2003 Small Grains Report for Southcentral and Southeastern Idaho

Denise Wedel, Juliet Windes and Katherine O'Brien

University of Idaho Extension

www.uidaho.edu/aberdeen/cereals

ACKNOWLEDGMENTS

Idaho wheat and barley producers, through cooperative research and extension grants from the Idaho Wheat and Barley Commissions, provided partial funding for these small grain performance evaluations. Support was also provided by the University of Idaho Cooperative Extension System and by fees paid by plant breeding companies. This report represents the collective efforts of many individuals. Idaho Cooperative Extension System County Educators coordinated many of the off-station nurseries. Cooperator growers provided their time, land, and other inputs for management of these trials and appreciation is expressed to them for their support. The Idaho Wheat Quality Laboratory at Aberdeen determined the quality data for harvested wheat samples. Appreciation is also expressed to the numerous support workers who assisted with trial establishment, maintenance, harvest, grain processing, and data analysis. Finally, cereal breeders throughout the Northwest are recognized for their contributions since the nurseries would not be possible without their entries. The authors wish to thank all that have contributed to the success of this project.

Grower Cooperators

Rodney Jentzsch - Rupert
Don Ayers - Soda Springs
Dave Cook - Ririe
Kurt Kandler – Ashton

UI Extension Educators

Larry Robertson
Gale Harding
Matt Schuster
Wayne Jones
Steve Harrison
Reed Findlay
Steve Salisbury
Stan Gortsema

Other University of Idaho Employees

Casey Prudhomme
Michael Gamble
Nita Anderson
Kristi Copeland
David Wedel
Jennifer Bascom
Lyona Anderson
Bonnie Grover

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.

2002-2003 Trial Locations

TABLE OF CONTENTS

Acknowledgments ii
2002-2003 Trial Locations iii
Table of Contents iv
List of Tables v
Introduction 1
Test Procedures 1
Locations 1
Agronomic Practices 1
Description of Data Collected 2
Statistical Interpretation 2
Growing Conditions and Factors Affecting Trials 3
Varieties Tested 3
Winter Wheat - SC and SE Idaho 2002-2003 13
Winter Barley - SC and SE Idaho 2002-2003 22
Spring Wheat - SC and SE Idaho 2003 25
Spring Barley - SC and SE Idaho 2003 35
2003 Yields Expressed as a Percent of Location Average 45
Percent Protein and Kernel Hardness - 2002 Wheat 52
Milling and Baking - Soft White Winter Wheat - 2002 58
Milling and Baking - Soft White Spring Wheat - 2002 60
Milling and Baking - Hard Red Winter Wheat - 2002 62
Milling and Baking - Hard Red Spring Wheat - 2002 64
The "Idaho Preferred Mix" ..... inside back cover

About the Authors

Denise Wedel is a Scientific Aide at the University of Idaho's Aberdeen Research and Extension Center. Juliet Windes is a Research Support Scientist assisting in the interim for the Extension Crop Management Specialist at the Aberdeen Research and Extension Center, and Katherine O'Brien is the Lab Manager of the UI's Wheat Quality Laboratory at Aberdeen.

LIST OF TABLES

Table 1. Extension small grain variety trial locations and test conditions, 2002-2003 4
Table 2. Average seasonal measurements for selected agronomic characteristics, 2002-2003 5
Table 3. Released varieties tested in 2002-2003 with seed size and adjusted seeding rate 6
Table 4. New variety descriptions.....9
Table 5. Agronomic data for winter wheat at Kimberly, Rupert, and Aberdeen, combined, irrigated, 2003 13
Table 6. Agronomic data for winter wheat at Kimberly, irrigated, 2003 14
Table 7. Agronomic data for winter wheat at Rupert, irrigated, 2003.....16
Table 8. Agronomic data for winter wheat at Aberdeen, irrigated, 2003 18
Table 9. Agronomic data for winter wheat at Ririe, dryland, 2003 20
Table 10. Agronomic data for winter barley at Kimberly and Aberdeen, combined, irrigated, 2003 22
Table 11. Agronomic data for winter barley at Kimberly, irrigated, 2003.....23
Table 12. Agronomic data for winter barley at Aberdeen, irrigated, 2003.....24
Table 13. Agronomic data for spring wheat at Kimberly, irrigated, 2003.....25
Table 14. Agronomic data for spring wheat at Aberdeen, and Ashton, combined, irrigated, 2003 27
Table 15. Agronomic data for spring wheat at Aberdeen, irrigated, 2003 29
Table 16. Agronomic data for spring wheat at Ashton, irrigated, 2003 31
Table 17. Agronomic data for spring wheat at Soda Springs, dryland, 2003 33
Table 18. Agronomic data for spring barley at Kimberly, irrigated, 2003. 35
Table 19. Agronomic data for spring barley at Aberdeen and Ashton, combined, irrigated, 2003 37
Table 20. Agronomic data for spring barley at Aberdeen, irrigated, 2003.....39
Table 21. Agronomic data for spring barley at Ashton, irrigated, 2003.....41
Table 22. Agronomic data for spring barley at Soda Springs, dryland, 2003.....43
Table 23. 2003 winter wheat yields expressed as a percent of the location average. 45
Table 24. 2003 winter barley yields expressed as a percent of the location average.....47
Table 25. 2003 spring wheat yields expressed as a percent of the location average. 48
Table 26. 2003 spring barley yields expressed as a percent of the location average.....50
Table 27. Percent protein and kernel hardness for winter wheat, 2002.....52
Table 28. Percent protein for spring wheat, 2002.....54
Table 29. Kernel hardness for spring wheat, 2002 56
Table 30. Percent flour protein and flour yield for soft white winter wheat at Twin Falls, Rupert, Aberdeen, and Ririe, 2002 58
Table 31. Percent break flour yield and cookie diameter for soft white winter wheat at Twin Falls, Rupert, Aberdeen, and Ririe, 2002 59
Table 32. Percent flour protein for soft white spring wheat, 2002 60
Table 33. Percent flour yield for soft white spring wheat, 2002.....60
Table 34. Percent break flour yield for soft white spring wheat, 2002.....61
Table 35. Cookie diameter for soft white spring wheat, 2002.....61

Table 36. Percent flour protein and percent flour yield for hard winter wheat at Twin Falls, Rupert, Kimberly, Aberdeen, and Ririe, 2001 62
Table 37. Bake volume for hard winter wheat at Kimberly, Rupert, Aberdeen and Ririe, 2002 63
Table 38. Percent flour protein for hard spring wheat, 2002 64
Table 39. Percent flour yield for hard spring wheat, 2002 65
Table 40. Bake volume for hard spring wheat, 2002 66

This report represents research in progress and results may change with additional testing. No reproduction, partial or whole, of this publication is allowed without permission from the authors and the Director of the Idaho Cooperative Extension System. 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 is not stated or implied. Inclusion of a variety in these trials cannot be constructed as recommending that variety over varieties not included in the trials.

Table 1. Extension small grain variety trial locations and test conditions, 2002-2003.

County	Nursery Location	Type[1]	Planting Date	Harvest Date	Previous Crop	Fertilizer[2] N-P-K-S (lb/ac)	Chemical Name(s)[3]	Rate(s)[4]
Minidoka	Rupert	W-I	10/2/2002	8/6/2003	Beans	175-132-183-111	Progress (4 applications) UpBeat (3 aplications) Stinger (1 application)	5 oz/ac 0.2oz/ac 0.15 oz/ac
Twin Falls	Kimberly	S-I	3/21/2003	8/14 spring barley 8/25 spring wheat	Potatoes	160-100-760-144	Bronate Harmony Extra	1 pt/ac 0.3 oz/ac
Twin Falls	Kimberly	W-I	10/2/2002	7/17 winter barley 7/24 winter wheat	Beans	240-112-720-260	---	---
Bingham	Aberdeen	W-I	unknown	7/28 winter barley 7/29 winter wheat 8/28 soft winter	Green manure oats	191-108-1160-0	---	---
Bingham	Aberdeen	S-I	3/26/03, 3/27/03	9/3 spring barley 8/28 spring wheat	Green manure oats	240-108-1160-0	---	---
Jefferson	Ririe	W-D	9/16/2002	7/29/2003	Fallow	no soil test available	Amber Salvo	4.5 oz/ac 4 oz/ac
Fremont	Ashton	S-I	5/21/2003	9/10/2003	Potatoes	230-195-875-94	Achieve Starane Brox-M	0.44 lb/ac 1 1/3 pt/ac 0.98 pt/ac
Caribou	Soda Springs	S-D	5/16/2003	8/26/2003		16-0-0-20 no soil test available	---	---

[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.

[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, 2002-2003.

