2004 Small Grains Report for Southcentral and Southeastern Idaho

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www.uidaho.edu/aberdeen/cereals

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Disclaimer Statement

This report contains a summary of research results. These are not to be construed as recommendations for the use of any agricultural chemical that may be mentioned. Pesticide users are responsible for reading the label and following all directions.

2003-2004 Trial Locations

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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, and 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 are 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 south-central and southeastern Idaho that were harvested in 2004, as well as milling and baking data from trials harvested in 2003.

Test Procedures

Locations

Cereal trials were established at four winter and four spring locations throughout SC and SE Idaho during the fall of 2003 and the spring of 2004 (see Table 1). The Ririe winter and Soda Springs trials were grown under dryland conditions, all other trials were grown under irrigation. The trials at Aberdeen and Kimberly were grown on UI Research and Extension Centers, and the remaining trials were grown in producers' fields.

Agronomic Practices

Seeding rates were set at 1,000,000 seeds per acre for all irrigated locations (800,000 seeds per acre for spring barley) and 700,000 seeds per acre for all dryland locations (600,000 seeds per acre for dryland spring barley). This seeding rate corresponds to approximately 95 and 65 pounds of seed per acre for average sized wheat and barley seed, respectively. Row spacing was set at 7 inches for all irrigated trials and 10 inches between rows for all dryland trials. All entries were replicated 3 times at each location in a randomized complete block design. Except for planting, staking, alley maintenance, harvest operations, and topdressing hard wheat varieties, trials established in producers' fields received the same "grower management" or cultural operations as applied to the surrounding commercial wheat or barley field. Fertilizers and pesticides applied are listed in Table 1 for the sites where the information was reported. Planting and harvesting operations by university personnel were timed to approximately coincide with corresponding cooperator operations.

Description of Data Collected

Each entry at each location was measured for grain yield, test weight, plant height, heading date, and lodging, where present. Yield was calculated for wheat at 60 pounds per bushel, and 48 pounds per bushel for barley. Test weight is reported in pounds per standard bushel, and plant height is reported in inches from the soil surface to the tip of the heads, awns excluded. Heading date is reported as days from January 1 that 50 percent of the heads emerged from the boot, and lodging is reported as the percent of the plot area that was not standing straight prior to harvest.

Due to the time necessary to complete milling and baking evaluations, these test results are not available for the 2004 harvest. Data are given for these characteristics from the 2003 harvest.

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

- Flour protein, 14 percent moisture basis: 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, 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; soft white wheat are generally below 35, hard white wheat between 40-55 and hard red wheat above 40.
- Cookie diameter: diameter of a cookie in centimeters; larger numbers are better for soft wheat.

For hard wheat, additional dough and baking evaluations include the following:

- Bake volume: This is the volume of an experimental loaf of bread measured in cubic centimeters, higher volume preferred.

For barley:

- Plump seed percentage is the percent of a sample that stayed on top of a 6/64 screen after shaking.
- Thin percentage is that percent of a sample that passed through a 5/64 screen after shaking.

Statistical Interpretation

Most tables have a least significant difference (LSD) statistic at the bottom of the table. This statistic is given at the 10 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 90 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 percent 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 that was obtained from only one replication (ex. 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.

Growing Conditions and Factors Affecting Trials

Irrigated winter trials were planted into decent seedbeds with no major impacts seen on emergence and stand establishment. However, the Ririe dryland location was severely impacted by the dry conditions, to the extent that the location was abandoned in the spring. The winter was relatively mild in temperature and below normal in snowfall across the entire region. Spring runoff did not replenish subsoil moisture in dryland locations. Spring rains allowed winter grain to tiller exceptionally well, and provided a good seed bed for spring grains. Depending on location, unexpectedly timely spring and summer rains aided in exceptionally good growing conditions. Temperatures remained moderate throughout the year, resulting in limited heat units needed to mature spring wheat in Ashton and Soda Springs. Those trials were harvested high in moisture and were dried at the Aberdeen R&E Center.

Insect and disease pressure was minimal. While the Haanchen barley mealy bug was found in Ashton and several other locations, damage was not extensive and did not appear to significantly decrease yield.

Seasonal average measurements of several plant growth characteristics from the variety trials are shown in Table 2 for the period 1992-2004.

Varieties Tested

A list of released varieties tested in 2003-2004 is given in Table 3. 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 4. Additional information is available from the releasing agency or company.

Table 1. Extension small grain variety trial locations and test conditions, 2003-2004.

County	Nursery Location	Type[1]	Planting Date	Harvest Date	Previous Crop	Fertilizer[2] N-P-K-S (lb/A)	Chemical	
							Name(s)[3]	Rate(s)[4]
Minidoka	Rupert	W-I	10/16/2003	8/16/2004	Sugar Beets	273-76-620-152	Bromox MCPA	1 1/2 pt./ac
Minidoka	Paul	S-I	3/31/2004	8/25/2004	Sugar Beets	162-142-720-112	Bronate Express	1 pt./ac 1/6 oz./ac
Twin Falls	Kimberly	W-I	10/17/2003	7/23 Barley 7/29 Wheat	Beans	N/A	Bromox MCPA	1 1/2 pt./ac
Bingham	Aberdeen	W-I	10/21/2003	8/18 Barley 8/19 Wheat	Green manure oats	218-96-640	Bromox MCPA	1 1/2pt./ac
Bingham	Aberdeen	S-I	4/6/2004	8/31 Wheat 9/1 Barley	Green manure oats	234-96-640	Bromox MCPA	1 1/2 pt./ac
Fremont	Ashton	S-I	5/7/2004	9/27/2004	Barley	184-76-820-112	N/A	
Caribou	Soda Springs	S-D	5/4/2004	9/10 Barley 9/24 Wheat	Barley	326-96-980-126	N/A	

[1]W and S refer to winter and spring cereal nurseries, respectively. D and I refer to dryland and irrigated.

[2]Fertilizer values represent nutrients available in soil at planting and any applied fertilizer. 40 units N top dressed at flowering to all hard spring and winter wheats.

[3]Use of chemicals and their trade names does not constitute or imply recommendation or endorsement of their use by the Cooperative Extension System or the University of Idaho. Cooperators are responsible for use of pesticides in accordance with labeled uses and at registered rates.

[4]Chemical rates used by cooperators are given in units of commercial product on a per acre basis unless otherwise specified.

Table 2. Average seasonal measurements for selected agonomic characteristics, 2003-2004.

Winter Wheat

YIELD			TEST WEIGHT			PLANT HEIGHT			HEADING DATE			LODGING		
Year	# of Loc.	bu/A	Year	# of Loc.	lb/bu	Year	# of Loc.	in.	Year	# of Loc.	Days fr. Jan.1	Year	# of Loc.	%
2004	3	122.0	1993	3	62.0	**Avg.**	---	**34**	1999	3	170	1993	3	10
1993	3	116.4	1995	3	61.5	2004	3	36	1993	3	166	1994	4	9
1995	3	109.2	2000	4	61.4	2003	4	32	1995	3	166	2003	4	7
2000	4	107.6	2004	3	61.1	2002	4	31	1996	4	164	1996	4	4
1997	4	107.3	1996	4	61.0	2001	4	32	1998	4	164	1997	4	3
1998	4	103.9	2001	4	60.9	2000	4	34	2002	4	162	1998	4	3
Avg.	---	**101.9**	1998	4	60.4	1999	3	31	2001	4	160	**Avg.**	---	**3**
2003	4	100.7	**Avg.**	---	**60.2**	1998	4	38	1997	4	159	2004	3	2
1996	4	99.4	2003	4	59.7	1997	4	32	**Avg.**	---	**158**	2000	4	2
1999	3	93.2	1994	4	59.1	1996	4	35	1994	4	157	1995	3	1
2001	4	88.6	1999	3	59.0	1995	3	36	2004	3	155	1999	3	0
2002	4	88.1	1997	4	58.2	1994	4	35	2000	4	154	2001	4	0
1994	4	86.2	2002	4	57.8	1993	3	36	2003	3	119	2002	4	0

Spring Wheat

YIELD			TEST WEIGHT			PLANT HEIGHT			HEADING DATE			LODGING		
Year	# of Loc.	bu/A	Year	# of Loc.	lb/bu	Year	# of Loc.	in.	Year	# of Loc.	Days fr. Jan.1	Year	# of Loc.	%
1997	6	99.3	2000	6	61.6	1993	7	34	1993	7	192	2003	4	62
2003	4	95.8	2001	7	61.4	1997	6	34	1995	5	186	1998	6	23
1995	6	87.3	1995	6	61.2	2003	4	34	1999	7	186	1996	6	11
1996	6	80.0	1994	6	60.8	1998	5	33	2004	4	183	**Avg.**	---	**10**
2000	6	79.9	2002	7	60.8	2004	4	32	1998	6	183	1993	7	7
1993	7	79.8	1997	6	60.6	1995	5	32	2002	7	181	1999	7	7
2004	4	79.3	2004	4	59.6	**Avg.**	---	**31**	2003	4	180	1997	6	5
Avg.	---	**79.3**	**Avg.**	---	**59.6**	1994	6	30	**Avg.**	---	**180**	1995	6	2
2001	7	78.9	2003	4	59.4	1996	5	30	1996	6	179	2004	4	1
1998	6	73.1	1999	7	59.1	1999	7	30	2001	6	176	1994	7	1
1999	7	70.4	1994	7	58.3	2000	6	29	1994	6	174	2001	7	1
2002	7	67.4	1998	6	57.8	2001	7	29	1997	5	173	2000	6	0
1994	7	65.7	1993	7	54.2	2002	7	29	2000	6	171	2002	7	0

Spring Barley

YIELD			TEST WEIGHT			PLANT HEIGHT			HEADING DATE			LODGING		
Year	# of Loc.	bu/A	Year	# of Loc.	lb/bu	Year	# of Loc.	in.	Year	# of Loc.	Days fr. Jan.1	Year	# of Loc.	%
1997	6	112.3	1995	6	53.0	2004	4	34	1993	7	193	2003	4	78
1993	7	105.5	1996	6	52.4	1993	7	34	1999	7	186	1993	7	37
2003	4	101.9	1994	8	51.3	1997	6	34	1995	5	183	1998	6	29
2001	7	101.4	2000	6	50.9	1998	6	34	1998	6	182	2001	7	25
2000	6	99.3	2004	4	50.7	1995	5	33	2004	4	181	**Avg.**	---	**25**
2004	4	99.1	1997	6	50.5	1994	6	32	2002	7	178	2004	4	23
1996	6	98.8	**Avg.**	---	**50.4**	2002	7	32	1996	6	177	1997	6	23
Avg.	---	**98.7**	1999	7	50.1	2003	4	32	2001	6	177	1999	7	23
1995	6	98.6	2002	7	50.1	**Avg.**	---	**32**	**Avg.**	---	**177**	2002	7	22
2002	7	95.8	1993	7	49.6	1996	6	30	1994	6	174	1995	6	20
1999	7	94.4	2003	4	49.2	2000	6	29	2003	4	172	1996	6	18
1994	8	89.0	2001	7	48.4	2001	7	29	1997	5	170	1994	8	14
1998	6	83.7	1998	6	47.8	1999	7	28	2000	6	170	2000	6	2

Table 3. Released varieties in 2003-2004 with seed size and adjusted seeding rate.

