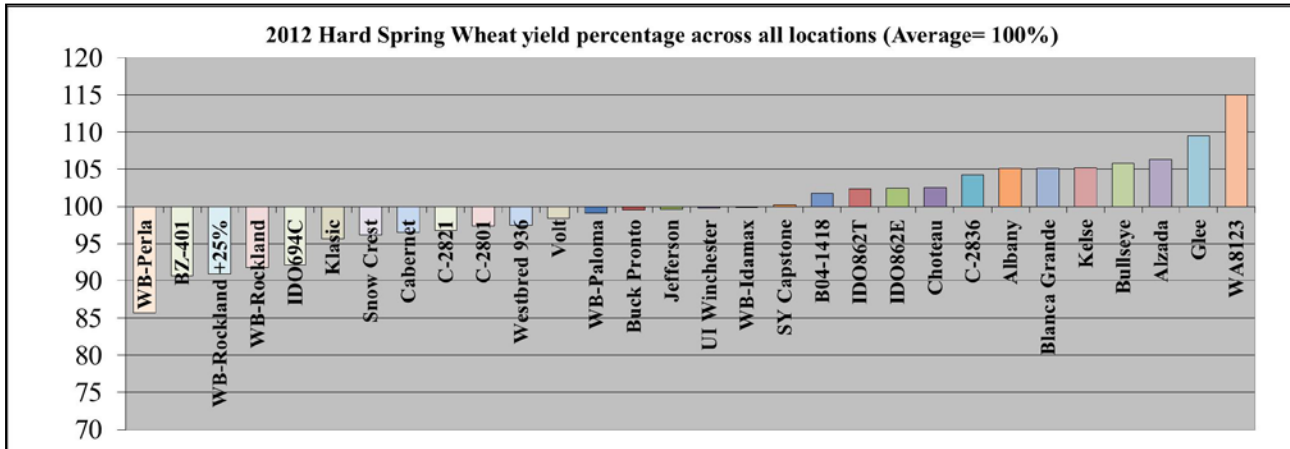


Chart 5. Hard Spring Wheat Yield Percentage Across All Locations.

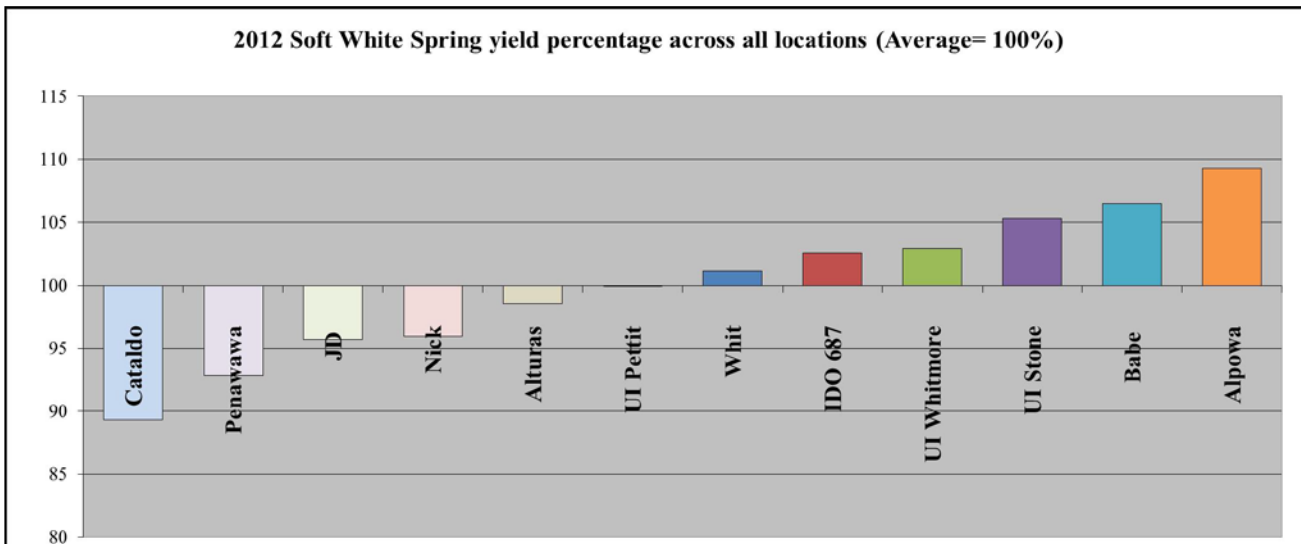


Chart 6. Soft White Spring Yield Percentage Across All Locations.

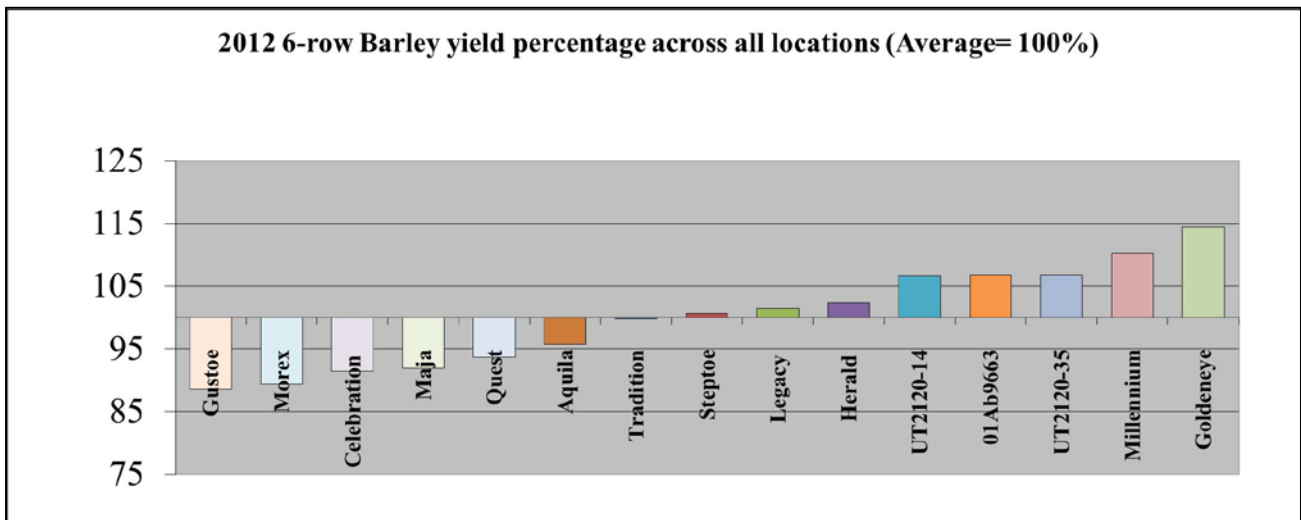


Chart 7. 6-Row Barley Yield Percentage Across All Locations.

2012 2-Row Barley Yield Percentage Across All Locations Charts

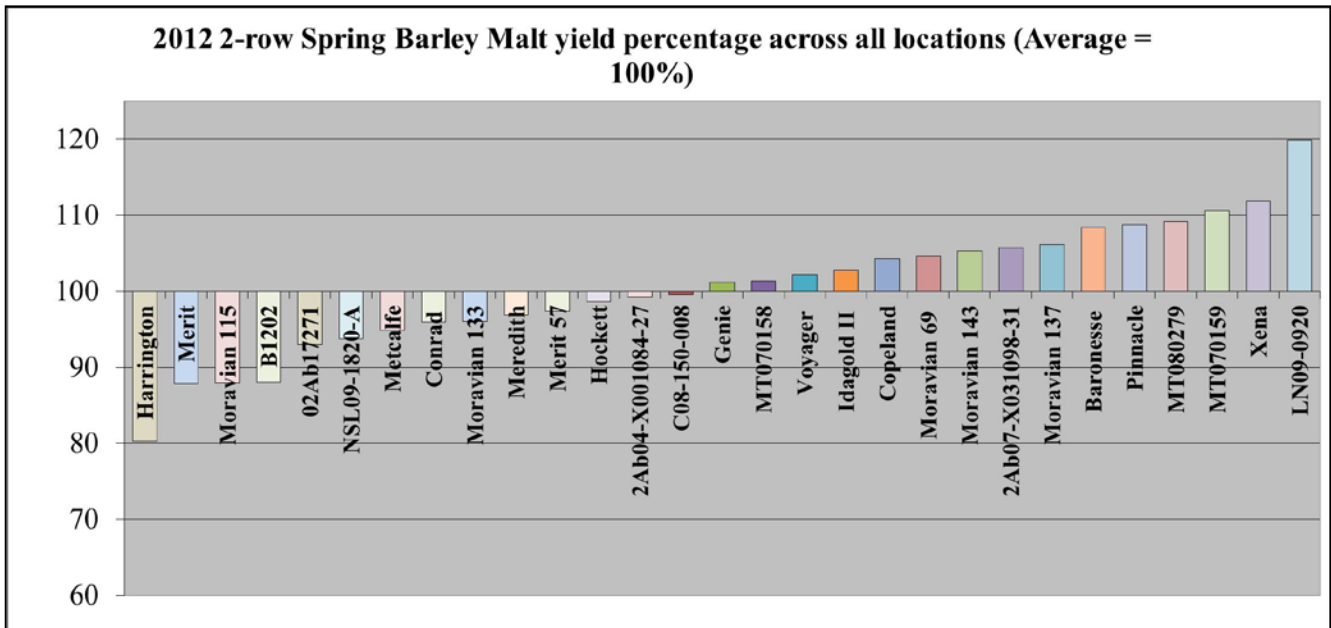


Chart 8. 2-Row Spring Malt Barley Yield Percentage Across All Locations.

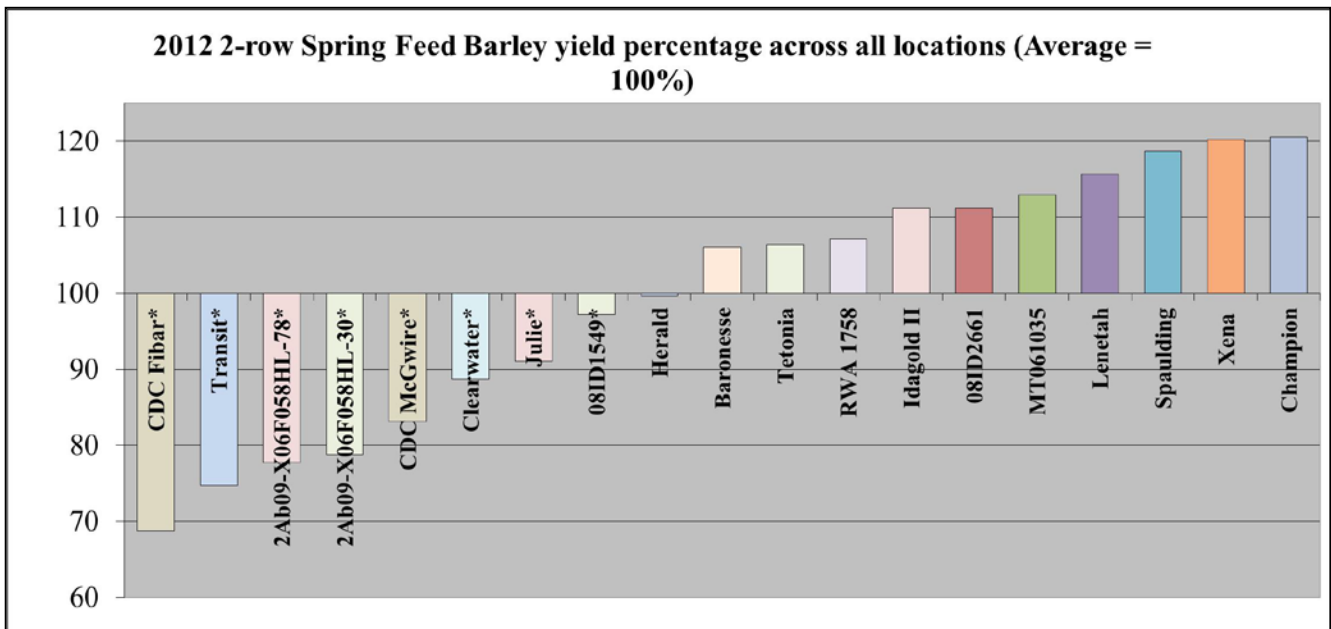


Chart 9. 2-Row Spring Feed Barley Yield Percentage Across All Locations. *indicates hullless variety.

Table 66. Hard Winter Wheat Grain Protein & Kernel Hardness, 2011.