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.	%
1993	3	116.4	1993	3	62.0	1998	4	38	1999	3	170	1993	3	10
1995	3	109.2	1995	3	61.5	1993	3	36	1995	3	166	1992	4	9
2000	4	107.6	2000	4	61.4	1995	3	36	1993	3	166	1994	4	9
1997	4	107.3	1996	4	61.0	1996	4	35	1998	4	164	2003	4	7
1992	4	105.2	1992	4	60.9	1994	4	35	1996	4	164	**Avg.**	---	**4**
1998	4	103.9	2001	4	60.9	2000	4	34	2002	4	162	1996	4	4
2003	4	100.7	1998	4	60.4	**Avg.**	---	**34**	2001	4	160	1997	4	3
Avg.	---	**100.5**	**Avg.**	---	**60.2**	2003	4	32	1997	4	159	1998	4	3
1996	4	99.4	2003	4	59.7	1997	4	32	**Avg.**	---	**158**	2000	4	2
1999	3	93.2	1994	4	59.1	2001	4	32	1994	4	157	1995	3	1
2001	4	88.6	1999	3	59.0	1999	3	31	2000	4	154	2001	4	0
2002	4	88.1	1997	4	58.2	1992	4	31	1992	3	151	1999	3	0
1994	4	86.2	2002	4	57.8	2002	4	31	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	1998	6	183	**Avg.**	---	**10**
2000	6	79.9	2002	7	60.8	1995	5	32	2002	7	181	1993	7	7
1993	7	79.8	1997	6	60.6	**Avg.**	---	**31**	**Avg.**	---	**180**	1999	7	7
Avg.	---	**79.3**	**Avg.**	---	**59.6**	1996	5	30	2003	4	180	1997	6	5
2001	7	78.9	1992	6	59.5	1992	6	30	1996	6	179	1995	6	2
1992	6	74.5	2003	4	59.4	1999	7	30	2001	6	176	1994	7	1
1998	6	73.1	1999	7	59.1	1994	6	30	1994	6	174	2001	7	1
1999	7	70.4	1994	7	58.3	2000	6	29	1992	4	174	2000	6	0
2002	7	67.4	1998	6	57.8	2001	7	29	1997	5	173	1992	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	1993	7	34	1993	7	193	2003	4	78
1993	7	105.5	1996	6	52.4	1997	6	34	1999	7	186	1993	7	37
1992	7	103.2	1992	7	51.3	1998	6	34	1995	5	183	1998	6	29
2003	4	101.9	1994	8	51.3	1995	5	33	1998	6	182	**Avg.**	---	**25**
2001	7	101.4	2000	6	50.9	2003	4	32	2002	7	178	2001	7	25
2000	6	99.3	1997	6	50.5	**Avg.**	---	**32**	1996	6	177	1997	6	23
1996	6	98.8	**Avg.**	---	**50.4**	2002	7	32	2001	6	177	1999	7	23
Avg.	---	**98.7**	2002	7	50.1	1994	6	32	**Avg.**	---	**177**	2002	7	22
1995	6	98.6	1999	7	50.1	1992	7	31	1994	6	174	1995	6	20
2002	7	95.8	1993	7	49.6	1996	6	30	2003	4	172	1996	6	18
1999	7	94.4	2003	4	49.2	2000	6	29	2000	6	170	1994	8	14
1994	8	89.0	2001	7	48.4	2001	7	29	1997	5	170	1992	7	12
1998	6	83.7	1998	6	47.8	1999	7	28	1992	6	165	2000	6	2

Table 3. Released varieties in 2002-2003 with seed size and adjusted seeding rate.

Variety	Exp. No.	1000 Kernel Weight (g)	Seeds per Pound	Adjusted Seeding Rate1 (lb/A)	Released	Developer(s)/Distributor of variety
Soft White Winter Wheat						
Albion	GT00123M	43.5	10,437	96	2001	Cenex Harvest States
Beamer	BZ6W93-481	42.0	10,810	93	2000	Western Plant Breeders, Bozeman, MT
Brundage	ID86-14502B	38.0	11,947	84	1997	Idaho AES, USDA
Brundage 96	ID-B-96	39.5	11,494	87	2001	Idaho AES, USDA
CDC Falcon		31.0	14,645	68	2001	Western Plant Breeders, Bozeman, MT
Daws	WA6099	49.0	9,265	108	1976	Washington AES, USDA
Eltan	WA7431	40.0	11,350	88	1990	Washington, Idaho & Oregon AES, USDA
Hubbard	8610420A	47.0	9,660	104	2000	Western Plant Breeders, Bozeman, MT
Kmor	WA7529	38.5	11,792	85	1990	Washington, Idaho & Oregon AES, USDA
Lambert	ID85-153	49.5	9,172	109	1993	Idaho AES, USDA
MacVicar	OR75336	50.5	8,990	111	1992	Oregon & Idaho AES, USDA
Madsen	WA7163	38.5	11,792	85	1988	Washington, Idaho & Oregon AES, USDA
Malcolm	ORCW8113	42.5	10,682	94	1987	Oregon & Idaho AES, USDA
Sprague		37.0	12,270	81	1973	Washington AES, USDA
Stephens		49.5	9,172	109	1977	Oregon AES, USDA
Tubbs	OR939526	49.0	9,265	108	1999	Oregon AES, USDA
Weatherford	OR898120	46.5	9,763	102	1998	Oregon AES, USDA
Westbred 470	BZ6W90-470	50.0	9,080	110	1997	Western Plant Breeders, Bozeman, MT
Hard Red Winter Wheat						
Bonneville	IDO421	41.0	11,073	90	1993	Idaho AES, USDA
Boundary	IDO467	44.0	10,318	97	1997	Idaho AES, USDA
Declo	SDM215-2	39.5	11,494	87	1999	Sunderman Breeding, Twin Falls, ID
DW	ID0513	35.5	12,789	78	2001	Idaho AES, USDA
Garland	UT1706-1	42.0	10,810	93	1992	Utah AES, USDA
Manning	UT89099	40.5	11,210	89	1979	Utah AES, USDA
Neeley	RL4200	43.0	10,558	95	1980	Idaho AES, USDA
Promontory	UT1567-51	40.0	11,350	88	1990	Utah AES, USDA
Residence		54.0	8,407	119	2002	Cenex Harvest States
Semper		52.5	12,270	81	2002	Cenex Harvest States
Survivor		40.5	11,210	89	1990	Idaho AES, USDA
Utah 100	UT1650-150	40.5	11,210	89	1997	Utah AES, USDA
Ute	UT1195-152	38.0	11,947	84	1983	Utah AES, USDA
Weston		44.5	10,202	98	1978	Idaho AES, USDA
Hard White Winter Wheat						
Gary	ID0550	42.0	10,810	93	2001	Idaho AES, USDA
Golden Spike	UT1944-158	37.5	12,107	83	1999	Utah AES, USDA
NuFrontier	GM10001	33.5	13,552	74	2001	General Mills, Great Falls, MT
NuHorizon	GM10002	37.0	12,270	81	2001	General Mills, Great Falls, MT

[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.

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.

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.

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.

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.

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.

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.

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. Yields in 2001 were somewhat variable but generally good. 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.

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.

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. This variety was evaluated for the first time in 2000. 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.

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.

Pillar (BZ9W88-703) – hard red winter wheat released by Western Plant Breeders. Pillar is lower in yield than most currently available hard red winter wheat varieties. It is average in test weight, heading date and height.

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.

Declo (SDM215-2) – hard red winter wheat released by Sunderman Breeding. Declo is a high yielding variety for irrigated conditions. It has high test weight and is shorter than Boundary and Promontory and taller than Garland. Heading date is later than Promontory and earlier than Boundary. Protein content is higher than Boundary and similar to Promontory.

WINTER WHEAT-SOUTHCENTRAL AND SOUTHEASTERN IDAHO, 2003

Table 5. Agronomic data for winter wheat at Kimberly, Rupert, and Aberdeen, combined, irrigated, 2003.

	----------Yield (bu/A)----------				Test Wt.	Height	Date Head
Variety	Kimberly	Rupert	Aberdeen	Average	(lb/bu)	(in.)	from Jan. 1
Soft White Winter Wheat							
MacVicar	120.7	126.8	168.9	138.8	59.4	37	151
ID 87-52814A	125.1	113.7	170.9	136.5	59.6	35	153
Tubbs (OR939526)	121.8	118.4	168.7	136.3	57.8	36	153
OR9900553	142.4	104.1	157.5	134.7	59.0	32	152
91-20503A	113.0	122.4	164.5	133.3	59.2	34	150
Lambert	108.6	122.8	166.5	132.7	58.5	37	151
ORCF-101 (OR2010051)	114.5	117.8	164.9	132.4	58.2	34	151
Mohler (BU6W93-477)	111.6	123.8	156.6	130.7	58.8	37	151
91-34302A	127.1	108.9	154.2	130.1	58.4	35	153
Brundage	101.6	122.7	161.7	128.7	59.9	34	149
Malcolm	101.0	125.2	157.4	127.9	59.3	35	152
Beamer (BZ6W93-481)	113.9	113.3	154.9	127.4	59.3	36	152
Stephens	105.4	120.0	154.9	126.8	57.9	34	151
ID0587	104.8	115.1	159.9	126.6	58.0	35	150
Brundage 96 (ID-B-96)	103.5	123.0	142.1	122.8	57.9	33	153
Madsen	108.7	115.7	141.5	122.0	58.3	35	154
Daws	112.2	102.7	150.5	121.8	59.3	34	153
BZ6W98-52	102.4	108.6	152.7	121.3	59.9	35	149
SX1401W	105.7	100.9	151.0	119.2	57.3	30	150
CDC Falcon	87.6	117.6	138.6	114.6	60.0	34	151
Westbred 470	91.7	87.5	154.3	111.2	61.8	34	149
ID0576	87.7	100.4	126.5	104.9	59.1	34	154
Average	109.6	114.2	155.4	126.4	58.9	35	151
Hard Red Winter Wheat							
Declo	136.0	128.9	142.7	135.9	61.5	34	152
Utah 100	144.6	113.6	141.6	133.2	60.8	42	153
Boundary	138.4	115.3	138.9	130.9	60.9	36	152
Residence	135.4	118.4	138.4	130.7	60.7	35	153
Moreland (ID0517)	138.7	111.6	139.0	129.8	61.6	36	150
IDO571	136.1	113.8	133.6	127.8	61.9	33	150
Garland	132.5	107.7	140.3	126.8	60.2	28	154
Ute	129.9	110.0	136.1	125.3	60.1	28	153
Promontory	127.1	105.9	142.4	125.1	62.8	40	151
Neeley	130.7	116.6	114.9	120.7	62.4	39	153
Dumas	117.5	110.5	128.8	118.9	62.9	35	149
Deloris (UT2030-32)	125.6	107.6	104.8	112.7	62.0	42	151
DW	126.3	108.0	98.9	111.1	61.6	36	153
Hard White Winter Wheat							
OR8505513-8	125.3	128.1	136.9	130.1	61.3	37	152
Golden Spike	137.3	113.9	133.5	128.2	61.1	39	153
NuHorizon (GM0002)	131.2	107.2	133.3	123.9	62.7	33	149
NuFrontier (GM0001)	123.4	115.3	129.5	122.7	62.3	39	149
Gary	123.9	99.2	103.5	108.9	59.9	38	153
Average	131.1	112.9	129.8	124.6	61.5	36	152