Variety	Exp. No.	1000 Kernel Weight (g)	Seeds per Pound	Adjusted Seeding Rate[1] (lb/A)	Year Released	Developer(s)/Distributor of variety
Soft White Winter Wheat						
Beamer	BZ6W93-481	39.0	11,631	86	2000	Western Plant Breeders, Bozeman, MT
Brundage	ID86-14502B	39.5	11,484	87	1997	Idaho AES, USDA
Brundage 96	ID-B-96	28.0	16,200	62	2001	Idaho AES, USDA
CDC Falcon		32.0	14,175	71	2001	Western Plant Breeders, Bozeman, MT
Clearfirst (Madsen)		24.5	18,514	54	2002	BASF
Daws	WA6099	42.0	10,800	93	1976	Washington AES, USDA
Eltan	WA7431	36.5	12,427	80	1990	Washington, Idaho & Oregon AES, USDA
Hubbard	ID8610420A	36.5	12,427	80	2002	Idaho AES, USDA
Kmor	WA7529	36.5	12,427	80	1990	Washington, Idaho & Oregon AES, USDA
Lambert	ID85-153	46.5	9,755	103	1993	Idaho AES, USDA
MacVicar	OR75336	43.0	10,549	95	1992	Oregon & Idaho AES, USDA
Madsen	WA7163	36.0	12,600	79	1988	Washington, Idaho & Oregon AES, USDA
Malcolm	ORCW8113	42.5	10,673	94	1987	Oregon & Idaho AES, USDA
Mel		28.5	15,916	63		
Mohler	BU6W93-477	41.5	10,930	91	2001	Western Plant Breeders, Bozeman, MT
Simon	ID91-34302A	38.5	11,782	85	2002	Idaho AES, USDA
Sprague		32.0	14,175	71	1973	Washington AES, USDA
Stephens		44.5	10,193	98	1977	Oregon AES, USDA
Tubbs	OR939526	42.5	10,673	94	1999	Oregon AES, USDA
Westbred 470	BZ6W90-470	42.0	10,800	93	1997	Western Plant Breeders, Bozeman, MT
Hard Red and White (W) Winter Wheat						
DW	ID0513	32.0	14,175	71	2001	Idaho AES, USDA
Bonneville	IDO421	39.0	11,631	86	1993	Idaho AES, USDA
Boundary	IDO467	42.0	10,800	93	1997	Idaho AES, USDA
Deloris	UT2030-32	38.0	11,937	84		Utah AES, USDA
Dumas		35.5	12,777	78		
Garland	UT1706-1	36.5	12,427	80	1992	Utah AES, USDA
Gary (W)	IDO550	41.5	10,930	91	1992	Idaho AES, USDA
Golden Spike (W)	UT1944-158	37.0	12,259	82	1999	Utah AES, USDA
Manning	UT89099	32.0	14,175	71	1979	Utah AES, USDA
Moreland	IDO517	34.0	13,341	75	2003	Idaho AES, USDA
Neeley	RL4200	37.5	12,096	83	1980	Idaho AES, USDA
NuFrontier (W)	GM10001	27.5	16,495	61	2001	General Mills, Great Falls, MT
NuHills (W)		36.0	12,600	79		General Mills, Great Falls, MT
NuHorizon (W)	GM10002	37.0	12,259	82	2001	General Mills, Great Falls, MT
Promontory	UT1567-51	39.5	11,484	87	1990	Utah AES, USDA
Survivor		38.5	11,782	85	1990	Idaho AES, USDA
Utah 100	UT1650-150	38.5	11,782	85	1997	Utah AES, USDA
Weston		39.0	11,631	86	1978	Idaho AES, USDA

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

Table 4. New Variety Descriptions

SPRING BARLEY

Bob (WA8682-96) - two-row feed variety, released by Washington, Oregon, and Idaho and the USDA Agricultural Research Service (ARS). Bob is a midseason maturity variety with medium height. Under irrigated conditions, Bob was equal in yield to Xena. Test weight is similar to Baronesse but less under more severely stressed dryland conditions. Bob is tall, similar to Harrington and about equal in straw strength.

Camas (ND9147) – two-row spring feed barley released by Idaho AES/USDA. Camas is perhaps better adapted in northern Idaho than in southern Idaho, but it has shown good performance in both irrigated and dryland trials. Yield of Camas has been comparable to Baronesse in south Idaho trials and has higher test weight. Camas is taller than Baronesse, but straw strength has been as good as or better than Baronesse.

Creel (93Ab688) - six-row spring feed barley, released by the University of Idaho and the USDA Agricultural Research Service (ARS) in 2002. Creel has been equal to Colter and Brigham in yield. Under dryland conditions, Creel yielded 6 bushels per acre less than Steptoe but was similar to Brigham and Legacy. Percentage plump seed was lower than Steptoe and Colter. Test weight, height, and heading date were similar to Colter and Steptoe.

Criton (91Ab3148) – two-row spring feed barley released by USDA-ARS and Idaho-AES. Criton has a good yield record especially on dryland production. Criton has above average test weight and percent plump kernels. Criton is taller than Baronesse and similar in straw strength.

Drummond (ND15477) – six-row spring malt barley released by North Dakota Ag Experiment Station in 2000. Malt quality meets or exceeds that of "Morex," but yields less under SE and SC Idaho conditions.

IdaGold II (C32) – two-row spring feed barley released by Coors Brewing Co. IdaGold II is intended as a replacement for IdaGold and is similar in maturity and plant height. IdaGold II has strong straw, relatively high yield and average test weight.

Legacy (6B93-2978) – six-row malt variety released 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 taller than average. Percent plump is above average for six-row malt varieties.

Moravian 37 (C37) - two-row spring malt barley released by Coors Brewing Co. Moravian 37 has slightly higher yield and test weight than Galena. Height and straw strength are similar to Galena. Heading date is earlier than Galena.

Merit (2B91-4947) – two-row spring malting barley released by Busch Agricultural Resources, Inc. Yields are similar to Galena and better than B 1202. Test weight is similar to most other 2-row varieties but tends to be lower under high test weight conditions. Height is about 2 inches taller than Moravian 19 but less than Logan. Lodging resistance is good, similar to Galena under most conditions but tends to be worse when lodging is high.

Millennium (UT004603) – a six-row spring feed barley that did very well under irrigation in 2003, 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 slightly shorter than average.

Valier (MTLB30) - two-row spring feed barley released by Montana State University. Yield has been equal to or higher than Crystal under both irrigation and dryland. Test weight has been very good and is equal to the better two-row varieties, height is taller than average, and straw strength is better than average.

Xena (BZ594-19) – two-row spring feed barley released by Western Plant Breeders. Xena has

had very high yields over the locations tested. Its yield has been comparable to Baronesse (often higher), and is about two inches taller but with similar straw strength. Test weight tends to be higher than Baronesse.

WINTER BARLEY

Sunstar Pride (SDM204-B) – winter barley released by Sunderman Breeding. Sunstar Pride is very high yielding and appears to have good winterhardiness. Test weight is higher than Mal and similar to Eight-Twelve. Sunstar Pride is shorter than most other winter barley varieties with very good straw strength. Heading date is later than most varieties.

Strider (ORW6) - six-row winter feed barley released by Oregon AES. Strider has good yield potential being similar to Eight-Twelve. Test weight is similar to Eight-Twelve, and Boyer. Strider is taller than Eight-Twelve and similar to Sprinter. Heading date is similar to Eight-Twelve and straw strength is not as good as Eight-Twelve. Strider is resistant to Barley Stripe Rust.

SPRING WHEAT

Scarlet (WA7802) – hard red spring wheat released by Washington AES and USDA-ARS. Scarlet is relatively tall, being similar to Rick, and straw strength is not as good as most other varieties. Relative yield under dryland appears to be better than under irrigation. Test weight is similar to Probrand 751. End-use quality is very good.

Alturas (IDO526) – soft white spring wheat released by Idaho AES and USDA-ARS. Alturas appears to be adapted to both irrigated and dryland conditions. It is similar in height to Penawawa and heads about 1 day earlier. It is similar in yield and test weight to Penawawa. End-use quality of Alturas is very good.

Jefferson (IDO462) – hard red spring wheat released by Idaho AES and USDA-ARS. Jefferson is primarily intended as a dryland variety due to it being taller than Probrand 751 and Westbred 326 and similar to ID0377s. Irrigated yields have been slightly below test average but have been higher when grown on dryland. Yields have been similar to Probrand 751 with slightly higher test weight. Protein content is similar to Westbred 326, milling yield is good, and loaf volume is similar to Probrand 751 and Westbred 326.

Jerome (IDO566) is a hard red spring wheat developed by the Idaho Agricultural Experiment Station and released in 2004. Jerome is well adapted to both irrigated and rain-fed production systems, and is similar to WPB936 in lodging resistance, milling and baking quality, and similar yields.

Zeke (Bz987-331) – hard red spring wheat released by Western Plant Breeders. Zeke has yielded well under both irrigated and dryland conditions. Test weight has been about 1 pound lower than Westbred 936, but it is slightly shorter and earlier and has very good straw strength. Protein content is less than Westbred 936 but better than Rick and Probrand 751. Milling and baking characteristics have been good.

Iona (IDO492) – hard red spring wheat released by Idaho AES/USDA. Iona has yielded better under irrigation than under dryland. It has high test weight and is quite high in protein. Iona is relatively tall, taller than Rick, and has average straw strength. It is similar in heading date to Probrand 751 and Westbred 936. Milling and baking characteristics of Iona are good.

Challis (Bz692-108) – soft white spring wheat released by Western Plant Breeders. Challis has had high yields in both irrigated and dryland trials. It is average in test weight, height, heading date, and lodging resistance. Protein content is similar to Pomerelle and milling and baking scores have been good. Cookie spread is not as good as Whitebird.

Tara (WA7824) – hard red spring wheat released by Washington State University. Yield has been below the trial average under irrigation and above under dryland conditions. Test weight is average, height is taller and maturity is earlier than average.

Jubilee (IDO525) – soft white spring wheat released by University of Idaho. Jubilee has been fairly erratic in yield but generally has been slightly below average. Test weight, height and maturity are about average for soft white

varieties, but end-use quality of Jubilee is excellent.

Jerome (IDO566) – hard red spring wheat developed by Idaho Agricultural Experiment Station for release in 2004. Jerome is released for its superior grain yield and baking quality in the intermountain zone of the western U.S. Jerome is well adapted to both irrigated and rain-fed production systems. Jerome is most similar in appearance to the cultivar Westbred 926. Jerome is early maturing and has excellent lodging resistance. It is stripe rust and Hessian Fly resistant.

Lolo (IDO533) – hard white spring wheat released by the Idaho Agricultural Experiment station. This variety is similar to IDO377s in most agronomic characteristics, and has stronger straw. It has excellent yield and end-use quality characteristics for noodles.

Macon (WA7899) – hard white spring wheat released by Washington State University and USDA-ARS. Macon is resistant to Hessian Fly and moderately resistant to stripe rust. Macon yields about 6% less than IDO377s and has lower test weight. Macon is shorter and earlier than IDO377s. Macon has high flour yield and good bread baking capability.

Pristine (Bz991-408) – hard white spring wheat released by Western Plant Breeders. Yields have been slightly less than IDO377s under both irrigated and dryland conditions. Test weight is similar to Idaho 377s, height is shorter, and heading date is earlier. Straw strength is better than IDO377s.

Winsome (OR4870453) – hard white spring wheat released by Oregon AES. Winsome has similar yield to Pristine. Test weight is below average, height is shorter, and heading date is later than most other comparable varieties. Straw strength is similar to Idaho 377s.

Zak (WA7850) – soft white spring wheat released by Washington State University. Yield was somewhat variable but generally very good, especially on dryland. Test weight is also above average. It is similar in maturity to Pomerelle. End-use quality is very good.

WINTER WHEAT

Beamer (BZ6W93-481) – soft white winter wheat released by Western Plant Breeders. This variety was evaluated for the first time in 2000. Yields were lower than average, being similar to Temple and Daws. Test weight, heading date, and maturity were similar to Stephens.

Brundage 96 (ID-B-96) – soft white winter wheat released by Idaho AES and USDA-ARS. Brundage 96 is a purified selection from Brundage with better resistance to stripe rust. Brundage 96 is similar to Brundage in being awnless, high yielding and strong straw. Brundage 96 averages 1-2 inches taller than Brundage and is about three days later in heading. Test weight of Brundage 96 is slightly lower than for Brundage.

Deloris (UT2030-32) – hard red winter wheat released by Utah State University. Deloris has good yield potential under both irrigated and dryland production systems but is taller than desired under irrigation. Test weight is higher than most other HRW varieties. Deloris is resistant to dwarf bunt.

DW (IDO513) – hard red winter variety released by Idaho AES and USDA-ARS. DW is best adapted to dryland environments. DW tends to be slightly lower in yield compared to Boundary and Bonneville.

Gary (IDO550) – hard white winter wheat released by Idaho AES and USDA-ARS. Gary is similar in yield to Golden Spike, lower in test weight, earlier to head, and taller. Inadequate straw strength will limit acreage under irrigated conditions.

Golden Spike (UT1944-158) – a hard white winter variety released by Utah AES, for dryland production areas where dwarf bunt is endemic.

Hubbard (8610420A) – soft white winter wheat released by University of Idaho. Hubbard has an excellent yield record, higher than Stephens and similar to Lambert. Hubbard is tall like Lambert and is average in test weight, and date head. Protein content is similar to Brundage and similar to Malcolm.

Moreland (IDO517) – hard red winter wheat released by Idaho AES and USDA-ARS. Moreland is similar in yield to Boundary and higher than Garland. Height is similar to Declo, shorter than Boundary and taller than Garland. Straw strength is very good. Best adapted under irrigated conditions.