| Variety | -----Grain Protein %----- | | | | | -----Kernel Hardness 0-100----- | | | | |
|-------------------------|---------------------------|-------------|------------|-------------|------------------|---------------------------------|-------------|-----------------------|-------------|------------------|
| | Kimberly | Rupert | Aberdeen | Ririe | Rockland Average | Kimberly | Rupert | Aberdeen [†] | Ririe | Rockland Average |
| AP Paladin | 14.6 | 15.1 | --- | --- | 14.9 | 59 | 64 | 81 | --- | 68.0 |
| Bonneville | 14.4 | 13.9 | --- | 12.1 | 13.2 | 64 | 67 | 83 | 57 | 67.2 |
| Boundary | 12.8 | 12.7 | --- | 10.8 | 11.7 | 64 | 68 | 80 | 51 | 64.8 |
| WB-Arrowhead | 12.9 | 13.7 | --- | --- | 13.3 | 64 | 64 | 74 | --- | 67.3 |
| Curlew | 13.9 | 13.7 | --- | 11.7 | 12.5 | 64 | 65 | 75 | 57 | 64.8 |
| Decade | 13.8 | 14.9 | --- | 11.9 | 13.0 | 64 | 62 | 74 | 56 | 63.2 |
| Deloris | 13.2 | 13.2 | --- | 11.8 | 12.5 | 71 | 65 | 81 | 56 | 66.6 |
| Eddy | 13.5 | 13.8 | --- | --- | 13.7 | 66 | 63 | 69 | --- | 66.0 |
| Esperia | 13.1 | 14.3 | --- | --- | 13.7 | 63 | 59 | 70 | --- | 64.0 |
| Garland | 14.6 | 13.7 | --- | 12.8 | 12.4 | 53 | 57 | 64 | 56.0 | 61.0 |
| Golden Spike (W) | 13.3 | 11.9 | --- | 11.6 | 12.1 | 66 | 58 | 67 | 53 | 62 |
| IDO660 (W) | 13.9 | 14.8 | --- | 11.2 | 12.9 | 68 | 73 | 85 | 55 | 64 |
| Manning | 14.0 | 13.0 | --- | --- | 13.5 | 67 | 72 | 83 | --- | 74.0 |
| Moreland | 13.6 | 13.9 | --- | 11.3 | 12.1 | 61 | 70 | 78 | 55 | 58 |
| Norwest 553 | 13.3 | 13.7 | --- | 11.8 | 12.8 | 62 | 59 | 76 | 53 | 64 |
| NuHills (W) | 13.5 | 15.4 | --- | --- | 14.5 | 54 | 56 | 62 | --- | 57.3 |
| NuHorizon (W) | 12.4 | 13.6 | --- | 10.6 | 11.7 | 60 | 63 | 75 | 53 | 56 |
| Promontory | 13.1 | 13.3 | --- | 11.1 | 12.2 | 61 | 61 | 75 | 52 | 63 |
| UILHS (W) | 13.6 | 12.5 | --- | 11.1 | 11.8 | 57 | 59 | 75 | 51 | 55 |
| UT9743-42 | 14.3 | 12.8 | --- | --- | 13.0 | 52 | 56 | 71 | --- | 51 |
| Utah 100 | 13.4 | 13.1 | --- | 12.0 | 12.7 | 70 | 76 | 92 | 60.0 | 62.0 |
| Weston | 13.8 | 14.0 | --- | 11.8 | 12.6 | 56 | 54 | 69 | 53.0 | 58.0 |
| Whetstone | 13.9 | 14.0 | --- | --- | 14.0 | 69 | 63 | 75 | --- | 69.0 |
| Yellowstone | 13.8 | 14.0 | --- | 11.6 | 12.4 | 63 | 65 | 75 | 52 | 63 |
| DW | --- | --- | --- | 11.2 | 12.5 | --- | --- | 77 | 56 | 60 |
| Juniper | --- | --- | --- | 11.0 | 13.1 | --- | --- | 88 | 57 | 70 |
| Lucin-CL | --- | --- | --- | 11.8 | 12.6 | --- | --- | 78 | 58 | 64 |
| UI Darwin (W) | --- | --- | --- | 12.2 | 12.6 | --- | --- | 79 | 57 | 62 |
| UI Silver (W) | --- | --- | --- | 12.3 | 12.1 | --- | --- | 93 | 62 | 72 |
| UICF Grace (W) | --- | --- | --- | 10.9 | 12.4 | --- | --- | 97 | 56 | 70 |
| Gary | --- | --- | --- | 10.8 | 11.5 | --- | --- | --- | 50 | 62 |
| UISRG | --- | --- | --- | 11.3 | 12.6 | --- | --- | --- | 60 | 65 |
| Location Average | 13.6 | 13.7 | --- | 11.5 | 12.4 | 62.4 | 63.3 | 77.4 | 55.3 | 62.0 |

(W) = White

[†] Aberdeen data is from plots sprayed with fungicide only

Table 67. Soft White Winter Wheat Grain Protein & Kernel Hardness, 2011.

| Variety | -----Grain Protein %----- | | | | | -----Kernel Hardness 0-100----- | | | | |
|-------------------------|---------------------------|-------------|-----------------------|-------------|-------------|---------------------------------|-------------|-----------------------|-------------|-------------|
| | Kimberly | Rupert | Aberdeen [†] | Ririe | Average | Kimberly | Rupert | Aberdeen [†] | Ririe | Average |
| 00-475-2DH | 11.8 | 10.9 | --- | 13.7 | 12.1 | 17 | 22 | 25 | 28 | 23.0 |
| 03PN108#21 | 11.4 | 12.4 | --- | 12.9 | 12.2 | 21 | 28 | 30 | 25 | 26.0 |
| 96-16702 | 11.3 | 11.5 | --- | 12.2 | 11.7 | 18 | 22 | 32 | 23 | 23.8 |
| Agripro Legion | 12.3 | 9.9 | --- | 11.8 | 11.3 | 14 | 20 | 26 | 20 | 20.0 |
| Agripro Salute | 12.0 | 11.9 | --- | 11.7 | 11.9 | 19 | 25 | 35 | 24 | 25.8 |
| AP Badger | 12.6 | 10.7 | --- | 11.7 | 11.7 | 26 | 25 | 33 | 24 | 27.0 |
| AP Legacy | 12.3 | 10.4 | --- | 11.7 | 11.5 | 19 | 28 | 34 | 29 | 27.5 |
| Bitterroot | 11.5 | 10.8 | --- | 12.8 | 11.7 | 13 | 23 | 21 | 21 | 19.5 |
| Brundage | 12.1 | 11.6 | --- | 11.5 | 11.7 | 14 | 14 | 25 | 25 | 19.5 |
| Brundage 96 | 11.8 | 10.2 | --- | 11.5 | 11.2 | 18 | 11 | 27 | 20 | 19.0 |
| Bruneau | 10.7 | 11.6 | --- | 12.3 | 11.5 | 11 | 14 | 24 | 23 | 18.0 |
| BZ 6W02-647AA | 11.0 | 10.5 | --- | 11.2 | 10.9 | 10 | 7 | 24 | 14 | 13.8 |
| BZ6W02-616 | 11.9 | 10.2 | --- | 11.5 | 11.2 | 17 | 12 | 20 | 24 | 18.3 |
| Coda* | 13.1 | 10.2 | --- | 13.1 | 12.1 | 23 | 25 | 33 | 25 | 26.5 |
| Goetze | 11.6 | 9.4 | --- | 10.6 | 10.5 | 19 | 8 | 32 | 32 | 22.8 |
| ID98-19010A | 11.4 | 9.2 | --- | 11.7 | 10.8 | 9 | 2 | 12 | 18 | 10.3 |
| IDO663 | 12.0 | 10.9 | --- | 11.3 | 11.4 | 20 | 17 | 27 | 20 | 21.0 |
| Lambert | 11.9 | 10.8 | --- | 11.2 | 11.3 | 23 | 22 | 34 | 27 | 26.5 |
| Madsen | 13.2 | 10.0 | --- | 11.7 | 11.6 | 21 | 16 | 27 | 22 | 21.5 |
| ORCF-101 | 12.5 | 10.1 | --- | 13.0 | 11.9 | 20 | 12 | 29 | 25 | 21.5 |
| ORCF-102 | 13.0 | 9.5 | --- | 12.6 | 11.7 | 19 | 23 | 36 | 23 | 25.3 |
| Simon | 11.4 | 10.0 | --- | 11.6 | 11.0 | 23 | 20 | 35 | 19 | 24.3 |
| Skiles | 12.8 | 11.1 | --- | 12.7 | 12.2 | 15 | 21 | 25 | 26 | 21.8 |
| Stephens | 12.0 | 9.5 | --- | 12.5 | 11.3 | 17 | 16 | 31 | 23 | 21.8 |
| UJCF Brundage | 12.9 | 9.2 | --- | 11.5 | 11.2 | 14 | 9 | 19 | 16 | 14.5 |
| UJCF Lambert | 13.0 | 10.8 | --- | 12.6 | 12.1 | 28 | 25 | 38 | 26 | 29.3 |
| WA8092 | 13.7 | 9.3 | --- | 12.6 | 11.9 | 19 | 13 | 25 | 23 | 20.0 |
| WB 456 | 14.4 | 10.5 | --- | 12.1 | 12.3 | 26 | 18 | 39 | 29 | 28.0 |
| WB 528 | 13.0 | 9.6 | --- | 12.3 | 11.6 | 20 | 17 | 37 | 23 | 24.3 |
| Location Average | 12.2 | 10.4 | --- | 12.1 | 11.6 | 18.4 | 17.8 | 28.8 | 23.3 | 22.1 |

* = Club Wheat

[†] Aberdeen data is from plots sprayed with fungicide only

Table 68. Hard Spring Wheat Grain Protein & Kernel Hardness, 2011.

| Variety | -----Grain Protein %----- | | | | | -----Kernel Hardness 0-100----- | | | | | | |
|--------------------------|---------------------------|-------------|-------------|-------------|--------------|---------------------------------|-------------|-------------|-------------|-------------|--------------|-------------|
| | Rupert | Aberdeen | Idaho Falls | Ashton | Soda Springs | Average | Rupert | Aberdeen | Idaho Falls | Ashton | Soda Springs | Average |
| Hard Red Spring | | | | | | | | | | | | |
| 10F x Inc1 | 14.3 | 14.05 | 13.4 | 13.3 | --- | 13.8 | 76 | 73.0 | 75 | 61 | --- | 71.3 |
| Albany | 12.9 | 13.8 | 12.3 | 13.0 | --- | 13.0 | 66 | 71.5 | 69 | 53 | --- | 64.9 |
| Buck Pronto | 14.7 | 15.65 | 14.1 | 13.8 | --- | 14.6 | 59 | 65.5 | 66 | 56 | --- | 61.6 |
| Bullseye | 13.9 | 14.15 | 13.7 | 13.1 | --- | 13.7 | 73 | 76.5 | 74 | 60 | --- | 70.9 |
| Cabernet | 13.6 | 13.95 | 12.5 | 12.3 | --- | 13.1 | 50 | 53.5 | 53 | 42 | --- | 49.6 |
| Cerere | 12.5 | 12.5 | 11.6 | 11.4 | 13.5 | 12.3 | 56 | 59.0 | 52 | 46 | 57 | 54.0 |
| Choteau | 14.5 | 14.5 | 13.8 | 13.5 | 15.1 | 14.3 | 74 | 75.5 | 73 | 59 | 69 | 70.1 |
| IDO 702 | 13.3 | 15 | 13.2 | 13.9 | --- | 13.9 | 64 | 70.5 | 70 | 61 | --- | 66.4 |
| Iona | 13.9 | 14.5 | 13.9 | 12.9 | 14.4 | 13.9 | 60 | 59.0 | 59 | 51 | 61 | 58.0 |
| Jefferson | 13.7 | 14.65 | 12.7 | 13.3 | 14.5 | 13.8 | 65 | 70.5 | 63 | 60 | 67 | 65.1 |
| Jerome | 13.4 | 13.3 | 12.8 | 13.2 | 13.7 | 13.3 | 59 | 65.5 | 60 | 52 | 58 | 58.9 |
| Kelse | 14.5 | 14.65 | 14.4 | 14.0 | 14.7 | 14.5 | 59 | 65.0 | 66 | 55 | 66 | 62.2 |
| Malbec | 14.3 | 14.35 | 13.0 | 12.9 | --- | 13.6 | 68 | 72.5 | 70 | 57 | --- | 66.9 |
| UI Winchester | 14.2 | 14.65 | 13.2 | 12.9 | 14.4 | 13.9 | 60 | 57.5 | 62 | 52 | 52 | 56.7 |
| Volt | 13.8 | 14.55 | 13.5 | 13.4 | 13.9 | 13.8 | 75 | 82.5 | 78 | 66 | 73 | 74.9 |
| WB-Fuzion | 13.9 | 15.2 | 13.8 | 14.0 | 14.9 | 14.4 | 68 | 75.5 | 71 | 62 | 69 | 69.1 |
| WB-Rockland | 14.6 | 15.45 | 14.1 | 13.3 | --- | 14.4 | 65 | 70.0 | 67 | 47 | --- | 62.3 |
| Westbred 936 | 14.6 | 14.3 | 12.9 | 13.1 | 14.6 | 13.9 | 53 | 63.0 | 61 | 51 | 63 | 58.2 |
| Hard White Spring | | | | | | | | | | | | |
| Blanca Grande | 13.7 | 13.75 | 12.5 | 13.1 | 14.1 | 13.4 | 52 | 46.5 | 50 | 43 | 49 | 48.1 |
| Klasic | 13.7 | 14.45 | 12.9 | 12.9 | 13.8 | 13.6 | 50 | 35.5 | 49 | 35 | 51 | 44.1 |
| Lochsa | 14.0 | 14.6 | 13.0 | 13.1 | 14.3 | 13.8 | 61 | 68.5 | 71 | 54 | 72 | 65.3 |
| Lolo | 13.1 | 13.5 | 12.8 | 12.1 | 13.5 | 13.0 | 61 | 68.5 | 68 | 59 | 68 | 64.9 |
| Otis | 12.8 | 13.55 | 12.4 | 12.3 | 13.6 | 12.9 | 66 | 71.5 | 70 | 57 | 72 | 67.3 |
| Pristine | 13.9 | 13.95 | 13.8 | 13.6 | 14.2 | 13.9 | 68 | 76.0 | 69 | 58 | 72 | 68.6 |
| SY Capstone | 13.6 | 13.75 | 12.7 | 15.5 | --- | 13.9 | 47 | 48.5 | 54 | 39 | --- | 47.1 |
| Snow Crest | 13.7 | 14.3 | 12.7 | 12.9 | 14.0 | 13.5 | 45 | 39.0 | 47 | 37 | 51 | 43.8 |
| WA8123 | 13.5 | 14.3 | 13.0 | 13.2 | 13.6 | 13.5 | 73 | 69.5 | 76 | 60 | 72 | 70.1 |
| WB-Idamax | 13.8 | 14.55 | 12.8 | 12.1 | 13.8 | 13.4 | 63 | 60.5 | 68 | 48 | 63 | 60.5 |
| WB-Paloma | 14.0 | 14.2 | 13.1 | 12.8 | --- | 13.5 | 65 | 62.0 | 65 | 47 | --- | 59.8 |
| Spring Durum | | | | | | | | | | | | |
| Alzada | 15.5 | 15.75 | 14.0 | 13.2 | 15.8 | 14.9 | 100 | --- | 97 | --- | --- | --- |
| Kronos | 15.5 | 15.15 | 14.4 | 13.7 | 15.8 | 14.9 | 94 | --- | 94 | --- | --- | --- |
| Utopia | 15.0 | 16.3 | 13.9 | 13.4 | 16.2 | 15.0 | 98 | --- | 98 | --- | --- | --- |
| Location Average | 14.0 | 14.4 | 13.2 | 13.2 | 14.4 | 13.8 | 65.4 | 64.6 | 67.7 | 52.7 | 63.4 | 61.4 |

(W) = White

†Aberdeen data is from plots sprayed with fungicide only

Table 69. Soft White Spring Wheat Grain Protein & Kernel Hardness, 2011.