WINTER BARLEY-SOUTHCENTRAL AND SOUTHEASTERN IDAHO, 2003

Table 10. Agronomic data for winter barley at Kimberly, and Aberdeen, combined, irrigated, 2003.

Variety	---------Yield (bu/A)--------- Kimberly	Aberdeen	Average	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan. 1	%Plump (>6/64)	%Thin (>5/64)
SDM801	88.3	167.4	127.8	49.6	32	148	70	28
97Ab11	80.2	174.4	127.3	49.8	34	148	44	46
Boyer	82.2	168.9	125.5	48.6	35	144	57	38
Sunstar Pride	76.1	166.5	121.3	49.4	34	150	44	44
94Ab1777	76.5	165.1	120.8	49.4	37	140	70	27
91Ab36	74.0	164.9	119.5	49.0	33	145	59	39
Sprinter	70.3	166.1	118.2	50.5	36	145	76	22
Kold	78.5	155.7	117.1	49.3	36	144	60	29
93Ab631	72.6	160.2	116.4	49.0	37	141	66	32
91Ab23	78.4	151.5	115.0	48.8	32	144	52	42
Eight-Twelve	79.1	150.8	114.9	48.0	35	142	65	31
Scio	77.6	151.7	114.7	48.8	35	143	59	36
Strider	82.0	147.2	114.6	49.5	37	142	68	28
Schuyler	71.9	156.6	114.3	49.4	38	144	49	45
86Ab474	69.1	158.9	114.0	49.9	34	143	72	22
ORSTAB-7	70.8	150.5	110.7	48.8	37	137	62	33
Hundred	62.5	155.4	109.0	47.8	35	145	47	44
ORSTAB-113	75.3	138.4	106.9	47.6	37	141	66	31
92Ab561	71.5	137.1	104.3	49.2	35	145	66	32
Average	75.6	157.2	116.4	49.1	35	144	61	34

Table 6 (cont'd). Agronomic data for winter wheat at Kimberly, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan. 1	Lodging %
Hard Red Winter Wheat							
Utah 100	129.4	141.5	144.6	61.5	46	148	0
Moreland (ID0517)	120.8	128.2	138.7	63.7	38	148	0
Boundary	---	124.0	138.4	62.7	39	149	0
IDO571	---	130.7	136.1	63.4	37	147	0
Declo	116.5	130.3	136.0	63.1	36	148	0
Residence	---	133.9	135.4	61.9	37	150	0
Garland	112.6	127.0	132.5	61.3	29	150	0
Neeley	114.9	115.6	130.7	64.4	40	149	40
Ute	116.1	128.1	129.9	61.2	29	149	0
Promontory	141.0	129.6	127.1	64.8	41	147	0
DW	---	117.4	126.3	63.3	36	150	0
Deloris (UT2030-32)	121.8	127.6	125.6	64.0	44	147	0
Dumas	---	---	117.5	64.7	36	147	0
Hard White Winter Wheat							
Golden Spike	120.5	103.0	137.3	62.2	41	148	30
Gary	---	113.2	123.9	62.7	39	148	10
OR8505513-8	119.8	124.4	125.3	62.8	37	147	0
NuFrontier (GM0001)	123.4	124.8	123.4	64.2	41	147	0
NuHorizon (GM0002)	118.5	142.7	131.2	65.1	36	147	0
Average	121.3	126.0	131.1	63.2	38	148	1
LSD.10	8.7	10.3	11.6	0.5	2	1	1
CV%	6.9	7.7	8.3	0.8	5	1	301

Table 7 (cont'd). Agronomic data for winter wheat at Rupert, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan. 1	Lodging %
Hard Red Winter Wheat							
Declo	117.2	103.5	128.9	59.0	30	154	0
Residence	---	133.5	118.4	59.1	30	156	0
Neeley	110.0	112.8	116.6	60.0	36	155	0
Boundary	119.5	126.1	115.3	59.6	29	153	0
IDO571	---	121.2	113.8	60.2	26	150	0
Utah 100	125.8	118.9	113.6	60.2	34	155	0
Moreland (ID0517)	113.8	121.2	111.6	59.0	33	150	0
Dumas	---	---	110.5	59.5	33	149	0
Ute	102.2	116.0	110.0	59.0	26	156	0
DW	---	104.3	108.0	60.8	32	154	10
Garland	100.6	112.7	107.7	58.4	25	156	0
Deloris (UT2030-32)	122.4	123.0	107.6	59.2	39	152	0
Promontory	134.7	119.2	105.9	59.6	35	154	0
Hard White Winter Wheat							
OR8505513-8	95.2	97.2	128.1	59.7	34	155	0
NuFrontier (GM0001)	121.0	121.3	115.3	58.5	32	150	0
Golden Spike	104.5	87.3	113.9	60.0	34	155	10
NuHorizon (GM0002)	112.1	118.1	107.2	59.0	30	150	10
Gary	---	100.0	99.2	57.9	35	154	0
Average	113.8	113.9	112.9	59.4	32	153	2
LSD.10	7.0	9.1	13.7	1.4	3	1	1
CV%	5.8	7.6	11.4	2.2	8	1	379

Table 8. Agronomic data for winter wheat at Aberdeen, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan. 1	Lodging %
Soft White Winter Wheat							
ID 87-52814A	110.5	135.9	170.9	59.1	38	155	30
MacVicar	93.9	127.3	168.9	59.4	37	153	0
Tubbs (OR939526)	108.2	136.3	168.7	57.9	38	155	10
Lambert	88.5	133.2	166.5	58.6	40	152	0
ORCF-101 (OR2010051)	---	---	164.9	57.9	36	153	0
91-20503A	---	---	164.5	58.8	38	153	0
Brundage	94.2	120.7	161.7	59.8	38	151	0
IDO587	---	125.0	159.9	58.2	38	152	0
OR9900553	---	---	157.5	59.3	33	153	0
Malcolm	95.5	131.4	157.4	58.8	37	153	0
Mohler (BU6W93-477)	96.9	137.3	156.6	58.8	41	154	0
Beamer (BZ6W93-481)	88.8	130.7	154.9	59.9	39	153	0
Stephens	94.4	135.9	154.9	57.4	39	154	0
Westbred 470	74.3	113.9	154.3	61.4	36	151	0
91-34302A	---	132.0	154.2	57.8	38	156	0
BZ6W98-52	---	---	152.7	59.3	38	150	0
SX1401W	---	---	151.0	56.3	30	152	0
Daws	97.3	135.0	150.5	59.0	37	154	0
Brundage 96 (ID-B-96)	97.4	111.8	142.1	57.7	37	155	0
Madsen	89.7	120.5	141.5	58.0	39	158	0
CDC Falcon	---	123.5	138.6	59.2	39	153	0
IDO576	---	102.8	126.5	57.9	35	157	40
Average	93.9	127.3	155.4	58.6	38	154	4
LSD.10	7.2	8.2	8.3	0.7	2	1	1
CV%	7.4	6.1	5.0	1.1	5	1	220

Table 9. Agronomic data for winter wheat at Ririe, dryland, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head[1] %
Soft White Winter Wheat						
MacVicar	23.8	39.2	31.4	57.5	20	30
Hubbard	26.4	45.6	30.9	58.1	26	3
Tubbs (OR939526)	25.9	40.3	29.4	55.3	22	3
Lambert	20.2	38.0	29.3	57.3	24	13
Madsen	24.2	36.0	28.8	55.7	20	1
Brundage 96 (ID-B-96)	---	39.1	28.6	55.8	21	5
Malcolm	22.7	38.1	28.5	57.4	23	8
Mohler (BU6W93-477)	23.5	38.5	28.2	55.3	22	10
91-20503A	---	---	28.1	58.2	24	28
Brundage	18.8	47.2	27.6	58.9	22	40
91-34302A	---	39.5	27.5	56.5	20	8
Westbred 470	21.1	39.4	26.7	60.7	22	29
Daws	21.1	49.8	26.1	58.4	23	3
Sprague	24.1	50.0	26.1	59.5	22	20
ID 87-52814A	27.5	45.6	25.2	57.6	20	1
IDO576	---	50.2	25.2	60.4	21	3
Kmor	25.7	44.3	24.8	54.5	22	0
CDC Falcon	---	41.0	24.8	56.7	21	13
IDO587	---	38.6	24.3	56.2	20	35
Eltan	30.2	56.8	24.2	57.5	20	1
SX1401W	---	---	23.8	54.5	19	40
Stephens	19.2	41.6	22.7	57.0	21	30
Beamer (BZ6W93-481)	22.0	36.6	18.9	56.9	21	35
Average	23.5	41.1	26.5	57.2	21	27
LSD.10	2.4	4.5	3.3	0.7	1	14
CV%	9.8	10.0	11.6	1.2	6	52

[1] Percent of plants headed out as of June 4th.
Normal heading date data was not taken due to drought conditions.