Tubbs (OR939526) – soft white winter wheat released by Oregon State University. Tubbs is higher in yield than Malcolm and less than Brundage. It is similar in test weight and height to Stephens but has stronger straw.

NuFrontier (GM10001) – hard white winter wheat released by General Mills. NuFrontier is similar in yield to Golden Spike but is 2-4 inches shorter. Straw strength appears to be good. Test weight is heavier than Golden Spike, and heading date is earlier. Protein content is higher than Golden Spike. Milling yield is slightly lower than for Golden Spike and NuHorizon.

NuHorizon (GM10002) – hard white winter wheat released by General Mills. NuHorizon is slightly lower in yield compared to Golden Spike and NuFrontier but has higher test weight, shorter straw and is higher in protein content. NuHorizon has better baking quality than NuFrontier and is similar to Golden Spike.

Westbred 470 (BZ6W90-470) – soft white winter wheat released by Western Plant Breeders. Yields have been somewhat variable but are only near the average of the trials. Test weight is very high, plant height is shorter, and heading date is earlier than Stephens. Straw strength appears to be good.

Table 5. Agronomic data for winter wheat at Kimberly, Rupert, and Aberdeen, combined, irrigated, 2004.

			Yield (bu/A)		Test Wt.	Height	Date Head
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Average**	**(lb/bu)**	**(in.)**	**from Jan. 1**
Soft White Winter Wheat							
Dune 91-20503A	143.0	143.7	114.3	133.7	60.7	35	153
Tubbs	149.9	133.6	116.3	133.2	59.0	37	158
MacVicar	150.5	129.3	114.5	131.4	59.8	37	158
Lambert	145.7	132.2	114.4	130.8	60.1	38	155
BZ6W98-528	140.9	142.0	107.2	130.0	60.9	35	151
Daws	135.5	131.8	117.0	128.1	60.8	36	159
Malcolm	132.8	136.8	107.8	125.8	59.8	37	156
Beamer	130.4	134.9	111.1	125.5	60.0	38	155
Westbred 470	144.3	121.9	110.2	125.5	62.9	35	152
Stephens	127.3	138.0	110.2	125.2	59.3	37	156
Brundage	141.2	121.1	109.7	124.0	60.8	33	151
OR2010007	144.0	119.3	106.2	123.1	59.7	36	158
IDO587	123.0	134.9	104.0	120.6	58.6	35	154
Brundage 96	137.4	122.2	100.6	120.1	59.1	35	158
Madsen	126.0	125.3	104.0	118.4	60.2	36	159
Mohler	131.9	127.6	92.7	117.4	60.0	38	157
Simon (91-34302A)	132.8	120.8	98.1	117.2	59.8	37	156
OR9900553	125.5	116.5	106.1	116.0	59.8	34	157
ORCF-101	127.7	126.4	90.7	114.9	59.4	36	157
IDO576	119.3	126.8	83.8	110.0	60.5	38	158
Mel	127.0	107.3	86.2	106.8	61.8	35	161
Clearfirst (Madsen)	125.2	109.0	83.0	105.7	59.9	35	160
Average	134.6	127.3	103.7	121.7	60.2	36	156
Hard Winter Wheat							
Promontory	140.7	138.1	117.9	132.3	63.4	39	151
NuHorizon (W)	132.7	133.1	129.9	131.9	63.4	34	150
Boundary	133.9	128.1	131.4	131.1	61.7	37	157
Gary (W)	132.0	141.0	107.0	126.7	61.5	41	155
IDO571	136.4	136.9	104.9	126.1	61.1	32	150
DW	131.7	132.3	111.6	125.2	62.5	38	155
Neeley	137.3	117.8	119.7	124.9	63.1	41	158
Golden Spike (W)	140.3	128.3	105.5	124.7	61.4	41	159
Moreland (IDO517)	132.9	130.0	111.0	124.6	61.3	33	151
Utah 100	132.6	123.9	116.7	124.4	61.7	42	157
Garland	132.9	124.1	111.4	122.8	60.5	28	158
NuFrontier (W)	123.5	126.5	112.4	120.8	63.0	38	150
Deloris (UT2030-32)	124.6	121.3	115.4	120.4	62.9	43	154
W96-359W (W)	112.1	128.6	114.6	118.4	61.7	33	151
OR850513-8 (W)	119.9	118.9	111.6	116.8	61.2	37	156
CDC Falcon	129.8	121.6	97.7	116.4	62.0	35	155
W96-355	108.8	127.8	112.6	116.4	62.6	35	155
W96-054-08W (W)	121.0	116.3	105.9	114.4	62.9	33	148
Dumas	118.5	112.9	111.7	114.3	62.9	35	150
NuHills (W)	105.7	108.9	113.3	109.3	63.1	34	149
Average	127.2	126.0	113.9	122.4	62.2	37	153

Table 6 (cont'd). Agronomic data for winter wheat at Kimberly, irrigated, 2004.

Variety	Yield (bu/A) 2002	2003	2004	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Spring Stand %	Lodging %
Hard Winter Wheat								
Promontory	129.6	127.1	140.7	63.7	38	137	93	0
Golden Spike (W)	103.0	137.3	140.3	62.5	42	146	93	10
Neeley	115.6	130.7	137.3	63.3	41	146	93	10
IDO571	130.7	136.1	136.4	62.0	34	138	90	0
Boundary	124.0	138.4	133.9	61.8	38	142	90	0
Moreland	128.2	138.7	132.9	62.1	34	139	90	0
Garland	127.0	132.5	132.9	61.5	28	146	93	0
NuHorizon (W)	142.7	131.2	132.7	63.4	36	137	90	0
Utah 100	141.5	144.6	132.6	62.1	42	144	90	0
Gary (W)	113.2	123.9	132.0	61.8	42	141	97	13
DW	117.4	126.3	131.7	62.8	38	140	90	3
*CDC Falcon HRW	123.8	87.6	129.8	62.3	37	142	97	0
Deloris	127.6	125.6	124.6	62.5	42	138	97	3
NuFrontier (W)	124.8	123.4	123.5	62.9	38	135	90	0
W96-054-08W (W)	---	---	121.0	62.6	35	133	90	0
OR850513-8 (W)	124.4	125.3	119.9	61.7	37	140	97	0
Dumas	---	117.5	118.5	62.1	36	138	93	0
W96-359W (W)	---	---	112.1	61.5	34	136	90	0
W96-355	---	---	108.8	62.6	36	139	93	0
NuHills (W)	---	---	105.7	63.7	36	134	93	0
Average	126.0	131.1	127.4	62.4	37	139	92	2
LSD 0.10	10.3	11.6	15.1	0.5	1	2	5	4
CV%	7.7	8.3	8.5	0.5	2	1	4	152

*CDC Falcon, HRW, was in the SWW trial, and CV and LSD are reported with the soft white winter data.

Table 7 (cont'd). Agronomic data for winter wheat at Rupert, irrigated, 2004.

Variety	Yield (bu/A) 2002	2003	2004	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Spring Stand %	Lodging %
Hard Winter Wheat								
Gary (W)	100.0	99.2	141.0	62.2	40	158	83	1
Promontory	119.2	105.9	138.1	63.4	38	154	83	1
IDO571	121.2	113.8	136.9	60.7	32	152	73	1
NuHorizon (W)	118.1	107.2	133.1	63.8	33	153	77	1
DW	104.3	108.0	132.3	62.5	38	158	73	1
Moreland (IDO517)	121.2	111.6	130.0	60.9	31	153	73	1
W96-359W (W)	---	---	128.6	61.4	33	154	70	1
Golden Spike (W)	87.3	113.9	128.3	61.5	39	162	73	1
Boundary	126.1	115.3	128.1	61.9	36	162	63	1
W96-355	---	---	127.8	62.6	34	158	77	1
NuFrontier (W)	121.3	115.3	126.5	63.1	39	154	73	1
Garland	112.7	107.7	124.1	60.3	28	161	77	1
Utah 100	118.9	113.6	123.9	61.9	39	159	73	1
CDC Falcon	93.4	117.6	121.6	62.0	34	158	73	1
Deloris (UT2030-32)	123.0	107.6	121.3	63.2	41	158	80	1
OR850513-8 (W)	97.2	128.1	118.9	61.1	35	161	77	1
Neeley	112.8	116.6	117.8	63.1	39	160	73	1
W96-054-08W (W)	---	---	116.3	62.7	33	151	87	1
Dumas	---	110.5	112.9	62.6	33	152	90	1
NuHills (W)	---	---	108.9	62.2	32	153	80	1
Average	113.9	112.9	126.0	62.2	35	156	76	1
LSD 0.10	9.1	13.7	13.6	0.6	2	2	11	1
CV%	7.6	11.4	7.7	0.7	4	1	11	47

Table 8 (cont'd). Agronomic data for winter wheat at Aberdeen, irrigated, 2004.

Variety	Yield (bu/A) 2002	2003	2004	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Spring Stand %	Lodging %
Hard Winter Wheat								
Boundary	113.7	138.9	131.4	61.3	37	168	53	3
NuHorizon (W)	81.7	90.0	129.9	63.1	33	160	70	0
Neeley	115.0	114.9	119.7	63.0	43	169	37	0
Promontory	105.2	142.4	117.9	63.2	40	162	47	3
Utah 100	114.9	141.6	116.7	61.0	43	167	67	0
Deloris (UT2030-32)	112.3	104.8	115.4	62.9	45	166	60	10
W96-359W (W)	---	---	114.6	62.2	33	162	50	0
NuHills (W)	---	---	113.3	63.5	36	160	43	3
W96-355	---	---	112.6	62.7	35	167	83	0
NuFrontier (W)	100.1	103.6	112.4	63.0	38	161	57	0
Dumas	---	128.8	111.7	63.9	35	160	53	0
OR850513-8 (W)	86.2	103.7	111.6	60.7	40	168	70	0
DW	99.3	98.9	111.6	62.0	37	166	43	7
Garland	101.9	140.3	111.4	59.8	28	168	60	7
Moreland (IDO517)	108.2	139.0	111.0	60.9	34	160	60	0
Gary (W)	104.0	109.7	107.0	60.5	42	165	80	33
W96-054-08W (W)	---	---	105.9	63.4	33	160	60	0
Golden Spike (W)	109.3	109.8	105.5	60.1	43	169	67	10
IDO571	103.8	133.6	104.9	60.8	31	161	70	0
CDC Falcon	123.5	138.6	97.7	61.6	35	166	60	3
Average	106.2	129.8	113.9	62.0	37	164	59	4
LSD 0.10	7.0	6.7	17.4	1.3	4	1	19	14
CV%	6.2	4.9	11.1	1.6	8	1	23	247

Table 9. Agronomic data for winter barley at Kimberly, and Aberdeen, combined, irrigated, 2004.

	Yield (bu/A)			Test Wt.	Height	Date Head	% Plump		
Variety	**Kimberly**	**Aberdeen**	**Average**	**(lb/bu)**	**(in.)**	**from Jan.1**	**(>6/64)**	**(>5/64)**	**Thin**
Strider	187.6	162.9	175.2	50.8	40	149	90	1	2.5
93Ab631	199.3	144.9	172.1	47.5	37	148	78	4	7.5
97Ab11	179.1	154.1	166.6	50.7	38	156	78	3	6
91Ab36	189.9	137.7	163.8	49.3	35	153	89	2	3.5
Sunstar Pride	190.1	133.0	161.5	49.15	36	161	58	10	19
94Ab1777	180.1	132.4	156.2	50.8	39	151	83	3	6.5
94Ab1274	163.7	137.8	150.7	51.1	34	145	95	1	2.5
91Ab23	188.8	111.6	150.2	49.4	35	155	83	2	4.5
92Ab561	182.3	116.3	149.3	51.5	35	150	89	2	3
Kold	169.7	128.2	148.9	50.2	38	152	82	3	6
Scio	168.8	127.3	148.1	49.7	37	151	89	2	3
Hesk	179.0	116.6	147.8	49.8	39	151	80	3	5.5
Mal	171.9	113.5	142.7	49.4	40	155	84	2	4.5
Kamiak	164.4	117.4	140.9	50.3	39	143	86	2	4.5
Sprinter	170.4	106.3	138.3	50.6	39	155	87	2	4.5
ORSTAB-7	174.6	101.4	138.0	50.5	41	145	90	2	5.5
85Ab216	125.1	149.3	137.2	52.6	40	149	95	1	1.5
Eight-Twelve	197.0	77.3	137.1	49.1	38	152	75	5	9.5
Boyer	180.2	93.5	136.8	49.8	37	154	88	2	3
86Ab474	191.1	81.9	136.5	49.3	28	152	81	3	5
95Ab2299	139.0	133.6	136.3	54.4	40	149	95	1	2
KAB 51	139.5	132.2	135.9	52.0	42	143	94	2	3
94Ab1269	149.9	118.9	134.4	50.6	33	145	98	0	0.5
Hundred	183.6	79.2	131.4	48.2	36	153	74	4	8
88AB536B	148.6	110.7	129.7	51.1	43	143	90	1	2.5
Schuyler	159.6	98.5	129.0	50.3	40	152	76	4	7.5
KAB 47	152.1	89.2	120.6	50.2	35	143	87	2	3.5
ORSTAB-113	131.0	102.6	116.8	51.2	38	144	86	2	2
Average	169.9	118.1	144.0	50.3	38	150	85	2	5

Table 10. Agronomic data for winter barley at Kimberly, irrigated, 2004.