| Variety | -----Grain Protein %----- | | | | | -----Kernel Hardness 0-100----- | | | | | | |
|-------------------------|---------------------------|-----------------------|-------------|-------------|--------------|---------------------------------|-------------|-----------------------|-------------|------------|--------------|-------------|
| | Rupert | Aberdeen [†] | Idaho Falls | Ashton | Soda Springs | Average | Rupert | Aberdeen [†] | Idaho Falls | Ashton | Soda Springs | Average |
| Alpowa | 12.0 | 12.0 | 10.6 | 11.6 | 12.5 | 11.7 | 13.0 | 18.5 | 18 | 10 | 10 | 13.9 |
| Alturas | 11.3 | 11.3 | 9.9 | 10.4 | 11.2 | 10.8 | 13.0 | 13.5 | 18 | 5 | 7 | 11.3 |
| Babe | 12.0 | 11.8 | 9.7 | 9.8 | 12.2 | 11.1 | 11.0 | 13.5 | 16 | 5 | 7 | 10.5 |
| Cataldo | 12.4 | 12.0 | 10.3 | 10.7 | 12.2 | 11.5 | 15.0 | 14.5 | 17 | 5 | 8 | 11.9 |
| UI Stone | 11.6 | 11.4 | 9.7 | 10.2 | 11.6 | 10.9 | 16.0 | 17.5 | 13 | 3 | 9 | 11.7 |
| IDO 644 | 12.0 | 11.7 | 10.0 | 9.9 | 11.7 | 11.1 | 20.0 | 23 | 19 | 7 | 17 | 17.2 |
| IDO 668 | 12.0 | 12.1 | 10.9 | 10.7 | 12.5 | 11.6 | 17.0 | 10.5 | 8 | 2 | 6 | 8.7 |
| IDO 669 | 11.7 | 11.7 | 9.9 | 10.1 | 13.0 | 11.3 | 19.0 | 15.5 | 18 | 10 | 11 | 14.7 |
| UI Whitmore | 11.5 | 11.1 | 10.4 | 9.7 | 12.3 | 11.0 | 16.0 | 15 | 16 | 4 | 7 | 11.6 |
| IDO 686 | 12.0 | 11.8 | 10.9 | 10.4 | 12.2 | 11.5 | 16.0 | 14.5 | 16 | 3 | 8 | 11.5 |
| IDO 687 | 11.4 | 11.5 | 9.9 | 10.4 | 11.8 | 11.0 | 19.0 | 13.5 | 16 | 6 | 9 | 12.7 |
| JD* | 12.9 | 12.8 | 10.6 | 10.5 | 12.9 | 11.9 | 25.0 | 21.5 | 22 | 12 | 14 | 18.9 |
| Nick | 12.3 | 11.9 | 10.7 | 10.3 | 12.6 | 11.6 | 11.0 | 16.5 | 21 | 9 | 15 | 14.5 |
| Penawawa | 12.5 | 12.1 | 10.5 | 11.4 | 12.3 | 11.8 | 12.0 | 11.5 | 14 | 7 | 7 | 10.3 |
| UI Pettit | 11.1 | 10.7 | 9.8 | 10.4 | 12.2 | 10.8 | 19.0 | 19.5 | 15 | 5 | 14 | 14.5 |
| Whit | 12.2 | 12.1 | 10.7 | 11.1 | 12.2 | 11.7 | 15.0 | 18.5 | 14 | 7 | 10 | 12.9 |
| Location Average | 11.9 | 11.7 | 10.2 | 10.5 | 12.2 | 11.3 | 16.0 | 16.3 | 16.4 | 6.6 | 10.1 | 13.1 |

*=-club wheat

[†] Aberdeen data is from plots sprayed with fungicide only

Table 70. Percent flour protein and flour yield for soft white winter wheat at Kimberly, Rupert, Ririe, and Aberdeen, 2011.

| Variety | Flour Protein (%) | | | | | Flour Yield (%) | | | | |
|-------------------------|-------------------|------------|-----------------------|------------|------------|-----------------|-------------|-----------------------|-------------|-------------|
| | Kimberly | Rupert | Aberdeen [†] | Ririe | Average | Kimberly | Rupert | Aberdeen [†] | Ririe | Average |
| 00-475-2DH | 8.3 | 8.3 | 9.0 | 8.9 | 8.6 | 61.0 | 63.2 | 67.1 | 62.3 | 63.4 |
| 03PN108#21 | 8.9 | 9.6 | 8.9 | 8.8 | 9.1 | 64.4 | 59.9 | 66.0 | 62.6 | 63.2 |
| 96-16702 | 8.3 | 8.3 | 9.2 | 7.2 | 8.3 | 60.5 | 62.1 | 65.4 | 61.6 | 62.4 |
| Agripro Legion | 8.7 | 7.5 | 8.6 | 7.0 | 8.0 | 56.4 | 59.3 | 63.2 | 59.9 | 59.7 |
| Agripro Salute | 9.2 | 8.8 | 9.4 | 6.5 | 8.5 | 62.5 | 59.8 | 63.8 | 61.5 | 61.9 |
| AP Badger | 9.3 | 8.2 | 9.6 | 6.4 | 8.4 | 58.5 | 59.8 | 62.5 | 60.2 | 60.3 |
| AP Legacy | 8.8 | 8.4 | 9.1 | 6.9 | 8.3 | 56.4 | 64.8 | 65.8 | 62.5 | 62.4 |
| Bitterroot | 8.9 | 8.9 | 9.7 | 8.8 | 9.1 | 58.9 | 63.8 | 63.9 | 61.0 | 61.9 |
| Brundage | 8.7 | 8.1 | 9.2 | 7.4 | 8.4 | 56.7 | 61.4 | 64.3 | 62.1 | 61.1 |
| Brundage 96 | 8.7 | 7.9 | 8.5 | 6.7 | 8.0 | 56.9 | 61.3 | 64.5 | 59.5 | 60.6 |
| Bruneau | 8.0 | 7.9 | 9.4 | 7.3 | 8.2 | 62.5 | 61.6 | 63.2 | 60.6 | 62.0 |
| BZ 6W02-647AA | 8.2 | 10.8 | 8.8 | 6.8 | 8.7 | 56.8 | 50.1 | 61.2 | 55.5 | 55.9 |
| WB-Junction | 8.6 | 9.4 | 9.4 | 6.6 | 8.5 | 57.0 | 56.9 | 59.3 | 58.1 | 57.8 |
| Coda* | 9.8 | 8.0 | 9.6 | 7.7 | 8.8 | 59.6 | 65.4 | 64.3 | 62.0 | 62.8 |
| Goetze | 9.3 | 7.8 | 9.3 | 7.6 | 8.5 | 59.1 | 60.3 | 61.1 | 59.6 | 60.0 |
| ID98-19010A | 10.9 | 7.4 | 8.1 | 6.9 | 8.3 | 52.3 | 60.0 | 63.1 | 59.4 | 58.7 |
| IDO663 | 9.0 | 8.6 | 10.1 | 7.2 | 8.7 | 61.1 | 60.5 | 61.7 | 61.6 | 61.2 |
| Lambert | 8.8 | 8.3 | 9.4 | 7.6 | 8.5 | 57.8 | 62.4 | 63.4 | 64.2 | 62.0 |
| Madsen | 10.0 | 8.4 | 10.2 | 7.7 | 9.1 | 59.2 | 63.9 | 63.2 | 63.1 | 62.4 |
| ORCF-101 | 10.0 | 8.4 | 10.7 | 7.9 | 9.3 | 59.8 | 59.3 | 62.5 | 61.7 | 60.8 |
| ORCF-102 | 9.7 | 7.6 | 9.6 | 9.0 | 9.0 | 56.0 | 63.2 | 63.7 | 61.8 | 61.2 |
| Simon | 9.2 | 8.1 | 10.7 | 8.7 | 9.2 | 63.4 | 63.2 | 65.0 | 63.3 | 63.7 |
| Skiles | 9.2 | 8.7 | 10.0 | 9.6 | 9.4 | 56.7 | 59.5 | 61.1 | 60.5 | 59.5 |
| Stephens | 9.1 | 7.8 | 9.8 | 9.3 | 9.0 | 57.7 | 61.7 | 60.7 | 60.0 | 60.0 |
| UICF Brundage | 11.8 | 7.1 | 10.1 | 8.6 | 9.4 | 54.2 | 57.5 | 59.0 | 60.8 | 57.9 |
| UICF Lambert | 10.0 | 8.4 | 10.1 | 7.6 | 9.0 | 58.7 | 62.7 | 63.8 | 62.2 | 61.9 |
| WA8092 | 10.2 | 7.5 | 9.8 | 8.5 | 9.0 | 54.2 | 60.9 | 55.4 | 60.3 | 57.7 |
| WB 456 | 10.6 | 8.4 | 10.0 | 9.2 | 9.6 | 61.5 | 60.1 | 64.6 | 61.1 | 61.8 |
| WB 528 | 10.4 | 8.1 | 9.8 | 8.2 | 9.1 | 60.2 | 62.0 | 65.5 | 61.8 | 62.4 |
| Location average | 9.3 | 8.3 | 9.5 | 7.8 | 8.7 | 58.6 | 60.9 | 63.0 | 61.1 | 60.9 |

* = Club Wheat

[†] Aberdeen data is from plots sprayed with fungicide only

Table 71. Percent break flour yield and cookie diameter for soft white winter wheat at Kimberly, Rupert, Ririe, and Aberdeen 2011.

| Variety | Break Flour Yield (%) | | | | | Cookie Diameter (cm) | | | | |
|-------------------------|-----------------------|-------------|-----------------------|-------------|-------------|----------------------|------------|-----------------------|------------|------------|
| | Kimberly | Rupert | Aberdeen [†] | Ririe | Average | Kimberly | Rupert | Aberdeen [†] | Ririe | Average |
| 00-475-2DH | 42.2 | 36.5 | 37.7 | 40.9 | 39.3 | 8.4 | 8.5 | 8.6 | 8.6 | 8.5 |
| 03PN108#21 | 38.2 | 30.1 | 35.2 | 45.6 | 37.3 | 8.4 | 8.5 | 8.7 | 8.6 | 8.5 |
| 96-16702 | 42.9 | 37.2 | 37.0 | 43.8 | 40.2 | 9.0 | 8.8 | 8.8 | 8.7 | 8.8 |
| Agripro Legion | 40.4 | 36.1 | 36.9 | 41.4 | 38.7 | 8.7 | 8.7 | 8.6 | 8.5 | 8.6 |
| Agripro Salute | 42.6 | 36.3 | 31.7 | 42.3 | 38.2 | 8.5 | 8.6 | 8.6 | 9.0 | 8.7 |
| AP Badger | 34.2 | 30.9 | 29.8 | 40.1 | 33.8 | 8.4 | 8.6 | 8.6 | 8.7 | 8.6 |
| AP Legacy | 46.6 | 32.1 | 36.4 | 42.0 | 39.3 | 8.7 | 8.6 | 8.6 | 8.6 | 8.6 |
| Bitterroot | 43.5 | 32.6 | 38.2 | 39.3 | 38.4 | 8.8 | 8.8 | 8.7 | 8.7 | 8.7 |
| Brundage | 43.2 | 40.2 | 36.4 | 49.6 | 42.4 | 8.6 | 8.8 | 8.7 | 8.5 | 8.7 |
| Brundage 96 | 44.4 | 40.9 | 37.7 | 45.4 | 42.1 | 8.7 | 9.0 | 8.9 | 8.8 | 8.8 |
| Bruneau | 40.0 | 37.9 | 37.1 | 40.2 | 38.8 | 8.8 | 8.9 | 8.8 | 8.8 | 8.8 |
| BZ 6W02-647AA | 48.0 | 44.8 | 36.3 | 42.0 | 42.8 | 8.5 | 8.8 | 8.8 | 8.7 | 8.7 |
| WB-Junction | 43.0 | 44.0 | 40.6 | 44.5 | 43.0 | 8.8 | 8.5 | 8.7 | 8.5 | 8.7 |
| Coda* | 41.0 | 32.4 | 35.7 | 39.1 | 37.1 | 8.7 | 8.4 | 8.7 | 8.4 | 8.5 |
| Goetze | 38.6 | 34.9 | 34.9 | 38.9 | 36.8 | 8.4 | 8.7 | 8.6 | 8.4 | 8.5 |
| ID98-19010A | 51.2 | 45.8 | 45.0 | 42.2 | 46.1 | 8.6 | 9.0 | 8.8 | 8.6 | 8.8 |
| IDO663 | 40.2 | 34.4 | 36.1 | 42.7 | 38.4 | 8.7 | 8.6 | 8.6 | 8.6 | 8.6 |
| Lambert | 38.4 | 34.3 | 33.5 | 46.9 | 38.3 | 8.6 | 8.6 | 8.5 | 8.6 | 8.6 |
| Madsen | 38.0 | 35.3 | 38.6 | 39.1 | 37.8 | 8.5 | 8.4 | 8.5 | 8.3 | 8.4 |
| ORCF-101 | 35.5 | 34.8 | 32.1 | 39.8 | 35.6 | 8.5 | 8.6 | 8.5 | 8.4 | 8.5 |
| ORCF-102 | 37.8 | 33.9 | 33.1 | 38.3 | 35.8 | 8.4 | 8.3 | 8.6 | 8.3 | 8.4 |
| Simon | 36.6 | 33.9 | 33.8 | 38.6 | 35.7 | 8.3 | 8.5 | 8.6 | 8.5 | 8.5 |
| Skiles | 47.1 | 38.6 | 39.4 | 39.7 | 41.2 | 8.8 | 8.7 | 8.7 | 8.3 | 8.6 |
| Stephens | 42.2 | 35.3 | 35.5 | 43.5 | 39.1 | 8.5 | 8.5 | 8.5 | 8.2 | 8.5 |
| UICF Brundage | 46.0 | 44.9 | 41.7 | 46.8 | 44.9 | 8.5 | 8.9 | 8.7 | 8.5 | 8.6 |
| UICF Lambert | 38.8 | 34.1 | 33.5 | 42.3 | 37.2 | 8.5 | 8.5 | 8.5 | 8.4 | 8.5 |
| WA8092 | 44.0 | 39.6 | 37.6 | 41.4 | 40.7 | 8.4 | 8.4 | 8.7 | 8.5 | 8.5 |
| WB 456 | 37.5 | 37.5 | 33.2 | 36.3 | 36.1 | 8.4 | 8.4 | 8.6 | 8.3 | 8.4 |
| WB 528 | 39.0 | 35.0 | 34.5 | 40.8 | 37.3 | 8.5 | 8.5 | 8.5 | 8.5 | 8.5 |
| Location average | 41.4 | 36.7 | 36.2 | 41.8 | 39.0 | 8.6 | 8.6 | 8.6 | 8.5 | 8.6 |

* = Club Wheat

[†] Aberdeen data is from plots sprayed with fungicide only

Table 72. Percent flour protein and flour yield for soft white spring wheat at Rupert, Aberdeen, Idaho Falls, Ashton, and Soda Springs, 2011.