Table 5. Agronomic data for winter barley at Kimberly, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan. 1	Lodging %	Plump (>6/64)	Thin (>5/64)
SDM801	142.0	148.6	88.3	51.3	33	147	10	70	27
96Ab914	---	---	83.4	48.9	30	143	30	39	52
Boyer	129.7	132.6	82.2	48.2	35	143	30	56	41
97Ab533	---	---	82.1	49.7	30	145	0	49	48
Strider	137.7	163.7	82.0	49.0	36	140	40	72	24
97Ab11	138.3	150.1	80.2	49.1	35	147	20	44	45
91Ab603	---	---	80.0	49.4	34	144	20	46	45
Eight-Twelve	142.3	175.8	79.1	48.9	37	139	40	78	21
Kold	---	---	78.5	49.5	36	142	30	61	32
91Ab23	147.6	173.7	78.4	48.7	31	144	20	54	39
88Ab977	---	---	77.8	47.0	36	143	40	56	37
Scio	143.0	155.9	77.6	49.3	36	142	10	61	35
UT 940716	---	---	77.4	52.5	40	137	20	74	23
94Ab1777	---	---	76.5	50.4	37	136	50	76	22
Sunstar Pride	164.5	144.2	76.1	48.8	34	148	30	50	38
92Ab481	---	---	75.6	50.0	36	143	40	73	22
ORSTAB-113	117.0	160.7	75.3	49.0	36	138	20	69	28
96Ab75	---	---	74.4	48.4	33	143	30	45	43
UT 94061	---	---	74.4	50.0	38	142	20	66	31
91Ab36	152.2	152.2	74.0	48.5	34	143	40	67	31
Kamiak	---	---	73.9	49.9	41	135	50	57	38
Hesk	---	---	73.6	48.2	37	142	30	56	37
91Ab9	---	---	73.4	50.4	34	147	30	53	38
96Ab69	---	---	73.3	45.8	35	142	20	27	56
93Ab631	---	---	72.6	49.0	36	138	10	68	29
86Ab1034	---	---	72.2	53.4	39	136	30	89	10
96Ab907	---	---	72.1	48.8	33	143	60	39	47
Schuyler	143.9	153.8	71.9	50.5	39	142	30	49	45
93Ab669	---	---	71.9	49.2	37	137	30	63	33
92Ab561	137.3	152.4	71.5	50.8	36	143	20	65	32
ORSTAB-7	50.0	156.8	70.8	48.4	37	133	40	72	24
95Ab2299	---	---	70.5	52.5	37	138	50	79	18
96Ab11	---	---	70.4	51.1	39	143	60	54	34
Sprinter	146.8	148.1	70.3	50.2	37	144	40	78	19
WA 1614-95	---	---	70.1	47.7	33	142	60	33	50
86Ab474	148.6	167.5	69.1	50.7	34	143	20	75	23
BZ 596-21	---	---	66.4	46.5	26	149	10	18	65
97Ab23	---	---	65.7	46.1	33	142	30	35	51
94Ab1818	---	---	64.1	49.6	37	142	40	88	12
Hundred	---	---	62.5	48.2	36	144	40	44	43
Average	136.1	155.7	74.5	49.3	35	142	30	59	35
LSD.10	12.9	11.6	6.7	1.0	2	1	2	---	---
CV%	11.2	8.5	9.9	2.2	6	1	59	---	---

Table 12. Agronomic data for winter barley at Aberdeen, irrigated, 2003.

	------Yield (bu/A)------			Test Wt.	Height	Date Head	Lodging	Plump	Thin
Variety	2001	2002	2003	(lb/bu)	(in.)	from Jan. 1	%	(>6/64)	(>5/64)
97Ab11	151.1	175.9	174.4	50.5	33	150	20	44	47
Boyer	148.2	183.7	168.9	49.1	34	145	60	59	36
SDM801	151.3	167.0	167.4	47.9	31	149	30	69	29
Sunstar Pride	166.1	164.8	166.5	49.9	34	151	30	38	50
Sprinter	157.8	186.1	166.1	50.8	35	147	30	74	24
94Ab1777	---	---	165.1	48.3	37	144	70	64	33
91Ab36	151.4	174.7	164.9	49.6	32	147	40	51	46
Mal	137.7	164.8	160.2	48.9	35	148	50	45	49
93Ab631	---	---	160.2	49.0	37	144	40	64	34
86Ab474	155.4	152.2	158.9	49.2	33	144	30	78	20
Schuyler	138.1	166.3	156.6	48.4	37	147	60	50	45
Kold	---	---	155.7	49.0	35	146	20	58	26
Hundred	---	---	155.4	47.4	34	145	50	50	45
KAB 47	---	---	155.1	49.5	32	142	60	43	48
88Ab536	---	---	154.9	48.3	40	142	60	52	42
Scio	140.4	166.9	151.7	48.2	34	145	50	57	38
91Ab23	158.4	163.9	151.5	48.9	32	145	60	50	45
Eight-Twelve	145.5	142.7	150.8	47.2	33	145	60	52	41
ORSTAB-7	111.3	150.7	150.5	49.3	36	141	50	52	42
KAB 51	---	---	149.3	48.9	41	145	60	76	22
Strider	149.9	175.4	147.2	50.0	37	144	50	65	32
ORSTAB-113	120.3	163.0	138.4	46.3	38	144	50	64	33
94Ab1219	---	---	137.4	48.0	34	144	90	61	33
92Ab561	148.0	181.4	137.1	47.6	35	146	30	67	31
Average	145.7	167.5	156.0	48.7	35	146	50	58	37
LSD.10	7.4	10.2	22.6	2.0	2	1	2	---	---
CV%	4.9	5.9	13.6	3.8	5	1	48	---	---

Table 13 (cont'd). Agronomic data for spring wheat at Kimberly, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan. 1	Lodging %
Hard Red Spring Wheat							
Westbred 936	83.0	74.3	127.2	60.9	35	158	100
Jerome (IDO566)	---	91.2	126.8	59.4	37	159	90
Rick	83.4	75.9	122.5	60.0	42	160	100
Scarlet	76.4	73.5	120.9	61.2	40	160	100
Jefferson	86.3	80.9	120.3	59.8	40	160	100
Tara 2002	---	---	120.1	59.7	38	159	100
Saxon	---	72.4	118.6	60.0	42	160	100
Zeke	88.1	80.2	116.1	59.2	38	160	90
WA007859	---	66.4	115.9	62.1	46	160	90
WA007925	---	---	114.6	59.8	42	160	90
Iona	85.5	78.5	106.1	59.1	41	160	100
Hard White Spring Wheat							
WA7931	---	---	128.7	60.1	45	161	90
Winsome	83.8	83.3	127.3	60.3	35	162	100
ML181,A-1-38	---	85.8	126.1	60.5	38	160	100
Klasic	84.3	72.2	121.0	59.4	27	158	100
Blanca Grande	---	78.4	120.2	63.6	31	158	90
IDO377s	81.4	88.2	119.8	61.7	41	160	100
Macon (WA7899)	81.7	85.7	118.8	60.5	38	159	100
Plata	81.5	79.7	116.5	59.9	31	158	80
ML301-37-4	---	---	114.8	59.1	34	162	100
ML316-5-4	---	---	114.4	60.1	39	159	100
Lolo	77.8	86.4	113.6	61.2	43	161	90
Pristine	80.0	80.5	102.4	62.1	36	159	100
Spring Durum Wheat							
D3121 (GM90015)	---	60.7	127.2	58.7	34	160	100
Utopia	75.0	76.2	122.6	60.7	34	159	100
AP1526	---	---	120.3	61.3	41	160	100
Kronos	75.9	65.2	116.5	61.4	32	157	100
Matt	77.0	65.2	116.1	61.1	35	158	100
Topper	---	---	112.8	60.0	34	159	100
D3100	---	---	111.1	61.7	38	159	100
Average	81.3	77.3	118.6	60.5	38	159	96
LSD.10	7.9	4.6	8.8	1.2	2	1	1
CV%	9.3	5.6	7.0	1.9	4	1	6

Table 14. Agronomic data for spring wheat at Aberdeen and Ashton, combined, 2003.