	Yield (bu/A)			Test Wt.	Height	Date Head	Spring	Lodging	% Plump		
Variety	2002	2003	2004	(lb/bu)	(in.)	from Jan.1	Stand %	%	(>6/64)	(>5/64)	%Thin
93Ab631	---	72.6	199.3	47.1	34	132	93	10	84	10	6
Eight-Twelve	175.8	79.1	197.0	49.5	38	135	90	20	85	11	4
86Ab474	---	---	191.1	49.9	30	136	90	13	86	11	3
Sunstar Pride	144.2	76.1	190.1	50.9	36	147	93	0	78	15	7
91Ab36	152.2	74.0	189.9	49.0	35	139	90	10	90	6	4
91Ab23	173.7	78.4	188.8	49.5	33	138	87	0	89	9	2
Strider	163.7	82.0	187.6	49.7	37	131	87	43	88	9	3
Hundred	---	62.5	183.6	48.0	36	137	83	27	81	14	5
92Ab561	152.4	71.5	182.3	51.1	34	133	90	13	92	6	2
Boyer	132.6	82.2	180.2	49.4	38	137	93	10	90	8	2
94Ab1777	---	76.5	180.1	50.5	37	132	87	27	82	11	7
97Ab11	150.1	80.2	179.1	50.8	35	141	87	3	87	11	2
Hesk	---	73.6	179.0	50.0	39	133	93	13	83	13	4
ORSTAB-113	---	---	174.6	50.6	39	130	90	17	92	7	1
Mal	---	---	171.9	49.2	39	137	97	3	88	11	1
Sprinter	148.1	70.3	170.4	50.5	40	138	90	10	88	8	4
Kold	---	78.5	169.7	51.3	36	135	90	3	87	9	4
Scio	155.9	77.6	168.8	48.7	33	134	90	3	88	9	3
Kamiak	---	73.9	164.4	50.1	41	129	93	47	88	9	3
94Ab1274	---	---	163.7	51.0	29	129	93	20	97	2	1
Schuyler	153.8	71.9	159.6	50.4	39	136	87	13	85	11	4
KAB 47	---	---	152.1	50.4	30	125	90	7	87	10	3
94Ab1269	---	---	149.9	51.3	31	129	93	40	99	1	0
88AB536B	---	---	148.6	51.3	39	128	93	37	91	8	1
KAB 51	---	---	139.5	52.1	40	128	87	37	94	3	3
95Ab2299	---	70.5	139.0	54.2	38	132	93	13	96	2	2
ORSRAB-7	156.8	70.8	131.0	49.9	37	125	83	40	81	13	6
85Ab216	---	---	125.1	53.0	38	134	93	20	97	2	1
Average	136.1	155.7	169.9	50.3	36	134	90	18	88	9	3
LSD 0.10	12.9	11.6	30	1.2	2	2	10	15			
CV%	11.2	8.5	13	1.8	4	1	6	62			

Table 11. Agronomic data for winter barley at Aberdeen, irrigated, 2004.

	Yield (bu/A)			Test Wt.	Height	Date Head	Spring	Lodging	Plump		
Variety	2002	2003	2004	(lb/bu)	(in.)	from Jan.1	Stand %	%	(>6/64)	(>5/64)	%Thin
Strider	175.4	147.2	162.9	51.9	42	167	13	7	92	6	2
97Ab11	175.9	174.4	154.1	50.6	41	171	27	7	68	22	10
85Ab216	---	---	149.3	52.2	43	164	43	17	93	5	2
93Ab631	---	160.2	144.9	47.9	40	164	20	3	72	19	9
94Ab1274	---	---	137.8	51.2	39	161	27	30	93	3	4
91Ab36	174.7	164.9	137.7	49.7	34	167	23	10	88	9	3
95Ab2299	---	---	133.6	54.6	42	166	27	17	94	4	2
Sunstar Pride	164.8	166.5	133.0	47.4	36	175	10	7	38	31	31
94Ab1777	---	165.1	132.4	51.1	41	170	7	10	84	10	6
KAB 51	---	149.3	132.2	51.9	45	158	27	10	93	4	3
Kold	---	155.7	128.2	49.2	39	169	7	13	77	15	8
Scio	166.9	151.7	127.3	50.6	41	168	13	13	89	8	3
94Ab1269	---	---	118.9	49.9	34	161	27	17	96	3	1
Kamiak	---	---	117.4	50.5	37	157	33	27	83	11	6
Hesk	---	---	116.6	49.7	39	170	17	10	77	16	7
92Ab561	181.4	137.1	116.3	51.8	36	166	13	7	85	11	4
Mal	164.8	160.2	113.5	49.6	41	173	3	7	80	12	8
91Ab23	163.9	151.5	111.6	49.2	38	173	3	13	77	16	7
88AB536B	---	154.9	110.7	50.8	48	158	23	20	88	8	4
Sprinter	186.1	166.1	106.3	50.7	38	172	13	3	86	9	5
ORSTAB-113	163.0	138.4	102.6	52.4	40	162	13	13	90	7	3
ORSTAB-7	150.7	150.5	101.4	50.5	43	160	17	17	88	7	5
Schuyler	166.3	156.6	98.5	50.2	40	168	7	7	66	23	11
Boyer	183.7	168.9	93.5	50.2	37	171	10	10	86	10	4
KAB 47	---	155.1	89.2	50.1	40	161	10	10	86	10	4
86Ab474	152.2	158.9	81.9	48.8	27	169	20	7	75	18	7
Hundred	---	155.4	79.2	48.4	36	168	3	7	66	23	11
Eight-Twelve	142.7	150.8	77.3	48.6	37	168	13	3	65	20	15
Average	167.5	156.3	118.1	50.3	39	166	16.8	11.4	81.3	12.1	6.6
LSD 0.10	7.4	22.6	39.6	1.4	6	4	2	10			
CV%	4.9	13.6	24.1	2.0	11	2	66	67			

Table 12. Agronomic data for spring wheat at Rupert, irrigated, 2004.

Variety	Yield (bu/A) 2002	2003	2004	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Spring Stand %
Soft White Spring Wheat							
ML042-409-1,5	77.9	131.6	94.7	57.5	36	170	80
Penawawa	90.3	138.9	92.9	59.0	35	169	83
Challis	96.1	134.1	89.0	58.1	33	169	87
Jubilee	82.1	138.8	84.5	60.7	36	169	83
IDO599	---	---	83.1	58.9	33	166	87
Eden (WA7902)	79.4	119.0	81.1	59.6	33	169	83
Alpowa	93.3	136.4	79.5	59.2	36	169	83
Nick	---	---	79.3	59.5	31	166	83
Alturas (IDO526)	85.4	121.3	76.4	58.2	31	168	80
Whitebird	79.5	129.3	76.2	60.4	33	169	83
WA007921	89.0	117.8	75.0	59.2	34	169	83
Treasure	96.4	124.0	73.2	57.2	30	173	77
ML118-2,03	---	---	67.4	58.5	32	173	90
Average	86.4	127.9	80.9	58.9	33	169	83
LSD 0.10	5.4	5.6	8.6	0.8	3	1	8
CV%	5.8	4	7.6	1.0	7	0	7

No lodging occured at this location.

Table 13 (cont'd). Agronomic data for spring wheat at Aberdeen and Ashton, combined, 2004.

Variety	Yield (bu/A) Aberdeen	Ashton	Average	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging %
Hard Spring Wheat							
Lolo (W)	104.2	118.6	111.4	62	37	189	2
WA7931 (W)	97.1	109.9	103.5	61	40	190	1
Idaho 377s (W)	89.9	114.2	102.1	62	35	188	2
IDO593	95.2	104.8	100.0	61	32	186	0
Zeke	105.5	90.3	97.9	59	33	185	1
IDO597 (W)	88.1	96.1	92.1	60	34	187	0
Scarlet	92.6	87.6	90.1	74	35	188	2
Rick	93.9	85.7	89.8	61	37	187	1
Kronos	90.9	87.8	89.4	75	29	185	1
GM40068 (W)	78.9	99.2	89.0	59	32	191	0
Iona	84.4	93.4	88.9	62	36	187	3
IDO592	85.0	92.7	88.9	60	32	187	2
Utopia	88.6	88.6	88.6	61	29	186	1
Jerome (IDO 566)	83.5	93.2	88.3	61	32	185	0
Pristine (W)	87.0	89.3	88.2	63	34	185	1
Jefferson	88.2	86.9	87.5	65	34	187	1
Winsome (W)	89.2	85.4	87.3	59	32	191	1
WB936	86.7	86.2	86.4	60	31	186	0
Klasic (W)	90.3	79.9	85.1	61	26	183	0
Macon (WA7899) (W)	81.8	86.2	84.0	61	35	187	1
AP1526	94.6	72.6	83.6	61	37	188	2
Matt	85.3	79.6	82.4	62	30	186	1
Tara	72.7	91.0	81.9	61	34	185	1
Saxon	89.1	72.4	80.7	60	34	187	1
Blanca Grande (W)	86.4	74.3	80.3	62	29	183	0
Plata (W)	87.7	71.5	79.6	61	29	187	0
GM40065 (W)	88.0	70.9	79.4	61	37	183	1
Topper	68.8	84.6	76.7	61	31	187	0
WA007925	65.4	82.5	74.0	61	40	187	2
Summit	77.8	69.5	73.6	59	26	188	0
GM40066 (W)	70.9	73.3	72.1	60	35	183	1
GM40067 (W)	58.3	73.3	65.8	61	35	184	1
Hollis (WA007859)	56.7	71.6	64.2	60	41	187	2
Average	84.8	86.8	85.8	62	33	186	1

Table 14 (cont'd). Agronomic data for spring wheat, Aberdeen, irrigated, 2004.

Variety	Yield (bu/A) 2002	2003	2004	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging %
Hard Spring Wheat							
Zeke	84.2	125.8	105.5	58.2	35	173	1
Lolo (W)	86.5	131.0	104.2	61.8	37	175	0
WA7931 (W)	---	145.2	97.1	61.5	41	177	0
IDO593	---	---	95.2	60.5	32	172	0
AP1526	---	---	94.6	61.1	39	177	0
Rick	76.0	127.3	93.9	60.6	39	175	0
Scarlet	89.6	101.6	92.6	60.6	37	175	0
Kronos	---	---	90.9	60.1	30	172	1
Klasic (W)	72.3	115.5	90.3	60.6	27	169	0
Idaho 377s (W)	94.2	136.7	89.9	61.3	36	175	0
Winsome (W)	88.3	126.6	89.2	58.3	31	178	0
Saxon	79.9	130.0	89.1	59.6	36	175	0
Utopia	---	---	88.6	61.0	30	175	1
Jefferson	77.0	123.8	88.2	68.5	36	173	0
IDO597 (W)	---	---	88.1	60.3	34	175	0
GM40065 (W)	---	---	88.0	60.8	39	169	0
Plata (W)	81.0	122.0	87.7	60.0	29	174	0
Pristine (W)	84.4	129.0	87.0	62.5	34	171	0
WB936	81.5	125.7	86.7	60.1	32	173	0
Blanca Grande (W)	83.0	118.0	86.4	60.9	30	169	0
Matt	---	---	85.3	61.2	31	174	1
IDO592	---	---	85.0	60.1	34	174	0
Iona	78.6	121.8	84.4	62.0	38	174	1
Jerome (IDO566)	96.3	127.4	83.5	61.5	31	172	0
ML316-5-4 (W)	---	118.8	81.9	59.9	40	173	0
Macon (WA7899) (W)	71.6	114.7	81.8	60.8	36	173	0
GM40068 (W)	---	---	78.9	58.4	31	178	0
Summit	---	---	77.8	58.6	25	174	0
Tara 2002	---	113.9	72.7	60.8	35	173	0
GM40066 (W)	---	---	70.9	60.0	36	169	0
Topper	---	---	68.8	59.4	31	176	0
WA007925	---	113.8	65.4	60.9	42	174	0
GM40067 (W)	---	---	58.3	60.3	36	170	0
Hollis (WA007859)	---	---	56.7	59.9	41	175	0
Average	79.7	120.4	84.8	60.6	34	174	0
LSD 0.10	7.8	7.8	18.1	3.1	3	1	1
CV%	9.4	6.1	15.6	3.8	7	0	406

Table 15 (cont'd). Agronomic data for spring wheat at Ashton, irrigated, 2004.