| Variety | Flour Protein (14% mb) | | | | | Flour Yield (%) | | | | | | |
|-------------------------|------------------------|-----------------------|-------------|------------|--------------|-----------------|-------------|-----------------------|-------------|-------------|--------------|-------------|
| | Rupert | Aberdeen [†] | Idaho Falls | Ashton | Soda Springs | Average | Rupert | Aberdeen [†] | Idaho Falls | Ashton | Soda Springs | Average |
| Alpowa | 8.6 | 9.0 | 8.1 | 9.8 | 11.8 | 9.5 | 52.0 | 57.4 | 63.6 | 49.8 | 49.5 | 54.5 |
| Alturas | 8.5 | 8.9 | 7.9 | 10.2 | 8.4 | 8.8 | 61.6 | 63.9 | 62.8 | 55.6 | 58.4 | 60.5 |
| Babe | 8.8 | 8.8 | 7.6 | 9.7 | 8.7 | 8.7 | 54.2 | 58.7 | 62.0 | 53.7 | 56.4 | 57.0 |
| Cataldo | 9.1 | 9.6 | 8.1 | 10.5 | 9.2 | 9.3 | 57.9 | 60.1 | 60.7 | 53.4 | 56.1 | 57.6 |
| UI Stone | 8.3 | 9.3 | 7.7 | 10.0 | 8.6 | 8.8 | 61.3 | 63.4 | 62.2 | 57.3 | 59.5 | 60.7 |
| IDO 644 | 8.9 | 9.1 | 7.5 | 7.2 | 8.5 | 8.2 | 60.9 | 63.2 | 62.7 | 59.9 | 58.1 | 61.0 |
| IDO 668 | 9.0 | 9.4 | 8.5 | 10.6 | 9.5 | 9.4 | 61.4 | 63.2 | 60.2 | 57.1 | 58.3 | 60.0 |
| IDO 669 | 8.6 | 9.3 | 7.4 | 8.0 | 9.3 | 8.5 | 61.1 | 61.9 | 63.0 | 58.4 | 55.3 | 59.9 |
| UI Whitmore | 8.5 | 8.5 | 7.8 | 9.8 | 9.3 | 8.8 | 62.2 | 53.0 | 63.2 | 57.6 | 57.3 | 58.7 |
| IDO 686 | 9.1 | 10.0 | 8.5 | 10.5 | 9.7 | 9.6 | 63.2 | 64.5 | 64.3 | 60.5 | 59.4 | 62.4 |
| IDO 687 | 8.3 | 9.4 | 7.7 | 10.2 | 8.8 | 8.9 | 60.8 | 61.3 | 61.7 | 59.9 | 57.4 | 60.2 |
| JD* | 9.3 | 10.3 | 7.9 | 7.4 | 9.6 | 8.9 | 62.3 | 63.3 | 66.7 | 61.5 | 59.2 | 62.6 |
| Nick | 9.4 | 9.6 | 8.3 | 8.0 | 9.5 | 9.0 | 55.1 | 56.2 | 61.3 | 57.4 | 57.4 | 57.5 |
| Penawawa | 11.1 | 9.8 | 7.6 | 10.3 | 8.8 | 9.5 | 54.9 | 52.7 | 57.3 | 50.9 | 51.8 | 53.5 |
| UI Pettit | 9.0 | 8.9 | 7.3 | 9.9 | 9.0 | 8.8 | 62.0 | 63.1 | 64.4 | 57.6 | 60.4 | 61.5 |
| Whit | 9.2 | 9.6 | 8.0 | 10.2 | 8.7 | 9.1 | 56.6 | 57.7 | 59.4 | 54.6 | 56.0 | 56.9 |
| Jubilee | 9.4 | 8.8 | 7.2 | 6.9 | 9.2 | 8.3 | 56.9 | 62.4 | 61.3 | 58.1 | 59.3 | 59.6 |
| Location Average | 9.0 | 9.3 | 7.8 | 9.4 | 9.2 | 8.9 | 59.1 | 60.4 | 62.2 | 56.7 | 57.0 | 59.1 |

*=club wheat

mb=moisture basis

[†]Aberdeen data is from plots sprayed with fungicide only

Table 73. Percent break flour and cookie diameter for soft white spring wheat at Rupert, Aberdeen, Idaho Falls, Ashton, and Soda Springs, 2011.

| Variety | Break Flour (%) | | | | | Cookie Diameter (cm) | | | | | | |
|-------------------------|-----------------|-----------------------|-------------|-------------|----------------------|----------------------|-----------------------|-------------|------------|----------------------|------------|------------|
| | Rupert | Aberdeen [†] | Idaho Falls | Ashton | Soda Springs Average | Rupert | Aberdeen [†] | Idaho Falls | Ashton | Soda Springs Average | | |
| Alpowa | 40.5 | 41.0 | 33.1 | 41.6 | 44.2 | 40.1 | 8.3 | 8.6 | 8.7 | 8.5 | 8.4 | 8.5 |
| Alturas | 35.0 | 36.6 | 37.4 | 42.5 | 39.6 | 38.2 | 8.6 | 8.6 | 8.8 | 8.9 | 8.4 | 8.7 |
| Babe | 37.6 | 36.9 | 36.0 | 44.2 | 39.0 | 38.7 | 8.7 | 8.7 | 8.7 | 8.5 | 8.8 | 8.7 |
| Cataldo | 36.7 | 37.6 | 34.2 | 44.7 | 39.4 | 38.5 | 8.6 | 8.4 | 8.6 | 8.5 | 8.9 | 8.6 |
| UI Stone | 38.5 | 37.9 | 40.9 | 44.0 | 41.3 | 40.5 | 8.7 | 8.7 | 8.9 | 8.7 | 8.9 | 8.8 |
| IDO 644 | 42.8 | 36.6 | 36.0 | 43.2 | 41.5 | 40.0 | 8.4 | 8.3 | 8.5 | 8.3 | 8.6 | 8.4 |
| IDO 668 | 33.0 | 35.7 | 33.9 | 40.4 | 36.1 | 35.8 | 8.4 | 8.6 | 8.7 | 8.3 | 8.4 | 8.5 |
| IDO 669 | 41.5 | 43.3 | 41.6 | 46.6 | 43.6 | 43.3 | 8.8 | 8.8 | 9.0 | 8.7 | 8.7 | 8.8 |
| UI Whitmore | 36.8 | 34.7 | 35.8 | 46.7 | 39.4 | 38.7 | 8.6 | 8.7 | 8.5 | 8.4 | 8.7 | 8.6 |
| IDO 686 | 34.2 | 35.8 | 34.5 | 43.0 | 35.8 | 36.7 | 8.6 | 8.6 | 8.7 | 8.4 | 8.5 | 8.5 |
| IDO 687 | 35.6 | 40.8 | 39.2 | 46.2 | 43.0 | 41.0 | 8.7 | 8.8 | 8.8 | 8.4 | 8.7 | 8.7 |
| JD* | 34.2 | 37.3 | 35.0 | 44.6 | 37.9 | 37.8 | 8.7 | 8.8 | 8.7 | 8.5 | 8.8 | 8.7 |
| Nick | 39.9 | 34.4 | 32.3 | 40.3 | 36.4 | 36.7 | 8.4 | 8.6 | 8.8 | 8.3 | 8.4 | 8.5 |
| Penawawa | 43.9 | 39.3 | 35.4 | 43.0 | 40.5 | 40.4 | 8.6 | 8.7 | 8.8 | 8.3 | 8.5 | 8.6 |
| UI Pettit | 39.6 | 36.9 | 38.1 | 44.2 | 37.4 | 39.2 | 8.8 | 9.1 | 8.5 | 8.4 | 8.6 | 8.7 |
| Whit | 41.7 | 40.1 | 36.2 | 45.9 | 43.2 | 41.4 | 8.7 | 8.8 | 8.8 | 8.2 | 8.8 | 8.7 |
| Jubilee | 43.1 | 41.4 | 44.1 | 45.6 | 43.3 | 43.5 | 8.8 | 8.9 | 9.0 | 8.4 | 8.8 | 8.8 |
| Location Average | 38.5 | 38.0 | 36.7 | 43.9 | 40.1 | 39.4 | 8.6 | 8.7 | 8.7 | 8.4 | 8.6 | 8.6 |

* = club wheat

[†] Aberdeen data is from plots sprayed with fungicide only

Table 74. Percent flour protein and flour yield for hard winter wheat at Aberdeen, Kimberly, Rupert, Ririe and Preston 2011.

| Variety | Flour Protein (14% mb) | | | | | | Flour Yield (%) | | | | | |
|--------------------------------|------------------------|-------------|-----------------------|-------------|-------------|-------------|-----------------|-------------|-----------------------|-------------|-------------|-------------|
| | Kimberly | Rupert | Aberdeen [†] | Ririe | Rockland | Average | Kimberly | Rupert | Aberdeen [†] | Ririe | Rockland | Average |
| Hard Red Winter Wheat | | | | | | | | | | | | |
| AP Paladin | 12.9 | 13.8 | 13.1 | --- | --- | 13.3 | 58.5 | 57.4 | 62.0 | --- | --- | 59.3 |
| Bonneville | 13.1 | 12.9 | 13.3 | 10.9 | 11.5 | 12.3 | 62.9 | 62.5 | 66.8 | 62.5 | 65.4 | 64.0 |
| Boundary | 11.3 | 12.0 | 11.6 | 9.4 | 10.1 | 10.9 | 62.9 | 62.8 | 65.2 | 61.4 | 63.9 | 63.2 |
| WB-Arrowhead | 11.6 | 12.9 | 12.0 | --- | --- | 12.2 | 64.3 | 64.4 | 64.8 | --- | --- | 64.5 |
| Curlew | 12.4 | 12.9 | 13.7 | 10.0 | 11.0 | 12.0 | 60.3 | 60.3 | 61.5 | 62.5 | 64.3 | 61.8 |
| Decade | 12.7 | 14.1 | 13.1 | 10.0 | 11.0 | 12.2 | 62.3 | 60.9 | 64.7 | 61.4 | 65.0 | 62.9 |
| Deloris | 12.1 | 12.7 | 12.6 | 10.2 | 11.1 | 11.7 | 64.6 | 66.9 | 69.7 | 62.8 | 66.5 | 66.1 |
| Eddy | 12.1 | 13.4 | 13.0 | --- | --- | 12.8 | 64.4 | 64.4 | 66.3 | --- | --- | 65.0 |
| Esperia | 11.8 | 13.6 | 12.8 | --- | --- | 12.7 | 62.0 | 60.0 | 63.1 | --- | --- | 61.7 |
| Garland | 12.8 | 12.4 | 12.1 | 10.8 | 10.8 | 11.8 | 52.9 | 58.0 | 60.8 | 59.6 | 60.2 | 58.3 |
| Manning | 12.2 | 12.0 | 12.2 | --- | --- | 12.1 | 57.6 | 62.7 | 64.2 | --- | --- | 61.5 |
| Moreland | 12.0 | 12.8 | 12.4 | 9.8 | 10.5 | 11.5 | 58.5 | 60.3 | 63.9 | 60.7 | 61.5 | 61.0 |
| Norwest 553 | 11.4 | 12.5 | 12.2 | 9.9 | 10.1 | 11.2 | 62.4 | 61.5 | 64.3 | 60.5 | 63.5 | 62.4 |
| Promontory | 11.3 | 12.4 | 11.9 | 9.5 | 10.7 | 11.2 | 63.8 | 63.8 | 65.5 | 61.3 | 65.0 | 63.9 |
| UT9743-42 | 12.5 | 11.5 | 11.3 | --- | 9.9 | 11.3 | 49.8 | 56.5 | 58.8 | --- | 58.2 | 55.8 |
| Utah 100 | 11.9 | 11.8 | 11.4 | 10.1 | 11.0 | 11.2 | 61.2 | 62.1 | 63.3 | 61.1 | 63.6 | 62.3 |
| Weston | 13.1 | 13.3 | 13.4 | 10.7 | 11.4 | 12.4 | 61.6 | 58.9 | 63.6 | 60.9 | 63.5 | 61.7 |
| Whetstone | 12.5 | 13.1 | 12.4 | --- | --- | 12.7 | 61.7 | 61.2 | 62.2 | --- | --- | 61.7 |
| Yellowstone | 12.4 | 13.0 | 11.8 | 9.6 | 10.9 | 11.5 | 60.8 | 61.9 | 64.2 | 60.2 | 63.5 | 62.1 |
| DW | --- | --- | 12.7 | 9.2 | 11.2 | 11.0 | --- | --- | 59.9 | 58.1 | 62.6 | 60.2 |
| Juniper | --- | --- | 13.9 | 9.2 | 11.6 | 11.6 | --- | --- | 61.0 | 61.8 | 63.3 | 62.0 |
| Lucin-CL | --- | --- | 12.7 | 10.3 | 11.6 | 11.5 | --- | --- | 62.0 | 61.9 | 66.6 | 63.5 |
| SRG | --- | --- | --- | 9.7 | 11.3 | 10.5 | --- | --- | --- | 62.1 | 63.6 | 62.9 |
| Location Average | 12.2 | 12.8 | 12.5 | 10.0 | 10.9 | 11.8 | 60.7 | 61.4 | 63.5 | 61.2 | 63.5 | 62.1 |
| Hard White Winter Wheat | | | | | | | | | | | | |
| Golden Spike | 11.7 | 11.0 | 12.3 | 10.0 | 10.7 | 11.1 | 62.4 | 65.3 | 66.5 | 61.6 | 65.9 | 64.3 |
| IDO660 | 12.2 | 13.4 | 13.4 | 9.4 | 11.2 | 11.9 | 59.9 | 55.7 | 62.8 | 58.9 | 61.5 | 59.8 |
| NuHills | 11.5 | 14.3 | 11.9 | --- | --- | 12.6 | 55.3 | 53.8 | 60.9 | --- | --- | 56.7 |
| NuHorizon | 11.2 | 13.0 | 12.0 | 8.9 | 10.5 | 11.1 | 63.2 | 60.4 | 65.4 | 59.8 | 62.5 | 62.3 |
| LHS | 12.0 | 11.3 | 11.5 | 9.5 | 10.2 | 10.9 | 60.1 | 63.1 | 66.0 | 60.1 | 63.8 | 62.6 |
| UI Darwin | --- | --- | 13.3 | 10.6 | 11.6 | 11.8 | --- | --- | 62.7 | 60.6 | 63.2 | 62.2 |
| UI Silver | --- | --- | 11.7 | 10.5 | 10.8 | 11.0 | --- | --- | 64.9 | 62.5 | 63.2 | 63.5 |
| UICF Grace | --- | --- | 13.3 | 8.7 | 10.7 | 10.9 | --- | --- | 58.7 | 59.5 | 58.3 | 58.8 |
| Gary | --- | --- | --- | 8.8 | 10.2 | 9.5 | --- | --- | --- | 60.9 | 62.4 | 61.7 |
| Location Average | 11.7 | 12.6 | 12.4 | 9.6 | 10.7 | 11.2 | 60.2 | 59.7 | 63.5 | 60.5 | 62.6 | 61.3 |

mb= moisture basis

[†]Aberdeen data is from plots sprayed with fungicide only

Table 75. Bake volume for hard winter wheat at Aberdeen, Kimberly, Rupert, Ririe and Preston 2011.