Variety	------ Yield (bu/A) ------ Aberdeen	Ashton	Average	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan. 1	Lodging[1] %
Soft White Spring Wheat							
Alpowa	145.2	72.2	108.7	60.3	36	184	20
Alturas (IDO526)	141.0	74.8	107.9	59.3	31	184	20
ML042-409-1,5	130.7	76.6	103.6	58.1	31	184	0
Whitebird	132.5	70.5	101.5	60.5	33	183	20
Penawawa	134.3	68.7	101.5	59.0	30	183	30
Jubilee	123.2	77.7	100.5	60.6	34	183	20
Challis	130.0	69.8	99.9	57.9	32	185	70
Eden (WA7902)	117.0	77.1	97.0	59.9	28	182	40
IDO556	122.5	69.1	95.8	60.3	27	182	0
Treasure	113.7	70.3	92.0	56.9	30	185	70
WA007921	103.7	74.8	89.3	58.2	34	183	80
Average	126.7	72.9	99.8	59.2	31	183	34

[1]Lodging taken at Aberdeen only

Table 15. Agronomic data for spring wheat, Aberdeen, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging %
Soft White Spring Wheat							
Alpowa	89.0	107.2	145.2	61.3	43	169	20
Alturas (IDO526)	114.5	103.7	141.0	59.7	40	168	20
Penawawa	119.6	83.6	134.3	59.9	41	169	30
Whitebird	89.7	97.2	132.5	61.3	40	169	20
ML042-409-1,5	80.8	114.4	130.7	58.7	44	170	0
Challis	119.7	103.2	130.0	58.7	42	168	70
Jubilee	75.7	104.2	123.2	61.2	42	169	20
IDO556	102.2	96.6	122.5	60.8	38	168	0
Eden (WA7902)	91.6	84.3	117.0	59.9	40	169	40
Treasure	125.5	106.4	113.7	57.9	40	171	70
WA007921	---	---	103.7	58.2	39	169	80
Average	100.8	100.1	126.7	59.8	41	169	34
LSD.10	9.2	5.1	10.2	0.6	2	1	3
CV%	8.7	4.7	7.5	1.0	5	1	88

Table 16 (cont'd). Agronomic data for spring wheat at Ashton, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan. 1
Hard Red Spring Wheat						
Westbred 936	81.9	76.0	96.2	60.4	30	192
Scarlet	83.1	72.9	90.2	59.6	34	195
WA007925	---	---	89.4	61.3	38	195
Rick	86.9	75.7	87.7	60.6	33	194
Jefferson	81.6	76.8	87.4	61.2	33	196
Tara 2002	---	---	85.4	59.2	35	193
Iona	84.3	78.4	85.0	61.1	35	195
WA007859	---	65.3	83.8	59.5	39	195
Zeke	85.1	73.1	83.7	60.0	32	194
Jerome (IDO566)	---	71.5	82.9	59.7	31	192
Saxon	---	75.0	80.9	58.0	31	195
Hard White Spring Wheat						
ID0377s	96.6	84.0	96.9	61.4	35	195
Lolo	87.4	77.9	95.8	61.0	34	197
WA7931	---	---	94.3	61.7	37	196
ML181,A-1-38	---	---	90.4	60.6	31	193
Winsome	92.4	79.6	89.6	60.0	30	203
Pristine	83.9	72.1	86.9	61.5	30	191
Plata	---	76.1	85.8	61.3	30	200
ML316-5-4	---	---	83.8	57.1	35	196
Blanca Grande	---	71.6	83.4	61.8	25	191
Klasic	69.4	77.0	82.2	60.2	26	191
Macon (WA7899)	71.7	69.3	79.7	58.7	33	195
ML301-37-4	---	---	70.1	57.0	28	206
Spring Durum Wheat						
Kronos	75.5	68.6	86.0	61.0	28	194
Matt	74.4	73.7	83.9	61.5	30	197
Topper	---	---	82.0	60.7	30	194
AP1526	---	---	81.9	60.5	35	196
Utopia	81.5	78.0	81.9	60.3	27	195
D3100	---	---	78.8	62.8	30	195
D3121 (GM90015)	---	72.8	74.8	59.0	29	196
Average	82.4	74.5	85.4	60.3	32	195
LSD.10	4.0	5.4	5.3	1.3	2	1
CV%	4.6	7.0	5.9	2.1	5	1

Table 8. Agronomic data for spring wheat at Soda Springs, dryland, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. lb/bu	Height in.	Date Head from Jan. 1
Soft White Spring Wheat						
ML042-409-1,5	---	---	35.2	53.9	22	193
Eden (WA7902)	50.7	50.6	33.6	56.6	20	192
Treasure	51.4	50.8	30.6	55.2	22	193
WA007921	---	---	30.0	54.5	27	192
Alpowa	52.8	60.1	29.8	55.9	22	193
IDO556	47.7	56.4	29.6	56.2	20	193
Jubilee	51.7	57.4	28.1	56.4	21	192
Alturas (IDO526)	52.2	59.7	25.9	56.6	22	193
Challis	---	---	25.7	54.5	22	193
Whitebird	49.5	56.4	25.4	57.3	20	193
Penawawa	49.3	57.0	25.2	53.1	22	193
Average	50.7	56.1	29.0	55.5	22	193
LSD.10	5.0	5.1	3.0	0.7	2	1
CV%	9.3	8.4	9.6	1.2	10	1

Table 18 (cont'd). Agronomic data for spring barley at Kimberly, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging %	% Plump (>6/64)	% Thin (>5/64)
Six-Row Spring Barley									
Millennium	127.9	121.5	158.1	49.3	35	155	100	90	9
UT95B1216-4087	136.6	110.8	150.3	51.3	37	155	100	95	4
Steptoe	116.2	123.5	147.1	47.4	39	155	100	90	8
UT95B1480-1632	133.9	109.3	144.4	51.9	39	155	100	96	3
Colter	115.3	107.5	140.0	47.8	36	155	100	90	9
94Ab13449	---	102.6	139.5	51.1	35	155	100	95	4
Creel (93Ab688)	126.1	118.8	138.5	49.2	38	154	100	89	10
UT95B1480-1534	---	---	137.5	51.2	36	154	100	94	5
Tradition (6B95-2482)	---	97.7	134.4	50.5	37	157	100	97	3
Lacey	---	---	132.1	51.0	37	155	100	97	2
Drummond	---	---	130.2	49.3	39	156	100	94	5
Foster	101.2	86.9	123.8	50.8	35	154	100	97	3
Legacy	112.7	111.5	114.7	50.3	40	155	100	96	3
Morex	119.2	94.6	101.4	49.4	43	155	100	92	7
Average	121.0	107.7	135.2	50.0	38	155	100	94	5
LSD.10	12.5	8.3	13.2	0.9	2	1	---	---	---
CV%	9.7	7.1	9.1	1.6	4	1	---	---	---

Table 19. Agronomic data for spring barley at Aberdeen, and Ashton, combined, irrigated, 2003.

Variety	------Yield (bu/A)------ Aberdeen	Ashton	Average	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging[1] %	% Plump (>6/64)	% Thin (>5/64)
Two-Row Spring Barley									
Camas	154.2	---	154.2	52.6	41	162	6	20	93
Idagold II	153.3	---	153.3	53.1	36	166	7	0	93
C69	151.9	---	151.9	51.9	35	168	5	0	95
Calgary	147.9	---	147.9	53.2	32	164	4	30	96
C61	147.6	---	147.6	50.9	40	166	4	10	95
Xena	163.7	121.0	142.4	52.4	33	181	6	52	49
C57	142.1	---	142.1	49.5	37	166	10	10	88
C60	135.3	---	135.3	52.1	37	168	7	0	92
PB1-95-2R-522	151.5	107.2	129.4	53.3	33	180	4	67	50
CDC Bold	153.5	99.4	126.4	52.0	33	181	4	62	50
WA 8601-97	142.0	103.7	122.8	51.8	32	181	9	83	47
H3860224	139.2	99.2	119.2	52.0	35	181	4	78	49
Adage (B-99-AL-621)	123.1	113.7	118.4	52.0	33	181	9	88	47
Moravian 37	135.6	95.6	115.6	52.7	32	181	5	67	50
2B96-5057	134.0	95.9	115.0	51.9	35	180	6	89	48
Baronesse	134.3	92.2	113.2	51.9	33	180	10	87	47
CDC Stratus	133.1	93.0	113.0	51.9	35	181	5	67	50
B1202	136.0	89.8	112.9	51.9	32	181	3	44	54
MT950186	135.9	89.1	112.5	53.4	35	181	4	83	49
Bancroft	135.7	88.8	112.2	51.0	34	180	5	83	54
Valier	128.2	95.6	111.9	52.0	34	181	10	86	49
Farmington	130.0	93.7	111.8	50.9	31	184	8	66	50
Merit	132.3	89.9	111.1	50.1	33	181	6	86	50
Harrington	130.7	85.6	108.1	51.2	33	182	11	89	45
Criton	136.8	78.7	107.7	52.1	35	180	5	80	51
Bob (WA8682-96)	113.9	101.4	107.7	51.7	34	180	15	93	43
Klages	125.9	87.8	106.9	51.1	33	183	17	72	48
Moravian 14	127.8	85.3	106.5	53.5	30	178	6	50	52
85Ab2323	120.9	91.5	106.2	51.7	35	181	9	83	46
Garnet	110.3	84.3	97.3	50.8	35	183	6	81	54
Average	136.9	94.9	122.0	51.9	34.2	177.4	7	60	59