Variety	Yield (bu/A) 2002	2003	2004	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging %	Spring Stand %
Hard Spring Wheat								
Lolo (W)	77.9	95.8	118.6	61.6	36	202	4	97
Idaho 377s (W)	84.0	96.9	114.2	62.2	34	201	3	100
WA7931 (W)	---	94.3	109.9	61.2	38	203	2	100
IDO593	---	---	104.8	60.6	31	199	0	100
GM40068 (W)	---	---	99.2	59.9	32	204	0	100
IDO597 (W)	---	---	96.1	59.8	34	199	0	100
Iona	78.4	85.0	93.4	61.7	34	200	4	97
Jerome (IDO566)	71.5	82.9	93.2	61.0	32	199	0	100
IDO592	---	---	92.7	59.9	30	200	3	93
Tara 2002	---	85.4	91.0	61.1	34	197	2	100
Zeke	73.1	83.7	90.3	59.1	31	197	2	100
Pristine (W)	72.1	86.9	89.3	62.6	34	198	1	97
Utopia	78.0	81.9	88.6	60.3	29	198	1	97
Kronos	68.6	86.0	87.8	89.8	28	198	1	93
Scarlet	72.9	90.2	87.6	87.5	33	200	3	97
Jefferson	76.8	87.4	86.9	60.8	32	200	3	100
Macon (WA7899) (W)	69.3	79.7	86.2	61.3	34	200	2	100
WB936	76.0	96.2	86.2	59.9	30	198	0	97
Rick	75.7	87.7	85.7	60.5	34	200	2	97
Winsome (W)	79.6	89.6	85.4	59.1	33	204	1	97
Topper	---	82.0	84.6	61.6	31	199	1	90
WA007925	---	89.4	82.5	61.6	38	200	3	97
Klasic (W)	77.0	82.2	79.9	60.8	25	197	0	97
Matt	73.7	83.9	79.6	62.0	29	198	1	97
Blanca Grande (W)	71.6	83.4	74.3	62.4	29	196	0	97
GM40066 (W)	---	---	73.3	60.8	34	197	2	100
GM40067 (W)	---	---	73.3	61.3	34	197	1	97
AP1526	---	81.9	72.6	61.4	35	199	3	97
Saxon	75.0	80.9	72.4	59.8	33	200	1	93
Hollis (WA007859)	---	---	71.6	59.8	41	200	3	100
Plata (W)	76.1	85.8	71.5	61.3	29	199	0	100
GM40065 (W)	---	---	70.9	60.9	34	197	1	100
Summit	---	---	69.5	59.9	26	203	0	93
Average	74.5	85.4	86.8	62.5	32	199	2	97
LSD 0.10	5.4	5.3	10.2	17.2	3	2	2	6
CV%	7	5.9	8.5	19.7	4	1	71	4

Table 16 (cont'd). Agronomic data for spring wheat at Soda Springs, dryland, 2004.

Variety	Yield (bu/A) 2002	2003	2004	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging %	Spring Stand %
Hard Spring Wheat								
GM40065 (W)	---	---	69.6	57.1	30	191	1	90
WB936	59.2	38.2	69.5	52.1	27	193	0	97
Scarlet	53.8	39.0	64.9	54.5	30	195	1	90
WA7931 (W)	---	34.4	63.5	57.1	31	195	1	90
ID0597 (W)	---	---	62.2	54.4	29	194	1	100
Macon (WA7899) (W)	50.3	28.8	61.1	56.3	30	192	1	93
Saxon	50.3	32.5	60.8	55.6	29	194	1	90
Kronos	47.0	35.1	60.8	54.8	25	191	0	90
Lolo (W)	57.5	33.8	59.7	57.0	30	195	1	93
IDO593	---	---	58.5	53.9	27	193	1	90
Rick	54.6	31.3	58.2	54.4	31	194	2	90
Zeke	58.6	26.3	57.8	55.4	27	193	1	90
GM40066 (W)	---	---	56.7	58.2	32	190	1	93
WA007925	---	32.2	55.5	57.9	32	193	1	90
Winsome (W)	54.5	29.9	54.9	54.4	25	197	1	90
Plata (W)	45.3	24.5	54.7	54.8	25	194	0	90
Jefferson	51.1	33.8	53.9	56.8	28	194	1	93
Iona	54.4	26.7	53.1	57.3	27	195	2	90
Idaho 377s (W)	62.0	35.2	52.6	54.9	26	196	2	93
Pristine (W)	51.0	24.0	52.3	58.2	28	192	1	97
IDO592	---	---	52.2	53.9	26	193	1	87
Hollis (WA007859)	---	---	52.1	56.7	35	195	3	93
Summit	---	---	50.9	55.3	22	194	0	90
Tara 2002	---	28.9	50.9	56.2	30	193	1	97
Utopia	44.3	28.8	50.3	53.7	24	194	0	90
Jerome (IDO 566)	52.6	29.0	48.8	55.9	27	193	0	97
Blanca Grande (W)	50.0	27.5	48.5	56.6	25	192	0	93
GM40068 (W)	---	---	48.4	52.3	25	197	0	90
GM40067 (W)	---	---	46.8	56.9	31	192	1	87
Matt	40.4	27.5	44.1	56.4	26	193	0	97
Topper	---	16.3	38.2	54.3	24	194	0	90
AP1526	---	32.8	36.7	56.9	31	196	2	87
Klasic (W)	---	---	30.7	56.5	21	193	0	83
Average	51.4	29.6	53.9	55.7	28	194	1	92
LSD 0.10	3.6	4	8.5	1.4	2	1	1	7
CV%	6.6	12.5	11.5	1.8	5	1	72	6

Table 17. Agronomic data for spring barley at Rupert, irrigated, 2004.

Variety	Yield (bu/A) 2002	2003	2004	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging %	Spring Stand %	% Plump (>6/64)	(>5/64)	Thins
	Kimberly[1]		Rupert								
Two-Row Spring Barley											
C63	---	---	133.7	49.3	30	169	7	83	95	3	2
B-99-AL-616	---	---	126.8	52.1	35	166	17	90	93	5	2
Calgary	101.5	144.1	124.2	53.0	29	167	10	87	98	2	0
Idagold II	---	155.0	123.9	52.4	29	169	0	90	94	5	1
C60	101.3	141.9	119.2	51.8	25	174	3	87	94	3	3
98Ab11720	---	---	118.4	51.8	33	167	27	80	90	7	3
AC Metcalfe	---	---	117.3	50.6	37	165	20	77	92	6	2
C69	---	165.4	117.1	51.3	25	170	0	87	93	2	5
WA 8601-97	---	151.5	116.0	52.1	32	167	17	90	95	3	2
Moravian 37	105.1	146.4	115.1	52.4	26	169	3	83	97	2	1
Adage (B-99-AL-621)	123.0	161.9	115.0	52.3	31	165	17	87	96	3	1
Bob (WA8682-96)	108.9	135.7	114.9	53.1	34	167	30	87	97	2	1
Merit	110.2	150.3	113.0	51.2	32	169	0	87	92	7	1
Bancroft	---	142.6	112.6	51.3	34	166	50	87	93	5	2
WA 10701-99	---	---	111.1	52.6	31	165	27	87	95	3	2
B5057	---	---	108.3	52.8	31	166	7	80	94	4	2
Baronesse	120.8	145.2	107.4	52.9	31	168	7	80	98	2	0
Galena	---	---	107.0	51.6	23	169	3	83	94	1	5
C65	---	---	105.6	52.7	26	172	0	87	97	2	1
Radiant	---	---	105.3	52.6	33	170	3	87	92	6	2
Xena	111.7	148.3	104.9	52.1	32	166	27	83	90	5	5
Valier	110.7	153.7	103.1	53.2	35	167	10	80	96	2	2
Criton	108.7	117.7	102.6	51.7	35	164	43	83	98	2	0
Harrington	108.7	128.7	100.5	52.4	34	167	27	80	92	7	1
98Ab11993	---	---	100.2	52.5	30	167	7	87	97	2	1
PB1-95-2R-522	---	161.3	99.7	53.9	33	166	0	83	95	2	3
Farmington	---	156.3	99.6	52.4	22	173	0	80	94	1	5
95Ab11469	---	---	98.3	53.1	33	165	20	83	98	1	1
CDC Bold	101.6	148.0	97.3	51.7	30	166	0	83	96	3	1
Garnet	100.8	139.2	93.6	51.2	34	166	10	83	96	3	1
B1202	98.1	127.9	92.4	51.4	35	166	17	83	89	8	3
SR6608	---	---	92.3	50.2	22	175	0	83	98	1	1
Klages	101.8	138.1	90.6	52.8	34	169	13	83	94	5	1
CDC Stratus	---	128.8	82.0	51.8	30	170	0	83	99	1	0
Average	107.4	144.8	107.6	52.1	31	168	12	84	95	3	2
LSD 0.10	6.8	9.6	19.0	1.3	4	2	30	6			
CV%	6	6.2	12.8	1.8	9	1	163	6			

[1]No spring grain trials were conducted in Kimberly in 2004.

Table 18 (cont'd). Agronomic data for spring barley at Aberdeen, and Ashton, combined, irrigated, 2004.

	Yield (bu/A)			Test Wt.	Height	Date Head	Lodging	% Plump		
Variety	**Aberdeen**	**Ashton**	**Average**	**(lb/bu)**	**(in.)**	**from Jan.1**	**%**	**(>6/64)**	**(>5/64)**	**Thins**
Six-Row Spring Barley										
Millennium	125.6	97.1	111.4	50	37	179	3	87	4	3.5
Creel (93Ab688)	106.7	114.0	110.4	51	37	181	30	87	4	4
Colter	114.5	103.5	109.0	50	41	181	23	84	6	5.5
Morex	106.3	94.1	100.2	51	42	184	57	83	7	6.5
Legacy	103.6	95.0	99.3	51	38	183	47	90	4	4
Steptoe	90.4	105.9	98.1	49	38	182	32	92	4	3.5
98Ab12904	96.1	98.0	97.1	50	37	181	23	91	3	2.5
Lacey	107.6	85.6	96.6	52	39	181	25	97	1	1
UT95B1216-4087	97.1	81.4	89.3	52	36	182	18	90	3	3
Drummond	98.2	79.0	88.6	52	39	183	13	97	0	0
94Ab13449	88.8	87.4	88.1	52	36	181	8	96	1	1
Tradition (6B95-2482)	96.6	77.1	86.9	51	38	183	23	96	1	1
UT95B1480-1534	82.7	73.2	78.0	52	37	179	12	96	1	0.5
UT95B1480-1632	73.3	82.3	77.8	51	38	178	20	93	2	2
Foster	61.9	75.0	68.4	51	40	182	20	98	1	0.5
Average	97.8	90.4	94.4	51	38	182	24	92	3	3

Table 19. Agronomic data for spring barley, Aberdeen, irrigated, 2004.