| Variety | Bake Volume (cc) | | | | | Average |
|--------------------------------|-----------------------|-------------|-------------|------------|-------------|-------------|
| | Aberdeen [†] | Kimberly | Rupert | Ririe | Rockland | |
| Hard Red Winter Wheat | | | | | | |
| AP Paladin | 1025 | 1175 | 1125 | --- | --- | 1108 |
| Bonneville | 1050 | 1200 | 1175 | 1000 | 1025 | 1090 |
| Boundary | 975 | 1025 | 900 | 825 | 900 | 925 |
| WB-Arrowhead | 1100 | 1150 | 1100 | --- | --- | 1117 |
| Curlew | 1200 | 1200 | 1075 | 900 | 1050 | 1085 |
| Decade | 1150 | 1150 | 1100 | 925 | 800 | 1025 |
| Deloris | 1150 | 1150 | 1075 | 1000 | 1100 | 1095 |
| Eddy | 1125 | 1175 | 1200 | --- | --- | 1167 |
| Esperia | 1050 | 1175 | 1175 | --- | --- | 1133 |
| Garland | 1025 | 1125 | 950 | 875 | 950 | 985 |
| Manning | 1075 | 1200 | 1050 | --- | --- | 1108 |
| Moreland | 1075 | 1125 | 1025 | 850 | 1000 | 1015 |
| Norwest 553 | 1025 | 1000 | 1025 | 900 | 1025 | 995 |
| Promontory | 1050 | 1050 | 1025 | 800 | 950 | 975 |
| UT9743-42 | 1075 | 1175 | 1000 | --- | 950 | 1050 |
| Utah 100 | 1050 | 1100 | 1050 | 850 | 1025 | 1015 |
| Weston | 1150 | 1225 | 1150 | 900 | 1050 | 1095 |
| Whetstone | 1175 | 1175 | 1100 | --- | --- | 1150 |
| Yellowstone | 1050 | 1150 | 1175 | 800 | 975 | 1030 |
| DW | 1150 | --- | --- | 800 | 1050 | 1000 |
| Juniper | 1200 | --- | --- | 750 | 1025 | 992 |
| Lucin-CL | 1100 | --- | --- | 900 | 1125 | 1042 |
| SRG | --- | --- | --- | 825 | 1000 | 913 |
| Location Average | 1092 | 1143 | 1078 | 869 | 1000 | 1036 |
| Hard White Winter Wheat | | | | | | |
| Golden Spike | 1075 | 1125 | 925 | 850 | 1025 | 1000 |
| IDO660 | 1200 | 1175 | 1125 | 850 | 1100 | 1090 |
| NuHills | 1050 | 1050 | 1150 | --- | --- | 1083 |
| NuHorizon | 1025 | 1000 | 1050 | 725 | 975 | 955 |
| LHS | 1025 | 1150 | 950 | 850 | 950 | 985 |
| UI Darwin | 1125 | --- | --- | 925 | 1075 | 1042 |
| UI Silver | 1100 | --- | --- | 950 | 1050 | 1033 |
| UICF Grace | 1125 | --- | --- | 650 | 950 | 908 |
| Gary | --- | --- | --- | 725 | 900 | 813 |
| Location Average | 1091 | 1100 | 1040 | 816 | 1003 | 1010 |

[†]Aberdeen data is from plots sprayed with fungicide only

Table 76. Percent flour protein and flour yield for hard spring wheat at Rupert, Aberdeen, Idaho Falls, Ashton, and Soda Springs, 2011.

| Variety | Flour Protein (14% mb) | | | | | Flour Yield (%) | | | | |
|--|------------------------|-----------------------|-------------|-------------|----------------------|-----------------|-----------------------|-------------|-------------|----------------------|
| | Rupert | Aberdeen [†] | Idaho Falls | Ashton | Soda Springs Average | Rupert | Aberdeen [†] | Idaho Falls | Ashton | Soda Springs Average |
| Hard Red Spring | | | | | | | | | | |
| 10F x Incl | 12.9 | 13.2 | 12.2 | 11.9 | --- | 12.5 | 58.8 | 63.9 | 59.7 | --- |
| Albany | 11.9 | 12.9 | 11.1 | 10.5 | --- | 11.6 | 64.2 | 64.9 | 56.8 | --- |
| Buck Pronto | 13.9 | 14.7 | 12.9 | 12.4 | --- | 13.5 | 62.4 | 63.4 | 59.0 | --- |
| Bullseye | 13.1 | 13.3 | 12.5 | 11.6 | --- | 12.6 | 62.6 | 63.5 | 58.7 | --- |
| Cabernet | 13.0 | 13.5 | 11.9 | 11.4 | --- | 12.5 | 65.1 | 64.6 | 58.1 | --- |
| Cerere | 11.6 | 11.6 | 10.5 | 9.7 | 12.5 | 11.2 | 60.7 | 63.7 | 50.5 | 56.5 |
| Choteau | 13.6 | 13.6 | 12.5 | 12.0 | 14.4 | 13.2 | 62.5 | 63.5 | 55.7 | 57.3 |
| IDO 702 | 12.7 | 14.2 | 12.2 | 12.6 | --- | 12.9 | 60.4 | 63.9 | 57.4 | --- |
| Iona | 13.4 | 13.9 | 12.9 | 11.7 | 13.7 | 13.1 | 63.5 | 65.7 | 60.8 | 61.3 |
| Jefferson | 12.9 | 13.9 | 11.6 | 11.7 | 13.3 | 12.7 | 64.2 | 66.8 | 63.5 | 64.4 |
| Jerome | 12.6 | 12.4 | 11.6 | 11.3 | 12.8 | 12.1 | 62.6 | 65.3 | 61.6 | 62.5 |
| Kelse | 13.7 | 13.7 | 13.0 | 12.5 | 13.5 | 13.3 | 56.5 | 60.3 | 61.0 | 61.3 |
| Malbec | 13.9 | 13.8 | 12.1 | 11.8 | --- | 12.9 | 62.0 | 62.5 | 59.4 | --- |
| UI Winchester | 13.5 | 13.9 | 12.1 | 11.4 | 13.6 | 12.9 | 60.8 | 63.5 | 59.4 | 60.8 |
| Volt | 12.9 | 13.3 | 12.2 | 11.5 | 12.6 | 12.5 | 60.3 | 60.6 | 55.1 | 58.7 |
| WB-Fuzion | 13.3 | 14.3 | 12.5 | 12.3 | 14.0 | 13.3 | 58.9 | 60.9 | 57.0 | 59.1 |
| WB-Rockland | 13.8 | 15.0 | 13.1 | 12.5 | --- | 13.6 | 58.9 | 60.7 | 54.0 | --- |
| Westbred 936 | 13.6 | 13.6 | 11.8 | 11.4 | 13.8 | 12.8 | 47.6 | 60.5 | 53.7 | 60.6 |
| Location Average | 13.1 | 13.6 | 12.2 | 11.7 | 13.4 | 12.7 | 60.8 | 61.4 | 63.2 | 60.3 |
| Hard White Spring | | | | | | | | | | |
| Blanca Grande | 13.2 | 13.2 | 11.6 | 11.8 | 13.1 | 12.6 | 59.1 | 57.5 | 58.6 | 55.7 |
| Klasic | 12.9 | 13.7 | 12.0 | 11.9 | 12.7 | 12.6 | 60.6 | 54.6 | 63.1 | 56.8 |
| Lochsa | 13.3 | 13.8 | 11.8 | 11.2 | 12.9 | 12.6 | 58.6 | 60.0 | 62.9 | 56.3 |
| Lolo | 12.0 | 12.5 | 11.3 | 10.2 | 12.1 | 11.6 | 53.0 | 57.9 | 58.4 | 54.7 |
| Otis | 12.3 | 12.8 | 11.5 | 10.6 | 12.4 | 11.9 | 59.9 | 62.6 | 61.5 | 57.7 |
| Pristine | 12.7 | 12.7 | 12.2 | 11.4 | 12.8 | 12.4 | 61.0 | 61.4 | 62.5 | 57.2 |
| SY Capstone | 13.1 | 13.2 | 11.7 | 10.9 | --- | 12.2 | 59.1 | 60.4 | 62.5 | 55.0 |
| Snow Crest | 13.3 | 13.8 | 12.1 | 11.3 | 13.1 | 12.7 | 58.1 | 53.5 | 59.1 | 49.4 |
| WA8123 | 13.1 | 13.5 | 12.1 | 11.4 | 12.4 | 12.5 | 63.9 | 60.2 | 64.5 | 57.3 |
| WB-Idamax | 12.9 | 13.7 | 11.7 | 10.4 | 12.6 | 12.3 | 61.3 | 58.2 | 62.6 | 52.4 |
| WB-Paloma | 13.1 | 13.4 | 11.8 | 10.9 | --- | 12.3 | 60.5 | 58.8 | 61.0 | 54.8 |
| Location Average | 12.9 | 13.3 | 11.8 | 11.1 | 12.7 | 12.3 | 59.6 | 58.6 | 61.5 | 55.2 |
| (W) = White | | | | | | | | | | 59.9 |
| mb= moisture basis | | | | | | | | | | |
| [†] Aberdeen data is from plots sprayed with fungicide only | | | | | | | | | | |

Table 77. Bake volume for hard spring wheat, 2011.

| Variety | Bake Volume (cc) | | | | | Average |
|------------------------------|-----------------------|------------|-------------|-------------|--------------|-------------|
| | Aberdeen [†] | Ashton | Idaho Falls | Rupert | Soda Springs | |
| Hard Red Spring Wheat | | | | | | |
| 10F x Inc1 | 1075 | 950 | 1025 | 1100 | --- | 1038 |
| Albany | 1138 | 975 | 975 | 1025 | --- | 1028 |
| Buck Pronto | 1100 | 950 | 1000 | 1025 | --- | 1019 |
| Bullseye | 1175 | 925 | 1125 | 1100 | --- | 1081 |
| Cabernet | 1275 | 1025 | 1175 | 1175 | --- | 1163 |
| Cerere | 925 | 625 | 825 | 900 | 925 | 840 |
| Choteau | 1125 | 1000 | 1050 | 1075 | 1125 | 1075 |
| IDO 702 | 1300 | 1025 | 1100 | 1050 | --- | 1119 |
| Iona | 1275 | 1000 | 1100 | 1100 | 1200 | 1135 |
| Jefferson | 1188 | 975 | 1125 | 1175 | 1200 | 1133 |
| Jerome | 1125 | 975 | 1100 | 1125 | 1150 | 1095 |
| Kelse | 1300 | 975 | 1175 | 1175 | 1400 | 1205 |
| Malbec | 1225 | 1000 | 1025 | 1175 | --- | 1106 |
| UI Winchester | 1188 | 1000 | 1100 | 1200 | 1225 | 1143 |
| Volt | 1113 | 850 | 1050 | 1050 | 1000 | 1013 |
| WB-Fuzion | 1400 | 975 | 1175 | 1225 | 1200 | 1195 |
| WB-Rockland | 1313 | 1050 | 1400 | 1175 | --- | 1234 |
| Westbred 936 | 1188 | 975 | 1050 | 1150 | 1200 | 1113 |
| Location Average | 1190 | 958 | 1088 | 1111 | 1163 | 1096 |

Hard White Spring Wheat

| | | | | | | |
|-------------------------|-------------|------------|-------------|-------------|-------------|-------------|
| Blanca Grande | 1188 | 1100 | 1050 | 1150 | 1200 | 1138 |
| Klasic | 1263 | 1150 | 1150 | 1150 | 1175 | 1178 |
| Lochsa | 1263 | 925 | 1050 | 1125 | 1125 | 1098 |
| Lolo | 1038 | 750 | 950 | 950 | 975 | 933 |
| Otis | 1088 | 875 | 950 | 1075 | 1100 | 1018 |
| Pristine | 988 | 900 | 1025 | 1100 | 1050 | 1013 |
| SY Capstone | 1200 | 975 | 1125 | 1150 | --- | 1113 |
| Snow Crest | 1163 | 975 | 1150 | 1150 | 1175 | 1123 |
| WA8123 | 1213 | 1000 | 1075 | 1050 | 1175 | 1103 |
| WB-Idamax | 1213 | 850 | 1150 | 1100 | 1150 | 1093 |
| WB-Paloma | 1200 | 975 | 1100 | 1150 | --- | 1106 |
| Location Average | 1165 | 952 | 1070 | 1105 | 1125 | 1083 |

(W) = White

[†]Aberdeen data is from plots sprayed with fungicide only

Table 78. Hard Winter Wheat Aberdeen Quality Data, 2011.

| | Flour Protein | | Flour Yield | | Ash Content | |
|--------------|---------------|----------|-------------|----------|-------------|----------|
| | spray | no spray | spray | no spray | spray | no spray |
| AP Paladin | 13.1 | 11.8 | 62.0 | 62.3 | 0.3 | 0.3 |
| Bonneville | 13.3 | 12.6 | 66.8 | 65.7 | 0.3 | 0.3 |
| Boundary | 11.6 | 11.2 | 65.2 | 63.7 | 0.3 | 0.3 |
| WB-Arrowhead | 12.0 | 12.5 | 64.8 | 64.5 | 0.3 | 0.3 |
| Curlew | 13.7 | 12.9 | 61.5 | 65.2 | 0.4 | 0.3 |
| Decade | 13.1 | 12.6 | 64.7 | 60.9 | 0.3 | 0.4 |
| Deloris | 12.6 | 12.5 | 69.7 | 65.4 | 0.3 | 0.3 |
| Eddy | 13.0 | 12.0 | 66.3 | 62.9 | 0.3 | 0.3 |
| Esperia | 12.8 | 13.1 | 63.1 | 61.3 | 0.3 | 0.4 |
| Garland | 12.1 | 11.5 | 60.8 | 57.6 | 0.3 | 0.4 |
| Golden Spike | 12.3 | 11.5 | 66.5 | 66.1 | 0.3 | 0.3 |
| IDO660 (W) | 13.4 | 11.7 | 62.8 | 55.9 | 0.3 | 0.3 |
| Manning | 12.2 | 11.6 | 64.2 | 63.5 | 0.3 | 0.3 |
| Moreland | 12.4 | --- | 63.9 | --- | 0.3 | --- |
| Norwest 553 | 12.2 | 11.8 | 64.3 | 63.8 | 0.3 | 0.3 |
| NuHills | 11.9 | 11.8 | 60.9 | 55.2 | 0.3 | 0.3 |
| NuHorizon | 12.0 | 11.2 | 65.4 | 65.0 | 0.3 | 0.3 |
| Promontory | 11.9 | 11.2 | 65.5 | 65.4 | 0.3 | 0.3 |
| LHS (W) | 11.5 | 11.5 | 66.0 | 63.9 | 0.3 | 0.3 |
| UT9743-42 | 11.3 | 12.2 | 58.8 | 58.9 | 0.3 | 0.3 |
| Utah 100 | 11.4 | 10.9 | 63.3 | 63.1 | 0.3 | 0.3 |
| Weston | 13.4 | 12.3 | 63.6 | 61.8 | 0.3 | 0.3 |
| Whetstone | 12.4 | 12.6 | 62.2 | 56.9 | 0.3 | 0.4 |
| Yellowstone | 11.8 | 11.9 | 64.2 | 64.6 | 0.3 | 0.3 |
| DW | 12.7 | 12.2 | 59.9 | 62.5 | 0.3 | 0.3 |
| Juniper | 13.9 | 12.4 | 61.0 | 61.1 | 0.3 | 0.3 |
| Lucin-CL | 12.7 | 11.6 | 62.0 | 58.8 | 0.3 | 0.3 |
| UI Darwin | 13.3 | 11.9 | 62.7 | 64.4 | 0.3 | 0.3 |
| UI Silver | 11.7 | 11.9 | 64.9 | 65.4 | 0.3 | 0.3 |
| UICF Grace | 13.3 | 13.3 | 58.7 | 57.4 | 0.3 | 0.3 |
| average | 12.5 | 12.0 | 63.5 | 62.2 | 0.3 | 0.3 |