[1]Lodging taken in Aberdeen only

Table 20 (cont'd). Agronomic data for spring barley, Aberdeen, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	Lodging %	% Plump (>6/64)	% Thin (>5/64)
Six-Row Spring Barley									
Millennium	123.5	124.4	170.4	49.7	41	157	20	94	5
Century	120.1	112.4	147.7	50.9	41	158	60	96	3
Creel (93Ab688)	133.1	122.4	147.0	50.0	42	158	80	85	13
94Ab13449	---	86.6	147.0	52.4	39	157	70	96	3
Lacey	---	102.4	143.4	52.3	41	158	60	98	2
UT95B1480-1632	136.5	105.5	143.3	52.1	41	157	80	94	5
Colter	144.8	113.2	137.9	49.1	40	160	90	87	11
UT95B1480-1534	---	---	136.8	52.7	42	157	40	96	4
UT95B1216-4087	132.8	106.6	136.6	52.5	41	160	50	96	4
Steptoe	145.4	123.3	134.3	49.3	38	161	70	94	5
Drummond	---	86.8	131.9	51.5	44	160	40	97	3
Tradition (6B95-2482)	---	76.0	126.9	51.0	41	160	100	95	4
Legacy	120.1	110.9	126.6	51.2	40	160	60	96	4
Foster	108.9	59.2	125.2	51.1	41	158	80	98	1
Morex	111.6	72.6	112.6	50.4	44	161	70	95	4
Average	127.7	100.2	137.8	51.1	41	159	65	94	5
LSD.10	19.2	11.4	10.6	0.6	3	1	2	---	---
CV%	14.0	10.3	7.2	1.2	6	1	33	---	---

Table 21. Agronomic data for spring barley at Ashton, irrigated, 2003.

Variety	------Yield (bu/A)------ 2001	2002	2003	Test Wt. (lb/bu)	Height (in.)	Date Head from Jan.1	% Plump (>6/64)	% Thin (>5/64)
Two-Row Spring Barley								
Xena	110.2	97.7	121.0	52.0	29	196	94	5
Adage (B-99-AL-621)	---	103.2	113.7	52.6	27	197	95	4
PB1-95-2R-522	---	---	107.2	52.6	27	197	94	6
WA 8601-97	---	---	103.7	51.9	27	198	97	3
Bob (WA8682-96)	118.4	91.6	101.4	52.2	29	197	97	3
CDC Bold	120.1	92.9	99.4	51.6	27	198	94	5
H3860224	103.6	81.6	99.2	50.9	30	198	96	3
2B96-5057	---	---	95.9	51.7	31	197	97	2
Valier	113.6	87.5	95.6	51.5	29	198	91	8
Moravian 37	107.3	91.2	95.6	52.0	26	198	94	6
Farmington	---	---	93.7	50.9	24	201	92	7
CDC Stratus	---	---	93.0	50.2	29	198	93	6
Baronesse	113.3	97.5	92.2	51.8	27	196	94	5
85Ab2323	104.5	90.2	91.5	51.8	29	199	97	3
Merit	114.3	91.2	89.9	49.1	28	198	93	7
B1202	110.7	89.0	89.8	51.0	27	198	88	10
MT950186	---	95.2	89.1	53.0	27	198	97	3
Bancroft	---	---	88.8	49.5	29	198	86	13
Klages	91.6	79.8	87.8	51.1	29	200	84	15
Harrington	98.4	80.5	85.6	51.2	29	200	97	2
Moravian 14	85.1	80.2	85.3	53.2	24	192	89	10
Garnet	93.2	81.8	84.3	51.0	31	201	83	15
Criton	96.5	91.1	78.7	51.3	29	198	91	9
Average	105.4	89.5	94.9	51.5	28	198	93	7
LSD.10	5.8	5.6	8.6	0.8	2	2	---	---
CV%	5.4	5.8	8.5	1.4	6	1	---	---

Table 22 (cont'd). Agronomic data for spring barley, Soda Springs, dryland, 2003.

	------Yield (bu/A)------			Test Wt.	Height	Date Head	% Plump	% Thin
Variety	**2001**	**2002**	**2003**	**(lb/bu)**	**(in.)**	**from Jan.1**	**(>6/64)**	**(>5/64)**
Six-Row Spring Barley								
UT95B1480-1632	77.8	69.7	42.7	45.2	22	189	64	32
Century	73.4	78.4	41.9	41.7	24	193	53	41
Creel (93Ab688)	76.2	65.9	38.7	39.7	23	191	28	60
Tradition (6B95-2482)	---	63.3	38.3	44.9	20	192	49	41
UT95B1216-4087	80.4	72.6	38.3	41.3	23	192	32	55
Steptoe	83.4	87.9	38.2	40.0	20	191	54	41
Millennium	65.7	67.2	36.2	43.3	17	191	25	62
Lacey	---	69.5	35.9	41.7	25	191	35	50
Legacy	77.2	69.4	35.5	42.7	23	192	41	52
94Ab13449	---	---	35.2	40.7	21	190	32	58
Foster	64.4	66.4	34.0	39.7	23	190	30	56
UT95B1480-1534	---	---	34.0	42.2	23	190	31	51
Drummond	---	64.0	33.2	43.0	22	192	45	48
Morex	73.7	68.4	31.4	41.2	24	191	26	56
Colter	74.3	62.2	29.4	38.1	21	192	33	54
Average	74.7	69.6	36.2	41.7	22	191	38	50
LSD.10	6.1	7.6	3.8	1.6	2	1	---	---
CV%	7.7	10.4	9.8	3.5	7	1	---	---

2003 YIELDS EXPRESSED AS A PERCENT OF LOCATION AVERAGE

Table 23. 2003 winter wheat yields expressed as a percent of the location average.

	----------Percent Yield----------				
Variety	**Kimberly**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
	----------Irrigated----------			-Dryland-	
Soft White Winter Wheat					
91-20503A	103	107	106	106	105
91-34302A	116	95	99	103	104
Beamer (BZ6W93-481)	104	99	100	71	93
Brundage	93	107	104	104	102
Brundage 96 (ID-B-96)	94	108	91	107	100
Bz6W98-52	93	95	98	---	96
CDC Falcon	80	103	89	93	91
Daws	102	90	97	98	97
Eltan	---	---	---	91	91
Hubbard	---	---	---	116	116
ID 87-52814A	114	100	110	95	105
ID0576	80	88	81	95	86
ID0587	96	101	103	91	98
Kmor	---	---	---	93	93
Lambert	99	108	107	110	106
MacVicar	110	111	109	118	112
Madsen	99	101	91	108	100
Malcolm	92	110	101	107	103
Mohler (BU6W93-477)	102	108	101	106	104
ORCF-101 (OR2010051)	104	103	106	---	105
OR9900553	130	91	101	---	107
Sprague	---	---	---	98	98
Stephens	96	105	100	85	97
SX1401W	96	88	97	89	93
Tubbs (OR939526)	111	104	109	111	108
Westbred 470	84	77	99	100	90
Location Avg. (bu/A)	110	114	155	27	---

Table 24. 2003 winter barley yields expressed as a percent of the location average.

	----------Percent Yield----------		
Variety	**Kimberly**	**Aberdeen**	**Average**
	----------Irrigated----------		
Winter Barley			
86Ab1034	97	---	97
86Ab474	92	102	97
88Ab536	---	99	99
88Ab977	104	---	104
91Ab23	105	97	101
91Ab36	99	106	102
91Ab603	107	---	107
91Ab9	98	---	98
92Ab481	101	---	101
92Ab561	96	88	92
93Ab631	97	103	100
94Ab1219	---	88	88
93Ab669	96	---	96
94Ab1777	102	106	104
94Ab1818	86	---	86
95Ab2299	94	---	94
96Ab11	94	---	94
96Ab69	98	---	98
96Ab75	100	---	100
96Ab907	96	---	96
96Ab914	111	---	111
SDM 801	118	---	118
97Ab11	107	112	110
97Ab23	88	---	88
97Ab533	110	---	110
Boyer	110	108	109
BZ 596-21	89	---	89
Eight-Twelve	106	97	101
Hesk	98	---	98
Hundred	84	100	92
KAB 47	---	99	99
KAB 51	---	96	96
Kamiak	99	---	99
Kold	105	100	102
Mal	---	103	103
OR Stab 113	101	89	95
OR Stab 7	95	96	96
Schuyler	96	100	98
Scio	104	97	100
SDM 801	118	107	113
Sprinter	94	106	100
Strider	110	94	102
Sunstar Pride	102	107	104
UT 94061	99	---	99
UT 940716	103	---	103
WA 1614-95	94	---	94
Location Avg. (bu/A)	75	156	---

Table 25 (cont'd). 2003 spring wheat yields expressed as a percent of the location average.