	Yield (bu/A)			Test Wt.	Height	Date Head	Lodging	% Plump		
Variety	**2002**	**2003**	**2004**	**(lb/bu)**	**(in.)**	**from Jan.1**	**%**	**(>6/64)**	**(>5/64)**	**Thins**
Two-Row Spring Barley										
Calgary	124.0	147.9	124.8	53.9	34	173	33	96	3	1
PB1-95-2R-522	121.1	151.5	117.0	53.3	42	172	53	89	7	4
Adage (B-99-AL-621)	126.1	123.1	115.9	51.0	42	174	90	82	10	8
C63	---	---	113.1	50.5	38	177	73	86	9	5
Moravian 37	108.8	135.6	111.7	51.8	32	176	87	86	10	4
95Ab11469	---	---	111.2	53.9	38	171	77	95	3	2
Bob (WA8682-96)	103.1	113.9	111.0	52.7	41	173	50	88	7	5
Criton	128.0	136.8	110.6	53.2	40	169	67	94	3	3
Camas	98.7	154.2	110.6	53.4	41	172	43	93	4	3
CDC Bold	107.1	153.5	109.3	53.9	35	173	17	94	4	2
C65	---	---	107.0	50.8	35	179	90	86	9	5
B-99-AL-616	---	---	105.6	49.8	42	174	100	85	10	5
Baronesse	116.5	134.3	105.2	52.0	42	175	83	85	9	6
Idagold II	---	153.3	105.2	48.4	32	178	77	65	23	12
98Ab11720	---	---	104.6	51.5	39	175	67	82	10	8
B5057	---	---	103.7	51.9	37	173	60	88	8	4
Bancroft	113.3	135.7	102.2	51.0	39	174	80	81	11	8
C60	111.8	135.3	100.9	48.7	35	180	87	68	19	13
Radiant	---	---	100.9	51.8	37	175	83	73	16	11
98Ab11993	---	---	100.5	50.9	38	174	80	84	9	7
Xena	128.1	163.7	99.8	51.1	38	173	57	82	9	9
WA 8601-97	---	142.0	99.7	50.6	41	175	90	77	14	9
Galena	---	---	97.5	50.4	36	178	87	75	16	9
B1202	119.8	136.0	95.8	51.4	40	173	67	87	7	6
Farmington	---	130.0	95.6	50.1	36	179	97	72	16	12
Garnet	98.0	110.3	95.4	51.7	41	175	53	91	5	4
C69	---	151.9	95.1	48.6	32	178	70	69	19	12
SR6608	---	---	93.6	44.5	31	178	70	54	26	20
AC Metcalfe	---	---	91.2	52.7	41	170	33	93	5	2
Merit	96.4	132.3	85.1	49.3	43	175	83	72	16	12
WA10701-99	---	---	83.6	49.3	42	171	93	72	15	13
CDC Stratus	---	133.1	78.7	53.9	44	173	37	94	4	2
Harrington	97.1	130.7	74.9	49.6	44	175	83	73	15	12
Valier	100.7	128.2	70.4	51.5	43	175	53	74	14	12
Klages	93.8	125.9	58.7	49.6	43	175	73	71	16	13
Average	110.4	136.9	99.8	51.1	39	175	70	82	11	8
LSD 0.10	9.1	14.9	17.5	2.7	4	1	3			
CV%	7.9	10	12.5	3.9	8	0	35			

Table 20 (cont'd). Agronomic data for spring barley at Ashton, irrigated, 2004.

	Yield (bu/A)			Test Wt.	Height	Date Head	Lodging	Spring	% Plump		
Variety	**2002**	**2003**	**2004**	**(lb/bu)**	**(in.)**	**from Jan.1**	**%**	**Stand %**	**(>6/64)**	**(>5/64)**	**Thins**
Six-Row Spring Barley											
Creel (93Ab688)	91.5	104.3	114.0	51.8	34	196	23	97	94	5	1
Steptoe	91.4	104.9	105.9	50.1	32	195	30	97	97	2	1
Colter	84.4	102.6	103.5	50.8	35	195	13	100	92	6	2
98Ab12904	---	---	98.0	51.8	33	195	20	97	95	4	1
Millennium	91.4	109.3	97.1	49.9	32	195	3	97	91	7	2
Legacy	73.1	91.9	95.0	51.4	35	198	33	100	97	2	1
Morex	64.1	75.4	94.1	51.2	36	199	47	97	90	7	3
94Ab13449	86.4	91.5	87.4	52.1	33	196	17	87	97	2	1
Lacey	80.0	87.7	85.6	51.8	34	197	23	90	97	2	1
UT95B1480-1632	86.5	111.8	82.3	52.3	33	193	17	100	97	2	1
UT95B1216-4087	84.8	113.6	81.4	52.5	33	198	20	93	95	4	1
Drummond	74.0	84.2	79.0	51.4	36	197	10	97	98	2	0
Tradition (6B95-2482)	78.5	90.2	77.1	52.1	37	197	13	100	99	1	0
Foster	69.9	80.3	75.0	50.7	35	197	23	93	98	2	0
UT95B1480-1534	---	98.5	73.2	52.7	34	195	17	93	98	2	0
Average	81.2	96.1	90.4	51.6	34	197	21	96	96	3	1
LSD 0.10	4.1	5.3	11.8	0.5	2	1	10	6			
CV%	4.6	5.1	9.4	0.7	4	0	35	5			

Table 21. Agronomic data for spring barley at Soda Springs, dryland, 2004.

	Yield (bu/A)			Test Wt.	Height	Date Head	Lodging	Spring	% Plump		
Variety	**2002**	**2003**	**2004**	**(lb/bu)**	**(in.)**	**from Jan.1**	**%**	**Stand %**	**(>6/64)**	**(>5/64)**	**Thins**
Two-Row Spring Barley											
Xena	70.6	33.9	109.5	49.2	32	194	13	97	80	13	7
Adage (B-99-AL-621)	66.2	31.5	104.4	49.1	28	194	10	97	84	12	4
B-99-AL-616	---	---	102.9	49.6	29	194	10	97	82	12	6
98Ab11993	---	---	99.2	48.5	29	196	10	100	88	7	5
Radiant	---	---	98.9	50.0	31	196	13	90	78	13	9
Criton	63.2	35.3	98.6	49.4	31	194	27	97	90	7	3
Bancroft	66.5	34.1	98.3	48.5	32	196	37	93	79	14	7
98Ab11720	---	---	98.3	48.7	31	198	17	93	74	14	12
PB1-95-2R-522	66.4	31.6	97.9	49.7	33	195	10	93	73	17	10
Baronesse	66.6	39.4	97.5	49.6	30	195	10	93	81	11	8
Bob (WA8682-96)	71.6	36.3	96.9	50.6	31	195	17	97	88	7	5
AC Metcalfe			95.9	50.0	34	193	13	90	90	8	2
95Ab11469	---	---	95.4	50.5	31	195	10	87	89	6	5
CDC Stratus	---	23.3	94.5	50.1	31	196	13	93	85	10	5
Garnet	56.6	31.6	93.7	50.0	32	196	12	90	91	6	3
WA 8601-97	---	21.7	93.6	48.8	29	195	13	93	76	13	11
Valier	61.2	30.7	93.3	50.5	31	196	10	90	83	12	5
Hector	63.3	36.3	91.7	50.5	32	196	27	87	83	10	7
CDC Bold	59.0	37.9	91.6	47.2	30	194	10	97	64	21	15
Camas	69.2	35.0	90.1	49.1	31	196	13	93	76	16	8
Farmington	---	30.7	88.9	49.3	26	197	10	93	79	14	7
WA10701-99	---	---	86.4	48.7	30	195	20	93	76	15	9
B1202	63.3	28.3	85.9	47.8	31	196	10	87	76	15	9
Targhee	64.5	35.4	85.1	49.6	29	197	15	90	84	10	6
Idagold II	---	29.6	84.5	49.8	24	196	10	97	78	15	7
Harrington	53.6	36.8	83.8	49.9	30	196	10	87	83	12	5
Klages	55.6	31.3	79.8	47.8	32	198	17	93	54	24	22
Average	63.4	32.9	93.9	49.3	30	196	14	93	80	12	7
LSD 0.10	5.7	4.2	9.9	1.4	2	2	9	8			
CV%	8.8	12.1	7.6	2.1	6	1	43	6			

Table 22 (cont'd). 2004 winter wheat yields expressed as a percent of the location average.

	Percent Yield			
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Average**
Hard Winter Wheat				
Boundary	105	102	115	107
CDC Falcon	102	97	86	95
Deloris (UT2030-32)	98	96	101	98
Dumas	93	90	98	94
DW	103	105	98	102
Garland	104	99	98	100
Gary (W)	104	112	94	103
Golden Spike (W)	110	102	93	102
IDO571	107	109	92	103
Moreland (IDO517)	104	103	97	102
Neeley	108	93	105	102
NuFrontier (W)	97	100	99	99
NuHills (W)	83	86	99	90
NuHorizon (W)	104	106	114	108
OR850513-8 (W)	94	94	98	95
Promontory	110	110	104	108
Utah 100	104	98	102	102
W96-054-08W (W)	95	92	93	93
W96-355	85	101	99	95
W96-359W (W)	88	102	101	97
Location Avg. (bu/A)	127	126	114	-----

Table 23. 2004 winter barley yields expressed as a percent of the location average.

		Percent Yield	
Variety	**Kimberly**	**Aberdeen**	**Average**
85Ab216	74	126	100
86Ab474	113	69	91
88AB536B	87	94	91
91Ab23	111	95	103
91Ab36	112	117	114
92Ab561	107	98	103
93Ab631	117	123	120
94Ab1269	88	101	94
94Ab1274	96	117	106
94Ab1777	106	112	109
95Ab2299	82	113	97
97Ab11	105	130	118
Boyer	106	79	93
Eight-Twelve	116	65	91
Hesk	105	99	102
Hundred	108	67	88
KAB 47	89	76	83
KAB 51	82	112	97
Kamiak	97	99	98
Kold	100	109	104
Mal	101	96	99
ORSRAB-7	77	87	82
ORSTAB-113	103	86	94
Schuyler	94	83	89
Scio	99	108	104
Sprinter	100	90	95
Strider	110	138	124
Sunstar Pride	112	113	112
Location Avg. (bu/A)	170	118	----

Table 24 (cont'd). 2004 spring wheat yields expressed as a percent of the location average.

	Percent Yield				
	Rupert	**Aberdeen**	**Ashton**	**Soda Springs**	**Average**
Variety		**Irrigated**		**Dryland**	
Hard Spring Wheat					
AP1526	92	112	84	68	89
Blanca Grande (W)	99	102	86	90	94
GM40065 (W)	94	104	82	129	102
GM40066 (W)	85	84	84	105	90
GM40067 (W)	54	69	84	87	73
GM40068 (W)	96	93	114	90	98
Hollis (WA007859)	84	67	83	97	82
IDO597 (W)	102	104	111	115	108
Idaho 377s (W)	102	106	132	98	109
IDO592	102	100	107	97	101
IDO593	118	112	121	108	115
Iona	95	100	108	98	100
Jefferson	101	104	100	100	101
Jerome (IDO 566)	106	98	107	91	101
Klasic (W)	115	106	92	57	93
Kronos	104	107	101	113	106
Lolo (W)	120	123	137	111	123
Macon (WA7899) (W)	110	96	99	113	105
Matt	90	101	92	82	91
ML316-377s-1 (W)	102	----	----	----	102
ML316-5-4 (W)	106	97	----	----	101
MLMaya74-OR255-94	106	----	----	----	106
Plata (W)	108	103	82	101	99
Pristine (W)	95	103	103	97	99
Rick	113	111	99	108	108
Saxon	99	105	83	113	100
Scarlet	100	109	101	120	108
Summit	105	92	80	94	93
Tara 2002	108	86	105	94	98
Topper	79	81	97	71	82
Utopia	101	104	102	93	100
WA007925	88	77	95	103	91
WA7931 (W)	114	114	127	118	118
WB936	102	102	99	129	108
Winsome (W)	98	105	98	102	101
Zeke	107	124	104	107	111
Location Avg. (bu/A)	83	85	87	54	----

Table 25 (cont'd). 2004 spring barley yields expressed as a percent of the location average.

	Percent Yield				
	Rupert	**Aberdeen**	**Ashton**	**Soda Springs**	**Average**
Variety		**Irrigated**		**Dryland**	
Six-Row Barley					
94Ab13449	103	91	97	81	93
98Ab12904	105	98	108	90	100
Century	---	126	---	106	116
Colter	101	117	114	107	110
Creel (93Ab688)	113	109	126	110	114
Drummond	95	100	87	92	94
Foster	81	63	83	94	80
Lacey	96	110	95	104	101
Legacy	95	106	105	---	102
Millennium	114	128	107	109	115
Morex	97	109	104	95	101
Steptoe	100	92	117	113	105
Tradition (6B95-2482)	105	99	85	---	96
UT95B1216-4087	107	99	90	114	103
UT95B1480-1534	87	85	81	85	84
UT95B1480-1632	92	75	91	99	89
Location Avg. (bu/A)	107	98	90	95	----

Table 26 (cont'd). Percent protein and kernel hardness for winter wheat, 2003.