Table 78 (cont.) Hard Winter Wheat Aberdeen Quality Data, 2011.

| | Bake Volume | | Grain Hardness | |
|--------------|-------------|----------|----------------|----------|
| | spray | no spray | spray | no spray |
| AP Paladin | 1025 | 1050 | 81 | 74 |
| Bonneville | 1050 | 1075 | 83 | 78 |
| Boundary | 975 | 1025 | 80 | 79 |
| WB-Arrowhead | 1100 | 1125 | 74 | 72 |
| Curlew | 1200 | 1125 | 75 | 79 |
| Decade | 1150 | 1100 | 74 | 61 |
| Deloris | 1150 | 1050 | 81 | 70 |
| Eddy | 1125 | 1125 | 69 | 63 |
| Esperia | 1050 | 1100 | 70 | 69 |
| Garland | 1025 | 1025 | 64 | 64 |
| Golden Spike | 1075 | 1050 | 67 | 76 |
| IDO660 (W) | 1200 | 1200 | 85 | 67 |
| Manning | 1075 | 1075 | 83 | 74 |
| Moreland | 1075 | --- | 78 | --- |
| Norwest 553 | 1025 | 1100 | 76 | 75 |
| NuHills | 1050 | 1050 | 62 | 49 |
| NuHorizon | 1025 | 1050 | 75 | 69 |
| Promontory | 1050 | 1025 | 75 | 69 |
| LHS (W) | 1025 | 1050 | 75 | 76 |
| UT9743-42 | 1075 | 1175 | 71 | 67 |
| Utah 100 | 1050 | 1075 | 92 | 86 |
| Weston | 1150 | 1150 | 69 | 62 |
| Whetstone | 1175 | 1175 | 75 | 66 |
| Yellowstone | 1050 | 1125 | 75 | 70 |
| DW | 1150 | 1175 | 77 | 78 |
| Juniper | 1200 | 1150 | 88 | 86 |
| Lucin-CL | 1100 | 1100 | 78 | 64 |
| UI Darwin | 1125 | 1100 | 79 | 76 |
| UI Silver | 1100 | 1125 | 93 | 89 |
| UICF Grace | 1125 | 1125 | 97 | 86 |
| average | 1092 | 1099 | 77 | 72 |

Table 79. Soft White Winter Aberdeen Quality Data, 2011

| | Flour Protein | | Flour Yield | | Ash Content | |
|----------------|---------------|----------|-------------|----------|-------------|----------|
| | spray | no spray | spray | no spray | spray | no spray |
| 00-475-2DH | 9.0 | 9.5 | 67.1 | 64.1 | 0.4 | 0.4 |
| 03PN108#21 | 8.9 | 9.7 | 66.0 | 64.5 | 0.4 | 0.4 |
| 96-16702 | 9.2 | 9.6 | 65.4 | 65.1 | 0.4 | 0.4 |
| Agripro Legion | 8.6 | 9.7 | 63.2 | 59.9 | 0.4 | 0.4 |
| Agripro Salute | 9.4 | 9.8 | 63.8 | 63.4 | 0.4 | 0.4 |
| AP Badger | 9.6 | 9.6 | 62.5 | 64.6 | 0.4 | 0.4 |
| AP Legacy | 9.1 | 9.3 | 65.8 | 61.5 | 0.4 | 0.4 |
| Bitterroot | 9.7 | 9.3 | 63.9 | 66.6 | 0.4 | 0.4 |
| Brundage | 9.2 | 9.4 | 64.3 | 55.4 | 0.4 | 0.4 |
| Brundage 96 | 8.5 | 9.5 | 64.5 | 62.1 | 0.4 | 0.4 |
| Bruneau | 9.4 | 8.9 | 63.2 | 64.3 | 0.4 | 0.4 |
| BZ 6W02-647AA | 8.8 | 9.0 | 61.2 | 55.8 | 0.4 | 0.4 |
| WB-Junction | 9.4 | 9.7 | 59.3 | 60.8 | 0.4 | 0.4 |
| Coda | 9.6 | 10.5 | 64.3 | 64.0 | 0.4 | 0.4 |
| Goetze | 9.3 | 10.4 | 61.1 | 54.8 | 0.4 | 0.4 |
| ID98-19010A | 8.1 | 9.3 | 63.1 | 55.6 | 0.4 | 0.4 |
| IDO663 | 10.1 | 9.4 | 61.7 | 64.7 | 0.4 | 0.4 |
| Lambert | 9.4 | 9.9 | 63.4 | 63.6 | 0.4 | 0.4 |
| Madsen | 10.2 | 10.2 | 63.2 | 66.0 | 0.4 | 0.4 |
| ORCF-101 | 10.7 | 10.1 | 62.5 | 62.5 | 0.4 | 0.4 |
| ORCF-102 | 9.6 | 9.8 | 63.7 | 62.4 | 0.4 | 0.4 |
| Simon | 10.7 | 10.4 | 65.0 | 67.5 | 0.4 | 0.4 |
| Skiles | 10.0 | 9.4 | 61.1 | 61.1 | 0.4 | 0.4 |
| Stephens | 9.8 | 9.5 | 60.7 | 60.6 | 0.4 | 0.4 |
| UICF Brundage | 10.1 | 9.1 | 59.0 | 59.6 | 0.4 | 0.4 |
| UICF Lambert | 10.1 | 10.1 | 63.8 | 64.0 | 0.4 | 0.4 |
| WA8092 | 9.8 | 10.3 | 55.4 | 56.8 | 0.4 | 0.4 |
| WB 456 | 10.0 | 10.5 | 64.6 | 64.4 | 0.4 | 0.4 |
| WB 528 | 9.8 | 10.1 | 65.5 | 61.6 | 0.4 | 0.4 |
| Average | 9.5 | 9.7 | 63.1 | 61.6 | 0.4 | 0.4 |

Table 79 (cont.) Soft White Winter Aberdeen Quality Data, 2011

| | Break Flour | | Hardness | | Cookie Diameter | |
|----------------|-------------|----------|----------|----------|-----------------|----------|
| | spray | no spray | spray | no spray | spray | no spray |
| 00-475-2DH | 37.7 | 39.2 | 25.0 | 25.0 | 8.6 | 8.8 |
| 03PN108#21 | 35.2 | 34.5 | 30.0 | 27.0 | 8.7 | 8.7 |
| 96-16702 | 37.0 | 37.3 | 32.0 | 31.0 | 8.8 | 8.9 |
| Agripro Legion | 36.9 | 38.1 | 26.0 | 26.0 | 8.6 | 8.5 |
| Agripro Salute | 31.7 | 33.9 | 35.0 | 31.0 | 8.6 | 8.6 |
| AP Badger | 29.8 | 29.6 | 33.0 | 33.0 | 8.6 | 8.4 |
| AP Legacy | 36.4 | 41.8 | 34.0 | 24.0 | 8.6 | 8.8 |
| Bitterroot | 38.2 | 38.3 | 21.0 | 27.0 | 8.7 | 8.7 |
| Brundage | 36.4 | 45.8 | 25.0 | 13.0 | 8.7 | 8.8 |
| Brundage 96 | 37.7 | 38.5 | 27.0 | 27.0 | 8.9 | 9.1 |
| Bruneau | 37.1 | 38.4 | 24.0 | 21.0 | 8.8 | 8.9 |
| BZ 6W02-647AA | 36.3 | 41.9 | 24.0 | 18.0 | 8.8 | 8.8 |
| WB-Junction | 40.6 | 41.9 | 20.0 | 22.0 | 8.7 | 8.8 |
| Coda | 35.7 | 35.6 | 33.0 | 28.0 | 8.7 | 8.7 |
| Goetze | 34.9 | 37.4 | 32.0 | 23.0 | 8.6 | 8.6 |
| ID98-19010A | 45.0 | 50.3 | 12.0 | 7.0 | 8.8 | 8.8 |
| IDO663 | 36.1 | 37.1 | 27.0 | 25.0 | 8.6 | 8.9 |
| Lambert | 33.5 | 32.3 | 34.0 | 36.0 | 8.5 | 8.7 |
| Madsen | 38.6 | 34.6 | 27.0 | 31.0 | 8.5 | 8.4 |
| ORCF-101 | 32.1 | 32.3 | 29.0 | 28.0 | 8.5 | 8.4 |
| ORCF-102 | 33.1 | 37.4 | 36.0 | 24.0 | 8.6 | 8.4 |
| Simon | 33.8 | 29.7 | 35.0 | 41.0 | 8.6 | 8.3 |
| Skiles | 39.4 | 39.3 | 25.0 | 20.0 | 8.7 | 8.8 |
| Stephens | 35.5 | 37.4 | 31.0 | 31.0 | 8.5 | 8.5 |
| UICF Brundage | 41.7 | 40.3 | 19.0 | 21.0 | 8.7 | 8.9 |
| UICF Lambert | 33.5 | 33.3 | 38.0 | 36.0 | 8.5 | 8.6 |
| WA8092 | 37.6 | 40.2 | 25.0 | 21.0 | 8.7 | 8.7 |
| WB 456 | 33.2 | 34.1 | 39.0 | 33.0 | 8.6 | 8.5 |
| WB 528 | 34.5 | 35.9 | 37.0 | 29.0 | 8.5 | 8.6 |
| Average | 36.2 | 37.8 | 28.7 | 25.7 | 8.6 | 8.7 |

Table 79 (cont.) Soft White Winter Aberdeen Quality Data, 2011

| | Top Grain | | Sucrose | | Sodium Carbonate | | Lactic Acid | |
|----------------|-----------|----------|---------|----------|------------------|----------|-------------|----------|
| | spray | no spray | spray | no spray | spray | no spray | spray | no spray |
| 00-475-2DH | 2 | 3 | 89.0 | 87.4 | 60.3 | 60.1 | 109.7 | 106.6 |
| 03PN108#21 | 3 | 3 | 86.0 | 84.5 | 59.4 | 60.9 | 83.3 | 86.0 |
| 96-16702 | 3 | 4 | 85.3 | 83.6 | 57.3 | 58.2 | 82.9 | 77.1 |
| Agripro Legion | 3 | 3 | 90.4 | 90.6 | 62.1 | 62.3 | 76.1 | 78.2 |
| Agripro Salute | 5 | 4 | 87.8 | 87.2 | 61.5 | 62.3 | 77.3 | 70.6 |
| AP Badger | 1 | 4 | 90.5 | 87.6 | 62.2 | 62.8 | 109.2 | 99.9 |
| AP Legacy | 2 | 2 | 88.5 | 87.0 | 62.3 | 61.1 | 106.3 | 91.0 |
| Bitterroot | 2 | 5 | 90.3 | 85.6 | 58.8 | 61.3 | 94.7 | 83.0 |
| Brundage | 4 | 2 | 86.8 | 89.0 | 60.0 | 62.7 | 82.6 | 84.2 |
| Brundage 96 | 4 | 2 | 84.7 | 84.9 | 57.5 | 59.1 | 77.7 | 76.7 |
| Bruneau | 4 | 4 | 92.9 | 87.1 | 60.2 | 60.9 | 104.7 | 93.5 |
| BZ 6W02-647AA | 3 | 4 | 93.3 | 92.1 | 61.7 | 63.6 | 81.5 | 76.1 |
| WB-Junction | 3 | 3 | 89.6 | 87.6 | 59.7 | 59.7 | 79.5 | 78.1 |
| Coda | 3 | 3 | 88.7 | 87.4 | 58.8 | 59.1 | 70.1 | 69.2 |
| Goetze | 3 | 3 | 91.9 | 93.5 | 61.9 | 61.1 | 86.9 | 93.6 |
| ID98-19010A | 3 | 2 | 89.0 | 94.3 | 59.6 | 62.7 | 80.4 | 92.1 |
| IDO663 | 2 | 5 | 90.1 | 88.1 | 59.9 | 59.5 | 84.2 | 76.2 |
| Lambert | 2 | 2 | 95.2 | 92.9 | 63.9 | 63.7 | 92.1 | 78.0 |
| Madsen | 1 | 2 | 94.1 | 91.6 | 62.6 | 63.8 | 102.1 | 81.6 |
| ORCF-101 | 1 | 3 | 92.0 | 90.2 | 62.3 | 63.0 | 89.2 | 67.9 |
| ORCF-102 | 3 | 2 | 91.1 | 94.8 | 62.6 | 64.3 | 86.8 | 82.6 |
| Simon | 2 | 2 | 88.3 | 88.3 | 62.9 | 63.3 | 88.6 | 72.4 |
| Skiles | 3 | 3 | 90.0 | 91.6 | 62.2 | 62.0 | 107.0 | 100.1 |
| Stephens | 2 | 2 | 95.7 | 100.8 | 66.9 | 64.5 | 103.0 | 105.1 |
| UICF Brundage | 1 | 3 | 89.7 | 88.0 | 59.8 | 59.6 | 100.0 | 84.9 |
| UICF Lambert | 2 | 2 | 91.4 | 90.9 | 62.1 | 62.1 | 91.5 | 78.1 |
| WA8092 | 3 | 3 | 93.5 | 94.4 | 66.2 | 62.9 | 114.2 | 107.5 |
| WB 456 | 3 | 3 | 87.7 | 87.8 | 60.1 | 59.8 | 89.1 | 79.9 |
| WB 528 | 3 | 3 | 86.4 | 89.9 | 60.9 | 60.9 | 78.5 | 86.6 |
| Average | 2.6 | 2.9 | 89.9 | 89.7 | 61.2 | 61.7 | 90.3 | 84.9 |