	----------Percent Yield----------				
Variety	Kimberly	Aberdeen	Ashton	Soda Springs	Average
	--------Irrigated--------			-Dryland-	
Hard Red Spring Wheat					
Jerome (IDO566)	101	105	96	111	103
Iona	101	98	98	93	97
Jefferson	94	89	92	79	89
Rick	107	88	88	74	89
Saxon	101	114	114	119	112
Scarlet	107	106	97	98	102
Tara 2002	89	101	100	90	95
WA007859	101	103	102	114	105
WA007925	102	96	96	---	98
Westbred 936	98	102	101	119	105
Zeke	96	109	112	114	108
Hard White Spring Wheat					
Blanca Grande	100	95	93	97	96
IDO377s	98	97	98	93	97
Klasic	106	112	106	109	108
Lolo	97	95	82	47	80
Macon (WA7899)	96	99	98	117	103
ML181,A-1-38	98	101	100	83	96
ML301-37-4	86	107	102	81	94
ML316-5-4	103	106	103	106	104
Plata	100	108	95	110	103
Pristine	102	84	106	132	106
WA7931	101	95	100	98	98
Winsome	95	101	96	55	87
Spring Durum Wheat					
AP1526	103	102	96	97	100
D3100	98	59	98	119	85
D3121 (GM90015)	97	94	105	109	101
Kronos	109	121	110	116	114
Matt	107	104	113	129	113
Topper	107	105	105	101	105
Utopia	98	104	98	89	97
Location Avg. (bu/A)	119	120	85	30	---

Table 26. 2003 spring barley yields expressed as a percent of the location average.

	----------Percent Yield----------				
Variety	Kimberly	Aberdeen	Ashton	Soda Springs	Average
	--------Irrigated--------			-Dryland-	
Two-Row Spring Barley					
2B96-5057	103	98	101	112	103
85Ab2323	98	88	96	103	96
Adage (B-99-AL-621)	112	90	120	96	104
B1202	88	99	95	86	92
Bancroft	98	99	94	104	99
Baronesse	100	98	97	120	104
Bob (WA8682-96)	94	83	107	110	99
C57	103	104	---	98	101
C60	98	99	---	93	97
C61	108	108	---	102	106
C69	114	111	---	65	97
Calgary	100	108	---	125	111
Camas	102	113	---	106	107
CDC Bold	89	112	105	115	105
CDC Stratus	---	97	98	71	89
Criton	81	100	83	107	93
Farmington	108	95	99	93	99
Garnet	96	81	89	96	90
H3860224	88	102	105	---	98
Harrington	89	95	90	112	97
Hector	---	---	---	110	110
Idagold II	107	112	---	90	103
Klages	95	92	93	95	94
Merit	104	97	95	94	97
Moravian 14	99	93	90	125	102
MT950186	---	---	---	107	107
Moravian 37	101	99	101	---	100
MT950186	111	99	94	---	102
PB1-95-2R-522	106	111	113	96	106
Targhee	---	---	---	108	108
Valier	---	94	101	93	96
WA 8601-97	105	104	109	66	96
Xena	102	120	127	103	113
Location Avg. (bu/A)	145	137	95	33	---

Table 27 (cont'd). Percent protein and kernel hardness for winter wheat, 2002.

	----- Percent protein (12% mb) -----					----- Kernel Hardness (0-100) -----				
Variety	**Jerome**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Jerome**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
Hard Red Winter Wheat										
Bonneville	---	---	---	12.7	12.7	---	---	---	55.0	55.0
Boundary	12.2	13.1	10.0	11.9	11.8	47.0	51.0	43.0	43.0	46.0
Declo	13.4	14.4	10.5	12.5	12.7	54.0	45.0	47.0	41.0	46.8
DW	13.0	13.6	10.9	12.3	12.5	60.0	54.0	48.0	48.0	52.5
Garland	12.7	12.8	9.9	---	11.8	52.0	43.0	39.0	---	44.7
IDO517	13.0	13.9	10.0	12.4	12.3	52.0	43.0	46.0	48.0	47.3
IDO571	13.1	13.4	9.8	12.2	12.1	55.0	34.0	50.0	49.0	47.0
Manning	---	---	---	11.4	11.4	---	---	---	49.0	49.0
Neeley	13.9	13.9	10.9	12.7	12.9	56.0	46.0	40.0	38.0	45.0
Promontory	11.7	12.7	8.9	12.3	11.4	53.0	36.0	44.0	46.0	44.8
Residence	12.7	13.5	11.7	---	12.6	55.0	50.0	54.0	---	53.0
Semper	12.5	13.1	10.6	---	12.1	56.0	47.0	50.0	---	51.0
Survivor	---	---	---	11.7	11.7	---	---	---	38.0	38.0
UT2030-32	13.2	12.7	11.5	12.3	12.4	60.0	59.0	61.0	46.0	56.5
Utah 100	12.7	13.6	10.6	12.7	12.4	54.0	50.0	56.0	44.0	51.0
Ute	13.1	12.4	10.7	---	12.1	44.0	36.0	47.0	---	42.3
Weston	---	---	---	13.0	13.0	---	---	---	34.0	34.0
Hard White Winter Wheat										
Gary	13.6	13.2	9.6	12.3	12.2	59.0	40.0	40.0	44.0	45.8
Golden Spike	13.1	13.1	9.6	11.9	11.9	49.0	33.0	47.0	40.0	42.3
NuFrontier	11.7	11.7	8.9	11.7	11.0	53.0	43.0	36.0	48.0	45.0
NuHorizon	12.5	12.2	9.9	12	11.7	53.0	35.0	42.0	47.0	44.3
OR850513-8	12.5	13.6	9.5	12.3	12.0	54.0	48.0	45.0	37.0	46.0
Average	12.8	13.2	10.2	12.2	12.1	53.7	44.1	46.4	44.2	46.7

Table 28 (cont'd). Percent protein for spring wheat, 2002.

	---------- Percent Protein (12% mb) ----------							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Hard Red Spring Wheat								
Hank	12.3	14.4	12.6	12.9	12.3	19.5	15.4	14.2
IDO545	---	---	12.9	---	---	19.6	15.9	16.1
IDO557	11.8	13.5	12.6	12.6	12.7	18.0	14.5	13.7
IDO566	11.4	13.5	---	11.7	12.0	18.3	14.4	13.6
Iona	11.6	13.5	11.6	12.7	12.6	18.7	14.4	13.6
Jefferson	13.0	13.1	12.2	12.1	12.9	19.5	15.7	14.1
Rick	11.1	13.0	10.9	11.6	12.3	16.8	13.9	12.8
Saxon	12.2	13.7	12.5	12.5	12.9	19.4	12.7	13.7
Scarlet	12.0	12.9	11.6	12.9	13.1	18.5	14.1	13.6
SX1501B	10.0	11.4	10.7	11.2	10.9	17.8	10.3	11.8
SX1502B	12.2	13.6	12.3	12.2	12.9	18.5	---	13.6
SX1503B	10.8	12.3	12.1	10.7	10.8	16.0	11.7	12.1
Tara 2002	11.8	12.9	11.8	12.7	14.1	19.1	15.3	14.0
WA007859	12.2	13.9	12.7	13.7	13.2	19.6	14.3	14.2
Westbred 936	12.3	13.9	12.9	13.0	12.9	19.4	14.3	14.1
Zeke	12.0	12.7	10.8	11.6	12.5	18.9	14.0	13.2
Hard White Spring Wheat								
Blanca Grande	12.2	13.4	10.8	12.3	12.9	17.1	14.1	13.3
GM40002	12.6	13.2	12.0	10.8	13.4	18.7	14.1	13.5
GM40003	12.7	12.6	12.1	11.8	11.8	17.5	13.5	13.1
IDO377s	11.3	13.1	11.3	12.2	12.0	18.7	13.1	13.1
Klasic	10.9	12.9	11.6	11.1	11.4	18.0	14.1	12.9
Lolo	11.6	12.9	10.2	12.3	11.6	18.6	14.4	13.1
Macon (WA8799)	10.8	12.9	11.3	11.4	12.3	18.3	14.0	13.0
ML181,A-1-38	11.3	12.2	12.3	11.4	---	---	---	11.8
Plata	11.4	13.0	10.8	11.6	12.3	18.2	15.3	13.2
Pristine	12.2	14.5	12.2	13.6	12.3	18.5	14.6	14.0
WA7900	12.3	14.1	12.1	12.3	---	19.8	---	14.1
Winsome	11.1	11.8	11.8	11.6	11.6	17.7	13.7	12.8
YU995-231W	12.0	12.7	11.2	12.2	11.2	---	---	11.9
Average	11.8	13.1	11.8	12.1	12.3	18.5	14.1	13.4

Table 29. Kernel hardness for spring wheat, 2002.