	Percent Protein(12%mb)					Kernel Hardness(0-100)				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
Hard Red Winter Wheat										
Bonneville	---	---	---	16.2	16.2	---	---	---	64.4	64.4
Boundary	10.9	10.4	9.5	15.6	11.6	54.4	51.6	49.8	52.1	52.0
CDC Falcon	8.8	9.9	9.0	17.4	11.3	40.2	27.6	23.1	45.9	34.2
Declo	10.4	10.7	10.4	15.6	11.8	55.0	52.7	56.3	52.1	54.0
Deloris	11.6	11.6	11.0	14.6	12.2	61.5	53.4	62.2	51.0	57.0
Dumas	10.7	10.8	10.0	15.1	11.7	61.2	53.3	58.8	59.0	58.1
DW	10.4	11.0	11.2	15.0	11.9	55.5	56.5	59.6	58.1	57.4
Garland	11.5	10.8	10.2	---	10.8	55.9	49.5	51.5	---	52.3
IDO562	----	----	---	15.1	15.1	---	---	---	58.8	58.8
IDO 571	11.1	11.2	10.5	15.6	12.1	57.0	57.0	54.4	53.7	55.5
IDO575	---	---	---	15.9	15.9	---	---	---	59.4	59.4
Moreland	10.1	11.4	10.2	14.5	11.6	53.1	48.0	56.0	48.9	51.5
Neeley	10.8	10.4	10.3	15.5	11.8	59.0	54.5	57.5	46.8	54.5
Promontory	9.8	10.4	9.7	15.5	11.4	50.4	56.5	50.7	58.3	54.0
Residence	10.2	10.9	9.2	15.4	11.4	59.3	55.1	45.4	52.9	53.2
Survivor	---	---	---	15.7	15.7	---	---	---	53.4	53.4
Utah 100	11.2	11.1	9.8	15.4	11.9	61.3	66.1	53.9	60.6	60.5
Ute	9.8	10.4	10.0	---	10.1	55.0	44.3	52.1	---	50.5
Weston	---	---	---	15.0	15.0	---	---	---	42.5	42.5
Hard White Winter Wheat										
Gary (W)	10.0	10.4	11.0	14.8	11.6	46.1	49.5	55.3	51.5	50.6
Golden Spike (W)	9.6	9.9	9.3	14.7	10.9	43.9	42.5	44.7	45.8	44.2
Manning	---	---	---	14.9	14.9	---	---	---	50.7	50.7
NuFrontier (W)	10.4	10.5	9.9	14.6	11.4	55.5	39.8	52.8	51.2	49.8
NuHorizon (W)	10.7	11.0	9.5	15.6	11.7	51.3	50.9	42.1	57.9	50.6
OR850513-8 (W)	9.8	10.4	10.0	15.1	11.3	50.8	54.4	50.8	59.3	53.8
Average	10.4	10.7	10.0	15.3	12.4	54.0	50.7	51.4	53.7	52.9

Table 27. Percent protein for spring wheat, 2003.

	Percent Protein (12%mb)				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Soft White Spring Wheat					
Alpowa	11.0	14.5	9.5	15.5	12.6
Alturas	10.9	14.4	9.5	15.0	12.5
Challis	10.3	14.5	9.8	16.2	12.7
Eden	10.9	13.0	9.7	14.6	12.1
IDO556	11.7	14.8	10.9	15.6	13.3
Jubilee	10.9	14.4	10.3	14.6	12.6
ML042-409-1,5	10.8	14.1	10.7	15.0	12.7
Penawawa	11.3	15.0	9.9	15.9	13.0
Treasure	11.0	15.3	9.0	15.3	12.7
WA007921	11.3	13.9	9.3	15.4	12.5
Whitebird	11.4	14.0	9.4	15.2	12.5
Average	11.0	14.4	9.8	15.3	12.6

Table 28. Kernel hardness for spring wheat, 2003.

	Kernel Hardness (0-100)				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Soft White Spring Wheat					
Alpowa	7.2	7.9	5.4	10.6	7.8
Alturas	1.3	5.7	-2.1	9.8	3.7
Challis	5.8	8.1	1.1	11.1	6.5
Eden	7.4	12.0	6.8	13.8	10.0
IDO556	1.9	8.3	-0.8	10.4	5.0
Jubilee	10.0	12.4	12.9	15.6	12.7
ML042-409-1,5	2.5	6.8	0.5	5.4	3.8
Penawawa	0.2	4.1	-3.1	6.9	2.0
Treasure	5.1	9.7	0.8	13.4	7.3
WA007921	4.8	9.5	7.0	7.8	7.3
Whitebird	10.4	16.8	11.2	18.0	14.1
Average	5.1	9.2	3.6	11.2	7.3

Table 29. Percent flour protein and flour yield for soft white winter wheat at Kimberly, Rupert, Aberdeen, and Ririe, 2003.

	Flour Protein (%)					Flour Yield (%)				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
91-20503A	5.7	6.5	6.8	13.1	8.0	70.6	67.3	68.0	58.9	66.2
91-34302A	5.6	6.4	6.6	12.7	7.8	71.0	69.5	71.0	59.0	67.6
Beamer	5.1	6.9	7.3	13.7	8.3	71.2	68.8	70.4	61.1	67.9
Brundage	6.1	6.8	7.4	12.7	8.3	68.8	66.0	66.9	58.6	65.1
Brundage 96	5.1	7.1	7.1	12.5	8.0	68.8	66.1	67.6	57.0	64.9
BZ6W98-528	5.6	6.8	7.3	---	6.6	69.2	66.8	68.2	---	68.1
Daws	5.0	6.2	6.5	11.9	7.4	69.0	66.2	67.1	58.1	65.1
Eltan	---	---	---	13.1	13.1	---	---	---	58.2	58.2
ID87-52814A	5.5	6.6	7.0	12.5	7.9	70.5	66.0	67.8	56.3	65.2
IDO576	5.3	7.3	7.8	12.3	8.2	68.4	67.6	65.1	58.6	64.9
IDO587	5.9	6.5	7.3	12.8	8.1	69.3	67.0	68.4	58.4	65.8
Kmor	---	---	---	12.4	12.4	---	---	---	55.1	55.1
Lambert	4.6	6.6	6.4	12.6	7.6	70.0	66.3	68.5	56.5	65.3
MacVicar	5.0	6.7	7.1	12.5	7.8	70.2	66.9	68.4	57.7	65.8
Madsen	6.7	6.9	7.1	13.5	8.6	69.8	68.7	68.7	61.0	67.1
Malcolm	5.2	6.2	6.4	---	5.9	70.0	69.3	68.8	---	69.4
Mohler	5.0	6.2	7.2	12.7	7.8	70.4	69.8	69.3	58.3	67.0
OR2010051	5.9	7.0	8.6	---	7.2	67.3	67.4	68.9	---	67.9
OR9900553	7.0	6.9	7.9	---	7.3	68.4	64.9	67.8	---	67.0
Sprague	---	---	---	11.6	11.6	---	---	---	59.0	59.0
Stephens	6.1	6.5	6.9	13.1	8.2	73.8	67.1	67.9	58.8	66.9
SX1401W	4.3	6.8	6.2	13.2	7.6	71.2	69.5	71.2	67.2	69.8
Tubbs	5.5	7.0	7.1	12.2	8.0	69.1	67.6	70.2	58.3	66.3
Westbred 470	5.8	6.7	7.6	12.2	8.1	67.0	65.4	67.3	58.0	64.4
Average	5.5	6.7	7.1	12.7	8.3	69.7	67.3	68.5	58.7	65.4

Table 30. Percent break flour yield and cookie diameter for soft white winter wheat at Kimberly, Rupert, Aberdeen, and Ririe, 2003.

	Break Flour Yield (%)					Cookie Diameter (cm)				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
91-20503A	36.6	34.2	32.6	36.0	34.9	8.7	8.8	9.1	7.9	8.6
91-34302A	36.3	34.3	37.0	36.0	35.9	9.1	8.6	8.6	7.8	8.5
Beamer	40.3	33.7	36.4	32.0	35.6	8.8	8.4	8.9	8.0	8.5
Brundage	39.8	38.5	36.2	36.6	37.8	8.9	9.2	9.0	8.0	8.8
Brundage 96	41.1	39.0	39.2	35.1	38.6	9.5	8.7	8.8	8.1	8.8
BZ6W98-528	37.4	40.0	38.3	---	38.6	9.2	9.1	9.1	---	9.1
Daws	39.5	42.1	40.7	35.7	39.5	8.4	8.3	8.6	7.8	8.3
Eltan	---	---	---	38.2	38.2	---	---	---	7.8	7.8
ID87-52814A	45.5	46.3	41.6	33.8	41.8	9.0	9.0	9.1	7.9	8.8
IDO576	41.5	40.0	36.3	38.4	39.1	9.4	9.2	8.7	8.0	8.8
IDO587	38.3	36.8	36.2	30.9	35.6	9.0	8.6	8.6	8.0	8.6
Kmor	---	----	---	36.1	36.1	---	---	---	8.1	8.1
Lambert	40.4	37.1	38.6	31.9	37.0	8.8	8.6	8.4	7.9	8.4
MacVicar	37.1	34.1	38.8	33.2	35.8	8.6	8.9	8.2	7.9	8.4
Madsen	35.9	37.8	35.9	31.5	35.3	9.0	8.9	8.7	8.0	8.7
Malcolm	36.6	39.2	37.6	---	37.8	8.7	8.5	9.2	---	8.8
Mohler	36.9	35.3	33.9	29.3	33.9	9.1	8.8	9.0	7.9	8.7
OR2010051	33.2	35.0	33.4	---	33.9	8.8	8.6	8.8	---	8.7
OR9900553	41.3	40.8	40.0	---	40.7	8.9	8.8	8.7	---	8.8
Sprague	---	---	---	34.1	34.1	---	---	---	8.0	8.0
Stephens	35.4	38.1	36.6	30.0	35.0	9.0	8.7	8.7	8.0	8.6
SX1401W	41.8	33.6	37.0	26.6	34.8	8.4	8.3	8.5	7.7	8.2
Tubbs	33.5	30.3	34.4	30.5	32.2	8.4	8.7	8.1	7.9	8.3
Westbred 470	36.2	38.1	33.2	34.9	35.6	8.8	8.4	8.2	7.7	8.3
AVERAGE	38.3	37.3	36.9	33.5	36.6	8.9	8.7	8.7	7.9	8.5

Table 31. Percent flour protein for soft white spring wheat, 2003.

	Percent Flour Protein				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Alpowa	8.7	10.4	6.9	10.5	9.1
Alturas	8.7	9.9	7.3	10.8	9.2
Challis	8.4	9.9	7.3	11.7	9.3
Eden	8.1	9.0	7.0	10.3	8.6
IDO556	9.4	10.8	8.1	11.4	9.9
Jubilee	8.4	10.3	7.5	10.6	9.2
ML042-409-1,5	8.6	10.2	7.2	11.0	9.3
Penawawa	9.0	10.7	7.4	11.2	9.6
Treasure	8.5	10.5	6.8	10.6	9.1
WA007921	8.7	10.0	6.8	10.8	9.1
Whitebird	8.7	10.2	6.8	10.5	9.1
Average	8.7	10.2	7.2	10.9	9.2

Table 32. Percent flour yield for soft white spring wheat, 2003.

	Percent Flour Yield				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Alpowa	66.4	60.4	64.2	56.0	61.8
Alturas	68.2	66.7	66.7	62.3	66.0
Challis	68.1	62.6	65.8	59.6	64.0
Eden	68.2	65.3	66.5	61.9	65.5
IDO556	66.9	62.5	65.0	57.4	63.0
Jubilee	68.4	62.8	66.7	62.3	65.1
ML042-409-1,5	67.7	64.3	67.2	61.0	65.1
Penawawa	61.5	61.4	63.9	55.4	60.6
Treasure	68.3	62.7	67.4	61.3	64.9
WA007921	66.7	65.9	68.2	57.7	64.6
Whitebird	69.0	64.8	69.3	62.3	66.4
Average	67.2	63.6	66.4	59.7	64.2

Table 33. Percent break flour yield for soft white spring wheat, 2003.

	Percent Break Flour Yield				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Alpowa	40.2	39.6	40.4	40.8	40.3
Alturas	35.6	39.9	42.7	37.6	39.0
Challis	40.7	39.3	42.5	37.6	40.0
Eden	39.6	38.4	45.8	42.6	41.6
IDO556	34.7	39.4	39.4	38.4	38.0
Jubilee	38.6	42.5	45.4	44.5	42.8
ML042-409-1,5	40.7	44.0	44.2	40.2	42.3
Penawawa	34.2	40.4	43.3	39.7	39.4
Treasure	41.1	45.6	47.8	42.1	44.2
WA007921	37.6	41.6	44.8	38.0	40.5
Whitebird	40.8	41.1	44.9	40.8	41.9
Average	38.5	41.1	43.7	40.2	40.9

Table 34. Cookie Diameter for soft white spring wheat, 2003.