Table 80. Aberdeen 2011 Soft White Spring Wheat Quality Data

| | Flour Protein | | Flour Yield | | Ash Content | |
|-----------|---------------|----------|-------------|----------|-------------|----------|
| | spray | no spray | spray | no spray | spray | no spray |
| Alpowa | 9.1 | 8.3 | 56.3 | 55.6 | 0.4 | 0.3 |
| Alturas | 9.0 | 8.0 | 63.2 | 61.8 | 0.4 | 0.3 |
| Babe | 8.8 | 8.5 | 59.7 | 57.7 | 0.4 | 0.4 |
| Cataldo | 9.5 | 9.1 | 60.6 | 58.9 | 0.4 | 0.4 |
| UI Stone | 9.0 | 8.5 | 64.4 | 61.9 | 0.4 | 0.4 |
| IDO 644 | 8.9 | 8.7 | 63.6 | 60.1 | 0.3 | 0.4 |
| IDO 668 | 9.4 | 9.4 | 63.1 | 59.0 | 0.4 | 0.4 |
| IDO 669 | 9.2 | 9.1 | 62.0 | 56.8 | 0.4 | 0.4 |
| IDO 671 | 8.6 | 9.1 | 58.8 | 60.1 | 0.4 | 0.4 |
| IDO 686 | 9.7 | 9.5 | 64.7 | 62.5 | 0.4 | 0.4 |
| IDO 687 | 9.2 | 9.1 | 60.9 | 59.6 | 0.4 | 0.4 |
| JD (club) | 9.9 | 9.2 | 64.0 | 65.7 | 0.4 | 0.4 |
| Nick | 9.3 | 9.1 | 58.5 | 55.0 | 0.4 | 0.4 |
| Penawawa | 9.5 | 9.1 | 54.2 | 51.5 | 0.4 | 0.4 |
| UI Pettit | 8.7 | 8.3 | 64.3 | 59.7 | 0.4 | 0.4 |
| Whit | 9.3 | 8.7 | 58.7 | 57.0 | 0.4 | 0.4 |
| Jubilee | 8.6 | 8.7 | 62.6 | 58.7 | 0.3 | 0.4 |
| average | 9.1 | 8.8 | 61.2 | 58.9 | 0.4 | 0.4 |
| CV | 3.4 | | 3.2 | | 1.3 | |
| main*var | 0.2659 | | 0.5348 | | 0.0662 | |
| main | 0.7233 | | 0.3237 | | 0.4523 | |

Table 80 (cont.) Aberdeen 2011 Soft White Spring Wheat Quality Data

| | Break Flour | | | Cookie Diameter | |
|-----------|-------------|---------------|---------------|-----------------|----------|
| | spray | no spray | Pr > F | spray | no spray |
| Alpowa | 40.7 | 41.3 | 0.6654 | 8.6 | 8.5 |
| Alturas | 35.8 | 38.9 | 0.0283 | 8.6 | 8.6 |
| Babe | 36.8 | 38.2 | 0.3158 | 8.6 | 8.5 |
| Cataldo | 35.8 | 35.5 | 0.8286 | 8.5 | 8.5 |
| UI Stone | 37.5 | 39.3 | 0.1993 | 8.8 | 8.8 |
| IDO 644 | 34.7 | 36.7 | 0.155 | 8.4 | 8.4 |
| IDO 668 | 34.0 | 34.1 | 0.9712 | 8.5 | 8.4 |
| IDO 669 | 42.4 | 41.8 | 0.6654 | 8.9 | 8.8 |
| IDO 671 | 34.3 | 39.2 | 0.0011 | 8.7 | 8.5 |
| IDO 686 | 35.0 | 37.3 | 0.1036 | 8.5 | 8.4 |
| IDO 687 | 43.9 | 42.5 | 0.2991 | 8.7 | 8.7 |
| JD (club) | 36.7 | 35.7 | 0.4944 | 8.7 | 8.8 |
| Nick | 33.9 | 38.2 | 0.0036 | 8.7 | 8.6 |
| Penawawa | 38.8 | 40.9 | 0.1272 | 8.7 | 8.5 |
| UI Pettit | 36.1 | 40.0 | 0.0084 | 8.9 | 8.7 |
| Whit | 39.9 | 40.5 | 0.6654 | 8.8 | 8.7 |
| Jubilee | 40.6 | 44.6 | 0.0058 | 8.8 | 8.7 |
| average | 37.3 | 39.1 | | 8.7 | 8.6 |
| CV | | 3.6 | | | 1.2 |
| main*var | | 0.0284 | | | 0.7603 |
| main | | 0.2218 | | | 0.1943 |

Table 80 (cont.) Aberdeen 2011 Soft White Spring Wheat Quality Data

| | Kernel Hardness | | | Grain Protein | |
|-----------|-----------------|---------------|------------------|---------------|----------|
| | spray | no spray | Pr > F | spray | no spray |
| Alpowa | 18.5 | 13.0 | 0.0027 | 12.0 | 10.6 |
| Alturas | 13.5 | 12.0 | 0.3837 | 11.3 | 9.9 |
| Babe | 13.5 | 12.5 | 0.5602 | 11.8 | 11.0 |
| Cataldo | 14.5 | 14.5 | 1.0000 | 12.0 | 11.6 |
| UI Stone | 17.5 | 12.5 | 0.0058 | 11.4 | 10.5 |
| IDO 644 | 23.0 | 19.0 | 0.0245 | 11.7 | 11.4 |
| IDO 668 | 10.5 | 6.0 | 0.0122 | 12.1 | 11.6 |
| IDO 669 | 15.5 | 14.5 | 0.5602 | 11.7 | 11.5 |
| IDO 671 | 15.0 | 13.5 | 0.3837 | 11.1 | 11.4 |
| IDO 686 | 14.5 | 11.0 | 0.0472 | 11.8 | 11.6 |
| IDO 687 | 13.5 | 14.0 | 0.7704 | 11.5 | 11.5 |
| JD (club) | 21.5 | 26.5 | 0.0058 | 12.8 | 12.0 |
| Nick | 16.5 | 9.0 | <.0001 | 11.9 | 11.5 |
| Penawawa | 11.5 | 10.5 | 0.5602 | 12.1 | 12.0 |
| UI Pettit | 19.5 | 14.5 | 0.0058 | 10.7 | 10.4 |
| Whit | 18.5 | 12.5 | 0.0012 | 12.1 | 11.2 |
| Jubilee | 21.0 | 18.0 | 0.0865 | 11.1 | 11.4 |
| average | 16.3 | 13.6 | | 11.7 | 11.2 |
| CV | | 11.4 | | | 4.0 |
| main*var | | 0.0032 | | | 0.2354 |
| main | | 0.3362 | | | 0.0614 |

Table 80 (cont.) Aberdeen 2011 Soft White Spring Wheat Quality Data

| | Top Grain Score | | |
|-----------|-----------------|---------------|------------------|
| | spray | no spray | Pr > F |
| Alpowa | 4.0 | 2.0 | 0.0478 |
| Alturas | 4.5 | 3.0 | 0.1328 |
| Babe | 3.0 | 1.5 | 0.1328 |
| Cataldo | 2.0 | 1.0 | 0.3118 |
| UI Stone | 6.0 | 2.5 | 0.0010 |
| IDO 644 | 5.0 | 3.0 | 0.0478 |
| IDO 668 | 5.0 | 2.0 | 0.0041 |
| IDO 669 | 4.5 | 1.5 | 0.0041 |
| IDO 671 | 4.0 | 1.5 | 0.0148 |
| IDO 686 | 2.5 | 1.5 | 0.3118 |
| IDO 687 | 4.0 | 3.0 | 0.3118 |
| JD (club) | 4.5 | 6.0 | 0.1328 |
| Nick | 2.5 | 2.5 | 1.0000 |
| Penawawa | 1.5 | 2.5 | 0.3118 |
| UI Pettit | 6.5 | 2.0 | <.0001 |
| Whit | 3.5 | 1.5 | 0.0478 |
| Jubilee | 5.5 | 3.0 | 0.0148 |
| average | 4.1 | 2.4 | |
| CV | | 30.1 | |
| main*var | | 0.0162 | |
| main | | 0.0933 | |

Table 80 (cont.) Aberdeen 2011 Soft White Spring Wheat Quality Data

| | water stirring numbers | | silver nitrate stirring numbers | |
|-----------|---------------------------|----------|------------------------------------|----------|
| | spray | no spray | spray | no spray |
| Alpowa | 115.8 | 118.8 | 108.6 | 118.3 |
| Alturas | 103.4 | 96.5 | 100.8 | 102.0 |
| Babe | 118.5 | 117.1 | 113.4 | 118.3 |
| Cataldo | 104.3 | 103.2 | 104.4 | 108.0 |
| UI Stone | 114.5 | 115.1 | 111.5 | 114.1 |
| IDO 644 | 105.3 | 112.6 | 115.3 | 112.3 |
| IDO 668 | 104.8 | 103.3 | 104.2 | 105.0 |
| IDO 669 | 106.1 | 105.1 | 100.5 | 106.6 |
| IDO 671 | 96.3 | 101.6 | 95.4 | 99.1 |
| IDO 686 | 95.0 | 98.8 | 102.0 | 105.0 |
| IDO 687 | 112.7 | 103.8 | 112.2 | 116.2 |
| JD (club) | 116.5 | 115.9 | 117.5 | 121.4 |
| Nick | 91.8 | 94.5 | 96.7 | 100.8 |
| Penawawa | 113.3 | 108.1 | 109.2 | 110.5 |
| UI Pettit | 118.5 | 113.5 | 104.1 | 115.8 |
| Whit | 105.3 | 104.9 | 100.9 | 104.3 |
| Jubilee | 117.0 | 116.2 | 115.4 | 115.3 |
| average | 108.1 | 107.4 | 105.8 | 109.9 |
| CV | | 4.1 | | 4.1 |
| main*var | | 0.5841 | | 0.7431 |
| main | | 0.9277 | | 0.5745 |

Table 81. 2011 Aberdeen Hard Spring Wheat Quality Data

| | Flour Protein | | | Flour Yield | | |
|-----------------------------------|---------------|-------------|--------|---------------|----------|---------------|
| | spray | no spray | Pr > F | spray | no spray | Pr > F |
| 10F x Inc1 | 13.2 | 11.9 | 0.0130 | 58.8 | 62.7 | 0.0151 |
| Albany | 12.9 | 12.1 | 0.1199 | 62.5 | 64.7 | 0.1627 |
| Buck Pronto | 14.7 | 14.0 | 0.1725 | 59.9 | 61.4 | 0.3389 |
| Bullseye | 13.3 | 13.0 | 0.5560 | 63.4 | 63.2 | 0.9235 |
| Cabernet | 13.5 | 12.4 | 0.0342 | 63.8 | 64.4 | 0.7011 |
| Cerere | 11.6 | 10.9 | 0.1443 | 62.2 | 61.7 | 0.7733 |
| Choteau | 13.6 | 13.8 | 0.6944 | 61.5 | 61.7 | 0.8728 |
| IDO 702 | 14.2 | 12.5 | 0.0014 | 58.8 | 62.1 | 0.0383 |
| Iona | 13.9 | 12.3 | 0.0026 | 63.8 | 65.3 | 0.3551 |
| Jefferson | 13.9 | 13.2 | 0.1725 | 65.1 | 64.9 | 0.8728 |
| Jerome | 12.4 | 12.1 | 0.5560 | 65.3 | 62.8 | 0.1136 |
| Kelse | 13.7 | 14.2 | 0.3278 | 60.3 | 56.9 | 0.0330 |
| Malbec | 13.8 | 13.1 | 0.2047 | 62.9 | 62.5 | 0.7979 |
| UI Winchester | 13.9 | 13.4 | 0.2822 | 58.9 | 60.5 | 0.3232 |
| Volt | 13.3 | 13.4 | 0.8442 | 60.3 | 61.1 | 0.6089 |
| WB-Fuzion | 14.3 | 13.4 | 0.0811 | 59.1 | 58.6 | 0.7490 |
| WB-Rockland | 15.0 | 14.6 | 0.4924 | 60.7 | 59.2 | 0.3232 |
| Westbred 936 | 13.6 | 12.4 | 0.0537 | 57.4 | 54.7 | 0.1741 |
| Blanca Grande (W) | 13.2 | 13.2 | 0.9217 | 57.5 | 58.7 | 0.4435 |
| Klasic (W) | 13.7 | 12.4 | 0.0167 | 54.6 | 60.0 | 0.0011 |
| Lochsa (W) | 13.8 | 12.6 | 0.0271 | 60.0 | 53.7 | 0.0002 |
| Lolo (W) | 12.5 | 11.2 | 0.0130 | 57.9 | 57.2 | 0.6543 |
| Otis (W) | 12.8 | 12.2 | 0.2047 | 62.6 | 63.4 | 0.5868 |
| Pristine (W) | 12.7 | 12.1 | 0.2047 | 61.4 | 63.2 | 0.2520 |
| SY Capstone (W) | 13.2 | 12.0 | 0.0214 | 60.4 | 60.1 | 0.8728 |
| Snow Crest (W) | 13.8 | 13.1 | 0.2047 | 53.5 | 55.1 | 0.2932 |
| WA8123 (W) | 13.5 | 13.6 | 0.9217 | 60.2 | 61.5 | 0.3890 |
| WB-Idamax (W) | 13.7 | 13.2 | 0.3278 | 58.2 | 59.0 | 0.5868 |
| WB-Paloma (W) | 13.4 | 12.4 | 0.0534 | 58.8 | 60.8 | 0.2037 |
| average | 13.5 | 12.8 | | 60.3 | 60.7 | |
| CV% | | 3.9 | | | 2.6 | |
| spray*variety | | 0.3351 | | 0.0093 | | |
| spray (main) | 0.0180 | | | 0.4486 | | |
| spray*var interaction NS | | | | | | |
| Varieties responded same to spray | | | | | | |

Table 81 (cont.) 2011 Aberdeen Hard Spring Wheat Quality Data

| | Ash Content | | | Mix Height | | |
|-------------------|-------------|---------------|------------------|------------|---------------|---------------|
| | spray | no spray | Pr > F | spray | no spray | Pr > F |
| 10F x Incl | 0.3 | 0.3 | 0.0333 | 6.9 | 6.0 | 0.0003 |
| Albany | 0.3 | 0.3 | 1.0000 | 6.1 | 6.3 | 0.2599 |
| Buck Pronto | 0.3 | 0.3 | 0.7806 | 6.4 | 6.1 | 0.1775 |
| Bullseye | 0.3 | 0.3 | 0.7806 | 6.4 | 6.5 | 0.4975 |
| Cabernet | 0.3 | 0.3 | 0.6560 | 6.3 | 5.6 | 0.0024 |
| Cerere | 0.3 | 0.3 | 0.5405 | 5.1 | 4.7 | 0.0740 |
| Choteau | 0.3 | 0.3 | 0.2677 | 6.2 | 5.9 | 0.1775 |
| IDO 702 | 0.3 | 0.3 | 0.0430 | 6.4 | 5.9 | 0.0267 |
| Iona | 0.3 | 0.3 | 0.1512 | 6.2 | 5.7 | 0.0153 |
| Jefferson | 0.3 | 0.3 | 0.5045 | 5.5 | 5.7 | 0.3664 |
| Jerome | 0.3 | 0.3 | 0.8672 | 6.5 | 5.6 | 0.0003 |
| Kelse | 0.3 | 0.3 | 0.9113 | 6.4 | 6.3 | 0.6506 |
| Malbec | 0.3 | 0.3 | 0.9113 | 6.7 | 6.3 | 0.0740 |
| UI Winchester | 0.3 | 0.3 | 0.5405 | 6.1 | 6.4 | 0.1167 |
| Volt | 0.3 | 0.3 | 0.8236 | 6.6 | 6.0 | 0.0153 |
| WB-Fuzion | 0.3 | 0.3 | 0.4365 | 6.5 | 6.4 | 0.6506 |
| WB-Rockland | 0.3 | 0.3 | 0.6560 | 6.9 | 6.6 | 0.1167 |
| Westbred 936 | 0.3 | 0.4 | 0.4355 | 6.1 | 5.6 | 0.1347 |
| Blanca Grande (W) | 0.3 | 0.3 | 0.6164 | 6.6 | 6.6 | 0.8207 |
| Klasic (W) | 0.3 | 0.3 | 0.0147 | 5.8 | 5.4 | 0.0740 |
| Lochsa (W) | 0.3 | 0.4 | <.0001 | 6.3 | 6.0 | 0.2599 |
| Lolo (W) | 0.3 | 0.3 | 0.2233 | 5.8 | 5.2 | 0.0045 |
| Otis (W) | 0.3 | 0.3 | 0.8236 | 6.0 | 5.8 | 0.4975 |
| Pristine (W) | 0.3 | 0.3 | 0.4698 | 5.6 | 5.5 | 0.6506 |
| SY Capstone (W) | 0.3 | 0.3 | 0.4365 | 6.1 | 5.6 | 0.0452 |
| Snow Crest (W) | 0.3 | 0.3 | 0.7382 | 6.4 | 5.8 | 0.0153 |
| WA8123 (W) | 0.3 | 0.3 | 0.8236 | 6.4 | 6.3 | 0.8207 |
| WB-Idamax (W) | 0.3 | 0.3 | 0.4698 | 6.1 | 5.8 | 0.1775 |
| WB-Paloma (W) | 0.3 | 0.3 | 0.1512 | 6.2 | 6.1 | 0.6506 |
| average | 0.3 | 0.3 | | 6.2 | 5.9 | |
| CV% | | 2.8 | | | 3.6 | |
| spray*variety | | 0.0172 | | | 0.0133 | |
| spray (main) | | 0.8442 | | | 0.0561 | |

Table 81 (cont.) 2011 Aberdeen Hard Spring Wheat Quality Data

| | Bake Volume | | Pr > F |
|-------------------|-------------|---------------|------------------|
| | spray | no spray | |
| 10F x Inc1 | 1075.0 | 1062.5 | 0.8240 |
| Albany | 1137.5 | 1162.5 | 0.6567 |
| Buck Pronto | 1100.0 | 1100.0 | 1.0000 |
| Bullseye | 1175.0 | 1150.0 | 0.6567 |
| Cabernet | 1275.0 | 1275.0 | 1.0000 |
| Cerere | 925.0 | 900.0 | 0.6567 |
| Choteau | 1125.0 | 1175.0 | 0.3753 |
| IDO 702 | 1300.0 | 1050.0 | <.0001 |
| Iona | 1275.0 | 1100.0 | 0.0028 |
| Jefferson | 1187.5 | 1150.0 | 0.5054 |
| Jerome | 1125.0 | 1137.5 | 0.8240 |
| Kelse | 1300.0 | 1237.5 | 0.2687 |
| Malbec | 1225.0 | 1200.0 | 0.6567 |
| UI Winchester | 1187.5 | 1275.0 | 0.1235 |
| Volt | 1112.5 | 1087.5 | 0.6567 |
| WB-Fuzion | 1400.0 | 1200.0 | 0.0007 |
| WB-Rockland | 1312.5 | 1275.0 | 0.5054 |
| Westbred 936 | 1187.5 | 1058.5 | 0.0665 |
| Blanca Grande (W) | 1187.5 | 1225.0 | 0.5054 |
| Klasic (W) | 1262.5 | 1125.0 | 0.0171 |
| Lochsa (W) | 1262.5 | 1162.5 | 0.0793 |
| Lolo (W) | 1037.5 | 925.0 | 0.0492 |
| Otis (W) | 1087.5 | 1137.5 | 0.3753 |
| Pristine (W) | 987.5 | 1075.0 | 0.1235 |
| SY Capstone (W) | 1200.0 | 1125.0 | 0.1855 |
| Snow Crest (W) | 1162.5 | 1150.0 | 0.8240 |
| WA8123 (W) | 1212.5 | 1162.5 | 0.3753 |
| WB-Idamax (W) | 1212.5 | 1162.5 | 0.3753 |
| WB-Paloma (W) | 1200.0 | 1075.0 | 0.0295 |
| average | 1180.6 | 1135.2 | |
| CV% | | 4.8 | |
| spray*variety | | 0.0080 | |
| spray (main) | | 0.5325 | |

Table 81 (cont.) 2011 Aberdeen Hard Spring Wheat Quality Data

| | grain protein | | | Kernel Hardness | | |
|-----------------------------------|---------------|---------------|--------|-----------------|---------------|------------------|
| | spray | no spray | Pr > F | spray | no spray | Pr > F |
| 10F x Inc1 | 14.1 | 12.9 | 0.0352 | 73.0 | 73.5 | 0.8540 |
| Albany | 13.8 | 13.0 | 0.1394 | 71.5 | 66.0 | 0.0469 |
| Buck Pronto | 15.7 | 14.9 | 0.1654 | 65.5 | 59.5 | 0.0307 |
| Bullseye | 14.2 | 13.9 | 0.6415 | 76.5 | 69.5 | 0.0123 |
| Cabernet | 14.0 | 12.9 | 0.0539 | 53.5 | 49.0 | 0.1019 |
| Cerere | 12.5 | 11.9 | 0.2284 | 59.0 | 56.0 | 0.2722 |
| Choteau | 14.5 | 14.6 | 0.9258 | 75.5 | 69.0 | 0.0197 |
| IDO 702 | 15.0 | 13.1 | 0.0007 | 70.5 | 62.0 | 0.0027 |
| Iona | 14.5 | 13.0 | 0.0066 | 59.0 | 58.5 | 0.8540 |
| Jefferson | 14.7 | 13.9 | 0.1654 | 70.5 | 65.0 | 0.0469 |
| Jerome | 13.3 | 12.9 | 0.4029 | 65.5 | 55.0 | 0.0003 |
| Kelse | 14.7 | 15.2 | 0.3073 | 65.0 | 60.0 | 0.0699 |
| Malbec | 14.4 | 13.7 | 0.1950 | 72.5 | 69.0 | 0.2011 |
| UI Winchester | 14.7 | 14.0 | 0.2284 | 57.5 | 54.5 | 0.2722 |
| Volt | 14.6 | 14.5 | 0.9258 | 82.5 | 82.0 | 0.8540 |
| WB-Fuzion | 15.2 | 14.3 | 0.0803 | 75.5 | 70.0 | 0.0469 |
| WB-Rockland | 15.5 | 15.3 | 0.7095 | 70.0 | 65.5 | 0.1019 |
| Westbred 936 | 14.3 | 13.0 | 0.0545 | 63.0 | 50.9 | 0.0006 |
| Blanca Grande (W) | 13.8 | 13.8 | 1.0000 | 46.5 | 49.5 | 0.2722 |
| Klasic (W) | 14.5 | 12.9 | 0.0051 | 35.5 | 37.5 | 0.4628 |
| Lochsa (W) | 14.6 | 13.8 | 0.1167 | 68.5 | 57.0 | <.0001 |
| Lolo (W) | 13.5 | 12.5 | 0.0660 | 68.5 | 63.5 | 0.0699 |
| Otis (W) | 13.6 | 13.1 | 0.3530 | 71.5 | 67.0 | 0.1019 |
| Pristine (W) | 14.0 | 13.4 | 0.3073 | 76.0 | 69.5 | 0.0197 |
| SY Capstone (W) | 13.8 | 12.7 | 0.0539 | 48.5 | 46.5 | 0.4628 |
| Snow Crest (W) | 14.3 | 13.6 | 0.1950 | 39.0 | 38.5 | 0.8540 |
| WA8123 (W) | 14.3 | 14.4 | 0.8522 | 69.5 | 69.5 | 1.0000 |
| WB-Idamax (W) | 14.6 | 13.9 | 0.2284 | 60.5 | 61.0 | 0.8540 |
| WB-Paloma (W) | 14.2 | 13.3 | 0.0803 | 62.0 | 62.0 | 1.0000 |
| Alzada | 15.8 | 16.1 | 0.5765 | --- | --- | --- |
| Kronos | 15.2 | 15.1 | 0.9258 | --- | --- | --- |
| Utopia | 16.3 | 15.4 | 0.0803 | --- | --- | --- |
| average | 14.5 | 13.8 | | 64.6 | 60.6 | |
| CV% | | 3.8 | | | 4.3 | |
| spray*variety | | 0.4436 | | | 0.0181 | |
| spray (main) | | 0.0441 | | | 0.0572 | |
| spray*var interaction | | NS | | | | |
| Varieties responded same to spray | | | | | | |

Table 81 (cont.) 2011 Aberdeen Hard Spring Wheat Quality Data

| | water stirring numbers | | silver nitrate stirring numbers | |
|-------------------|------------------------|----------|---------------------------------|----------|
| | spray | no spray | spray | no spray |
| 10F x Inc1 | 119.5 | 122.2 | 121.3 | 121.0 |
| Albany | 132.8 | 131.1 | 130.9 | 131.5 |
| Buck Pronto | 124.0 | 129.5 | 123.0 | 123.3 |
| Bullseye | 133.5 | 134.4 | 132.3 | 134.7 |
| Cabernet | 116.8 | 116.8 | 112.1 | 112.4 |
| Cerere | 125.0 | 129.0 | 124.3 | 130.9 |
| Choteau | 122.0 | 123.0 | 120.8 | 121.2 |
| IDO 702 | 124.0 | 134.6 | 127.5 | 135.6 |
| Iona | 118.6 | 128.1 | 120.3 | 124.5 |
| Jefferson | 121.9 | 130.6 | 124.0 | 127.7 |
| Jerome | 118.5 | 128.9 | 125.9 | 127.0 |
| Kelse | 117.4 | 121.4 | 119.0 | 123.7 |
| Malbec | 112.5 | 115.1 | 111.8 | 118.2 |
| UI Winchester | 112.3 | 119.7 | 114.9 | 119.3 |
| Volt | 125.2 | 123.4 | 124.3 | 127.3 |
| WB-Fuzion | 125.3 | 132.7 | 126.0 | 130.9 |
| WB-Rockland | 118.8 | 118.3 | 113.8 | 118.4 |
| Westbred 936 | 118.1 | 115.2 | 120.3 | 120.0 |
| Blanca Grande (W) | 105.8 | 99.9 | 110.7 | 114.7 |
| Klasic (W) | 113.1 | 115.3 | 107.9 | 113.5 |
| Lochsa (W) | 128.3 | 122.3 | 123.6 | 117.3 |
| Lolo (W) | 121.4 | 117.6 | 114.8 | 118.1 |
| Otis (W) | 111.8 | 110.8 | 108.3 | 110.3 |
| Pristine (W) | 68.5 | 124.7 | 128.4 | 125.6 |
| SY Capstone (W) | 112.6 | 112.9 | 111.0 | 114.4 |
| Snow Crest (W) | 114.3 | 118.7 | 114.0 | 114.6 |
| WA8123 (W) | 113.6 | 115.7 | 112.9 | 112.6 |
| WB-Idamax (W) | 124.3 | 124.5 | 123.4 | 122.1 |
| WB-Paloma (W) | 128.5 | 128.7 | 123.0 | 124.1 |
| Alzada | 143.4 | 139.4 | 134.3 | 139.0 |
| Kronos | 143.6 | 146.3 | 134.6 | 142.6 |
| Utopia | 142.0 | 144.8 | 135.6 | 140.3 |
| average | 121.2 | 124.6 | 121.5 | 124.2 |
| CV% | | 8.3 | | 2.4 |
| spray*variety | | 0.4288 | | 0.2247 |
| spray (main) | | 0.5935 | | 0.3177 |

Table 82. Winter Wheat Quality Data from Soda Springs, 2011.

| Variety | Class | Flour Protein | Flour Yield | Break Flour | Bake Volume | Kernel Hardness | Grain Protein | Cookie Diameter |
|---------------|-------|---------------|-------------|-------------|-------------|-----------------|---------------|-----------------|
| Bitterroot | SWW | 8.5 | 58.9 | 38.9 | --- | 10 | 11.4 | 8.6 |
| Decade | HRW | 11 | 62.9 | --- | 850 | 49 | 12.1 | --- |
| DW | HRW | 10.5 | 61.6 | --- | 925 | 56 | 11.7 | --- |
| Garland | HRW | 11.4 | 55.3 | --- | 925 | 37 | 12.8 | --- |
| Gary | HWW | 10.2 | 59.5 | --- | 825 | 56 | 11.7 | --- |
| Golden Spike | HWW | 10 | 55.3 | --- | 825 | 28 | 11.1 | --- |
| Juniper | HRW | 11.3 | 63.2 | --- | 950 | 62 | 12.7 | --- |
| Lucin-CL | HRW | 11.3 | 65.1 | --- | 950 | 52 | 12.2 | --- |
| ORCF102 | SWW | 9.3 | 59.4 | 34.4 | --- | 25 | 12.4 | 8.3 |
| UI Darwin | HWW | 10.6 | 61.5 | --- | 900 | 54 | 11.8 | --- |
| UI LHS | HWW | 10 | 60.5 | --- | 975 | 44 | 11.3 | --- |
| UI Silver | HWW | 9.8 | 62.4 | --- | 925 | 62 | 11.3 | --- |
| UICF Brundage | SWW | 8.6 | 56.3 | 42.2 | --- | 22 | 11.4 | 8.4 |
| UICF Grace | HWW | 10.5 | 57.8 | --- | 875 | 67 | 12.2 | |
| WB528 | SWW | 8.5 | 59.7 | 41.1 | --- | 14 | 10.9 | 8.5 |
| Average | | 10.1 | 60.0 | 39.2 | 902 | 43 | 11.8 | 8.4 |

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