	Cookie Diameter				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Alpowa	8.3	7.9	8.0	7.8	8.0
Alturas	8.5	8.2	8.7	7.9	8.3
Challis	9.0	8.2	8.9	8.0	8.5
Eden	8.6	8.4	9.0	8.7	8.7
IDO556	9.2	8.2	8.8	8.1	8.6
Jubilee	8.9	8.3	8.8	8.6	8.7
ML042-409-1,5	8.7	8.4	8.7	8.1	8.5
Penawawa	8.1	7.8	8.7	7.9	8.1
Treasure	8.6	8.2	9.5	8.2	8.6
WA007921	8.8	8.3	9.2	8.1	8.6
Whitebird	8.7	8.5	8.9	8.1	8.6
Average	8.7	8.2	8.8	8.1	8.5

Table 34. Cookie Diameter for soft white spring wheat, 2003.

	Cookie Diameter (cc)				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Alpowa	8.3	7.9	8.0	7.8	8.0
Alturas	8.5	8.2	8.7	7.9	8.3
Challis	9.0	8.2	8.9	8.0	8.5
Eden	8.6	8.4	9.0	8.7	8.7
IDO556	9.2	8.2	8.8	8.1	8.6
Jubilee	8.9	8.3	8.8	8.6	8.7
ML042-409-1,5	8.7	8.4	8.7	8.1	8.5
Penawawa	8.1	7.8	8.7	7.9	8.1
Treasure	8.6	8.2	9.5	8.2	8.6
WA007921	8.8	8.3	9.2	8.1	8.6
Whitebird	8.7	8.5	8.9	8.1	8.6
Average	8.7	8.2	8.8	8.1	8.5

Table 35. Percent flour protein and flour yield for hard winter wheat at Kimberly, Rupert, Aberdeen, and Ririe 2003.

	Flour Protein (14% mb)					Flour Yield (%)				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
Hard Red Winter Wheat										
Bonneville	---	---	---	14.3	14.3	---	---	---	66.7	66.7
Boundary	8.7	8.5	7.4	13.4	9.5	71.4	70.6	71.1	65.9	69.8
CDC Falcon	7.0	7.9	8.1	13.7	9.2	67.6	66.3	68.1	63.5	66.4
Declo	8.2	8.7	8.0	13.8	9.7	67.5	67.6	67.0	62.5	66.2
Deloris	9.5	9.7	9.0	12.7	10.2	72.9	70.0	71.7	67.6	70.6
Dumas	8.2	8.9	7.4	13.0	9.4	68.8	68.7	66.6	66.4	67.6
DW	8.3	8.8	9.3	13.2	9.9	69.2	68.6	69.1	64.4	67.8
Garland	8.2	8.7	7.8	---	8.2	66.1	65.9	66.3	---	66.1
IDO562	---	---	---	13.4	13.4	---	---	---	66.9	66.9
IDO571	8.9	9.1	8.8	13.0	10.0	69.7	68.9	67.6	64.7	67.7
IDO575	---	---	---	14.0	14.0	---	---	---	65.9	65.9
Moreland (IDO517)	8.2	9.1	8.0	12.6	9.5	68.4	67.4	68.7	63.4	67.0
Neeley	8.7	8.7	8.5	13.2	9.8	69.9	67.7	69.1	63.3	67.5
Promontory	8.1	8.7	7.4	13.1	9.3	71.4	69.5	70.7	66.7	69.6
Residence	7.9	8.5	6.8	13.3	9.1	69.5	67.0	68.4	63.1	67.0
Survivor	---	---	---	13.8	13.8	---	---	---	66.2	66.2
Utah 100	8.3	8.8	7.3	13.1	9.4	69.7	69.1	69.0	64.5	68.1
Ute	7.9	8.3	7.4	---	7.9	68.2	67.4	68.6	---	68.1
Weston	---	---	---	13.4	13.4	---	---	---	64.5	64.5
Hard White Winter Wheat										
Gary (W)	7.9	8.4	9.0	12.9	9.6	68.6	66.4	65.4	63.6	66.0
Golden Spike (W)	7.4	8.9	7.4	12.8	9.1	70.6	70.3	71.2	65.0	69.3
Manning	---	---	---	13.0	13.0	---	---	---	65.3	65.3
NuFrontier (W)	8.4	8.7	7.6	13.0	9.4	68.7	65.5	66.6	64.7	66.4
NuHorizon (W)	8.7	9.1	7.2	13.3	9.6	68.9	69.5	69.4	66.4	68.6
OR850513-8 (W)	8.0	8.4	7.9	13.2	9.4	71.6	71.8	70.6	66.7	70.2
Average	8.2	8.7	7.9	13.3	10.4	69.4	68.3	68.7	65.1	67.4

Table 36. Bake volume for hard winter wheat at Kimberly, Rupert, Aberdeen, and Ririe, 2003.

	Bake Volume (cc)				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
Hard Red Winter Wheat					
Bonneville	---	---	---	1350	1350
Boundary	800	650	700	1325	869
CDC Falcon	725	825	800	1300	913
Declo	750	750	725	1225	863
Deloris	1050	950	950	1300	1063
Dumas	725	875	400	1100	775
DW	925	900	1000	1350	1044
Garland	825	825	800	---	817
IDO562	---	---	---	1225	1225
IDO571	1050	950	825	1250	1019
IDO575	---	---	---	1350	1350
Moreland	875	825	725	1300	931
Neeley	800	750	800	1300	913
Promontory	800	800	700	1250	888
Residence	650	650	700	1200	800
Survivor	---	---	---	1200	1200
Utah 100	800	875	750	1325	938
Ute	750	725	600	---	692
Weston	---	---	---	1350	1350
Hard White Winter Wheat					
Gary (W)	750	700	850	1250	888
Golden Spike (W	750	850	725	1275	900
Manning	---	---	---	1200	1200
NuFrontier (W)	725	725	750	1200	850
NuHorizon (W)	925	925	700	1250	950
OR850513-8 (W)	725	775	750	1200	863
Average	811	807	750	1264	986

Table 37. Percent flour protein for hard spring wheat, 2003.

	Flour Protein (14% mb)				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Hard White Spring Wheat					
Blanca Grande (W)	10.7	13.4	10.6	14.2	12.2
Idaho 377s (W)	9.9	11.4	9.3	13.4	11.0
Klasic (W)	10.6	12.0	10.6	15.0	12.1
Lolo (W)	10.1	11.7	8.9	13.6	11.1
Macon (W)	11.1	11.9	9.8	15.0	12.0
ML181,A-1-38	9.5	11.1	9.2	13.9	10.9
ML301-37-4	10.2	11.2	9.0	14.7	11.3
ML316-5-4	11.1	12.0	10.5	13.5	11.8
Plata (W)	11.2	12.3	10.2	15.5	12.3
Pristine (W)	10.5	12.2	10.5	14.6	12.0
WA7931 (W)	10.9	11.2	9.9	13.6	11.4
Winsome (W)	9.4	11.0	9.4	14.8	11.2
Hard Red Spring Wheat					
IDO566	11.0	12.0	10.8	14.7	12.1
Iona	11.6	12.5	10.2	14.4	12.2
Jefferson	11.1	12.0	11.0	15.0	12.3
Rick	9.5	10.7	9.4	12.4	10.5
Saxon	10.6	12.8	10.8	14.8	12.3
Scarlet	11.6	12.0	10.7	14.2	12.1
Tara	11.1	12.6	11.1	15.0	12.5
WA007859	12.5	13.0	12.2	15.1	13.2
WA007925	11.7	12.1	11.3	14.2	12.3
WB936	11.7	12.1	10.9	14.7	12.4
Zeke	10.7	12.1	9.8	15.3	12.0
Average	10.8	12.0	10.3	14.4	11.9

Table 38. Percent flour yield for hard spring wheat, 2003.

	Percent Flour Yield				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Hard White Spring Wheat					
Blanca Grande (W)	67.4	66.4	68.3	60.6	65.7
Idaho 377s (W)	67.0	65.6	65.7	63.5	65.5
Klasic (W)	72.9	68.8	69.5	62.2	68.4
Lolo (W)	68.4	67.3	67.6	64.1	66.9
Macon (W)	68.8	68.4	69.8	64.9	68.0
ML181,A-1-38	67.8	65.2	66.7	62.1	65.5
ML301-37-4	68.5	65.0	66.5	60.7	65.2
ML316-5-4	67.9	66.6	66.9	60.9	65.6
Plata (W)	68.9	68.2	66.6	63.6	66.8
Pristine (W)	71.7	68.9	70.0	67.2	69.5
WA7931 (W)	70.6	69.6	69.8	65.7	68.9
Winsome (W)	67.7	68.7	67.8	65.4	67.4
Hard Red Spring Wheat					
IDO566	70.6	69.1	70.4	67.0	69.3
Iona	71.5	69.9	71.5	65.9	69.7
Jefferson	71.5	70.0	70.0	67.2	69.7
Rick	69.4	67.0	68.2	66.1	67.7
Saxon	70.6	67.2	70.1	63.6	67.9
Scarlet	70.4	68.2	70.1	65.0	68.4
Tara	70.4	68.7	69.0	65.4	68.4
WA007859	69.1	68.1	68.8	66.9	68.2
WA007925	71.4	69.5	69.9	65.7	69.1
WB936	71.9	69.5	70.7	65.2	69.3
Zeke	71.9	68.8	70.5	64.4	68.9
Average	69.8	68.0	68.9	64.5	67.8

Table 39. Bake volume for hard spring wheat, 2003.

	Bake Volume (cc)				
Variety	**Aberdeen**	**Ashton**	**Kimberly**	**Soda Springs**	**Average**
Hard White Spring Wheat					
Blanca Grande (W)	1175	1400	1175	1325	1269
Idaho 377s (W)	950	1050	925	1150	1019
Klasic (W)	1200	1250	1250	1225	1231
Lolo (W)	825	1175	925	1150	1019
Macon (W)	1150	1300	1175	1300	1231
ML181,A-1-38	950	1175	1000	1250	1094
ML301-37-4	925	975	950	1125	994
ML316-5-4	1100	1150	1175	1225	1163
Plata (W)	1150	1275	1100	1300	1206
Pristine (W)	1075	1150	1000	1200	1106
WA7931 (W)	1050	1100	1050	1225	1106
Winsome (W)	925	1100	1025	1275	1081
Hard Red Spring Wheat					
IDO566	1100	1200	1225	1300	1206
Iona	1200	1225	1050	1275	1188
Jefferson	1100	1250	1075	1250	1169
Rick	925	1075	1000	1200	1050
Saxon	1150	1250	1200	1300	1225
Scarlet	1225	1175	1150	1250	1200
Tara	1225	1300	1175	1300	1250
WA007859	1250	1350	1250	1300	1288
WA007925	1200	1200	1150	1275	1206
WB936	1175	1250	1125	1225	1194
Zeke	1150	1175	1050	1250	1156
Average	1095	1198	1096	1247	1159

See: Idahowheat.org for the latest information

Idaho Preferred Mix
January, 2004

Use of the following varieties could increase the overall functionality and consistency of Idaho wheat. This listing is not all-inclusive. It is provided as a guide for producers to consider when making planting decisions. Growers are encouraged to contact extension agents and other industry representatives for local agronomic characteristics.

Quality Plus (Q+): Varieties in this group usually have *above average* milling and baking quality.

Soft White Winter
- Brundage
- Brundage 96
- Finch
- Hubbard
- Stephens

Hard White Winter (Min 12 Protein)
- Gary
- Golden Spike
- NuHorizon 610

Soft White Spring
- Alturas
- Challis
- Jubilee
- Treasure
- Whitebird
- Zak

Hard White Sprin
- Klasic

Club
- Hiller

Hard Red Winter (Min 12 Protein)
- Bonneville
- Deloris
- DW
- Moreland

Hard Red Spring

Acceptable Quality (AQ): Most milling and baking attributes of these varieties *are acceptable*, but they are not above average for all properties.

-
-
-
- Lambert
- Madsen
- Malcolm
- Rod
- Sprague
- Weatherford

Soft White Spring
- Pomerelle
- Wawawai

Hard White Spring
- 377s

Club
- Coda

Hard Red Winter (Min 12 Protein)
- Boundary
- Utah 100
- Promontory

King
- WPB 926

confirmed before the seed is planted. Putting these varieties into the general distribution channel erodes the quality and consistency of Idaho's wheat.
HRW: Declo, Garland, Semper, Symphony, Weston, Columbia One.
SWW: WB470, Daws. **SWS**: Penawawa, Alpowa.
HRS: Pinnacle, Proband751, Rick.