	----------Kernel Hardness (0-100) ----------							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Soft White Spring Wheat								
Alpowa	7.0	21.0	15.0	14.0	6.0	11.0	12.0	12.3
Alturas (IDO526)	3.0	10.0	5.0	11.0	8.0	10.0	10.0	8.1
Challis	12.0	17.0	15.0	14.0	13.0	---	---	14.2
Eden (WA7902)	12.0	17.0	17.0	24.0	20.0	20.0	11.0	17.3
IDO556	17.0	15.0	13.0	14.0	11.0	20.0	18.0	15.4
Jubilee	13.0	13.0	15.0	16.0	15.0	13.0	21.0	15.1
ML042-409-1,5	2.0	19.0	7.0	13.0	7.0	---	---	9.6
Penawawa	9.0	8.0	2.0	5.0	8.0	11.0	14.0	8.1
Treasure	10.0	20.0	11.0	17.0	9.0	16.0	20.0	14.7
WA007905	14.0	12.0	11.0	13.0	12.0	11.0	15.0	12.6
Whitebird	15.0	25.0	16.0	18.0	12.0	21.0	22.0	18.4
Zak	15.0	14.0	10.0	12.0	12.0	18.0	20.0	14.4
Average	10.8	15.9	11.4	14.3	11.1	15.1	16.3	13.4

MILLING AND BAKING-SOFT WHITE WINTER WHEAT, 2002.

Table 30. Percent flour protein and flour yield for soft white winter wheat at Jerome, Rupert, Aberdeen, and Ririe, 2002.

	------ Flour Protein (%)------					------ Flour Yield (%) ------				
Variety	Jerome	Rupert	Aberdeen	Ririe	Average	Jerome	Rupert	Aberdeen	Ririe	Average
91-34302A	11.5	12.2	8.6	9.8	10.5	66.8	64.4	71.8	68.3	67.8
Albion	10.3	11.6	9.3	---	10.4	62.3	56.3	66.9	---	61.8
Beamer	11.7	12.7	8.8	9.9	10.8	69.4	63.8	72.2	68.1	68.4
Brundage	11.4	11.3	8.9	9.3	10.2	61.9	63.3	67.3	63.4	64.0
Brundage 96	11.5	11.5	9.0	10.4	10.6	62.4	62.7	68.1	64.5	64.4
Mohler (BU6W93-477)	10.2	11.6	8.4	10.1	10.1	66.9	66.0	70.7	68.9	68.1
CDC Falcon	11.5	12.2	10.0	10.9	11.2	67.4	62.8	70.0	61.3	65.4
Daws	10.4	11.6	9.1	10.2	10.3	63.8	58.9	66.7	63.2	63.2
Eltan	---	---	---	10.1	10.1	---	---	---	65.4	65.4
Hubbard	10.8	13.0	8.7	10.2	10.7	67.8	62.3	69.9	67.9	67.0
ID17113A	11.0	13.1	8.8	10.4	10.8	67.7	58.6	71.0	67.8	66.3
ID87-52814A	10.8	11.5	9.1	10.0	10.4	64.2	62.2	68.4	61.4	64.1
IDO576	11.3	11.0	8.7	9.7	10.2	63.8	63.8	67.7	66.4	65.4
IDO587	11.1	12.3	8.8	11.3	10.9	67.5	60.8	68.9	64.3	65.4
IDO588	11.6	11.8	8.6	10.3	10.6	66.0	63.8	72.2	66.3	67.1
Kmor	---	---	---	9.9	9.9	---	---	---	64.7	64.7
Lambert	11.0	11.6	8.1	9.9	10.2	65.8	62.5	69.4	63.7	65.4
MacVicar	11.1	11.9	8.3	10.3	10.4	65.4	59.7	68.0	65.7	64.7
Madsen	12.1	12.6	9.3	10.1	11.0	65.7	64.8	70.0	69.6	67.5
Malcom	11.3	12.0	8.6	10.5	10.6	64.8	58.1	68.3	63.0	63.6
Tubbs (OR939526)	10.9	12.2	8.6	10.2	10.5	64.9	61.0	69.0	65.8	65.2
OR941904	11.5	13.4	9.0	10.4	11.1	65.2	57.4	71.0	67.9	65.4
Sprague	---	---	---	9.2	9.2	---	---	---	63.9	63.9
Stephens	11.6	12.5	8.9	10.2	10.8	64.0	57.9	68.8	66.3	64.3
Weatherford	11.5	12.5	9.6	10.5	11.0	66.2	63.6	69.8	63.3	65.7
Westbred 470	10.9	11.5	9.4	10.4	10.6	66.6	61.4	66.5	64.8	64.8
Average	11.2	12.1	8.9	10.2	10.5	65.5	61.6	69.2	65.4	65.3

Table 31. Percent break flour yield and cookie diameter for soft white winter wheat at Jerome, Rupert, Aberdeen, and Ririe, 2002.

	------ Break Flour Yield (%) ------					------ Cookie Diameter (cm) ------				
Variety	Jerome	Rupert	Aberdeen	Ririe	Average	Jerome	Rupert	Aberdeen	Ririe	Average
91-34302A	34.3	31.6	32.9	36.0	33.7	8.0	7.9	8.6	8.2	8.2
Albion	36.0	34.1	34.5	---	34.9	8.2	8.1	8.6	---	8.3
Beamer	37.1	36.6	36.3	38.0	37.0	8.1	7.7	8.6	8.2	8.2
Brundage	35.7	35.6	38.6	42.0	38.0	8.4	8.1	8.8	8.4	8.4
Brundage 96	39.8	35.2	37.7	41.5	38.6	8.3	8.0	8.8	8.7	8.5
Mohler (BU6W93-477)	34.1	34.7	33.7	39.7	35.6	8.4	8.0	8.7	8.3	8.4
CDC Falcon	0.0	62.8	0.0	0.0	15.7	0.0	7.9	0.0	0.0	7.9
Daws	39.5	37.8	38.8	42.0	39.5	8.1	7.9	8.2	8.3	8.1
Eltan	---	---	---	44.7	44.7	---	---	---	8.3	8.3
Hubbard	35.9	35.7	37.1	40.5	37.3	8.6	8.0	9.0	8.5	8.5
ID89-17113A	37.3	34.8	41.3	41.7	38.8	8.6	7.8	8.7	8.2	8.3
ID87-52814A	42.4	38.6	44.2	41.8	41.8	8.1	8.1	8.7	8.3	8.3
IDO576	40.5	37.8	38.5	43.1	40.0	8.2	8.4	9.0	8.4	8.5
IDO587	37.9	31.3	34.1	36.9	35.1	8.3	8.1	9.1	8.6	8.5
IDO588	31.2	31.3	34.1	36.5	33.3	8.1	8.3	8.9	8.7	8.5
Kmor	---	---	---	44.4	44.4	---	---	---	8.3	8.3
Lambert	37.3	62.5	37.2	41.8	44.7	8.3	8.0	8.6	8.4	8.3
MacVicar	37.3	33.7	34.2	38.6	36.0	8.0	8.0	8.6	8.3	8.2
Madsen	35.6	34.9	35.2	37.4	35.8	8.1	7.9	8.4	8.7	8.3
Malcom	35.3	37.3	33.9	36.6	35.8	7.9	7.8	8.8	8.1	8.2
Tubbs (OR939526)	34.6	30.2	34.5	36.0	33.8	7.8	7.8	8.4	8.1	8.0
OR941904	39.6	38.9	39.7	39.3	39.4	8.3	7.7	9.1	8.2	8.3
Sprague	---	---	---	41.1	41.1	---	---	---	8.4	8.4
Stephens	36.9	32.7	35.4	37.7	35.7	8.1	8.1	8.9	8.2	8.3
Weatherford	37.0	34.8	34.5	38.0	36.1	8.0	8.1	8.5	8.4	8.3
Westbred 470	34.4	34.9	36.6	40.0	36.5	8.2	8.0	8.4	8.0	8.2
Average	35.2	37.3	34.9	38.2	37.0	7.8	8.0	8.3	8.0	8.3

MILLING AND BAKING-SOFT WHITE SPRING WHEAT, 2002

Table 32. Percent flour protein for soft white spring wheat, 2002.

	---------- Percent Flour Protein ----------							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Alpowa	8.8	8.5	10.0	9.4	9.6	14.0	9.6	10.0
Alturas (IDO526)	9.4	8.0	9.4	9.3	9.1	14.0	9.6	9.8
Challis	8.2	7.7	9.1	9.0	9.6	---	---	8.7
Eden (WA7902)	9.2	7.7	9.0	9.3	9.5	13.7	9.4	9.7
IDO556	10.1	8.5	10.2	10.1	10.0	14.2	10.2	10.5
Jubilee	9.3	7.4	9.3	8.9	9.7	13.7	9.6	9.7
ML042-409-1,5	9.5	8.4	9.5	9.1	9.8	---	---	9.3
Penawawa	9.1	7.8	8.2	9.5	9.3	14.1	10.1	9.7
Treasure	8.7	7.7	9.2	9.2	9.5	13.2	9.9	9.6
WA007905	9.0	8.0	9.5	8.9	9.3	13.8	9.6	9.7
Whitebird	10.0	8.2	9.5	8.4	9.5	12.8	10.2	9.8
Zak	8.7	7.7	9.2	8.6	9.7	14.0	9.8	9.7
Average	9.2	8.0	9.3	9.1	9.6	13.8	9.8	9.7

Table 33. Percent flour yield for soft white spring wheat, 2002.

	---------- Percent Flour Yield ----------							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Alpowa	67.2	66.6	66.8	65.0	66.5	56.1	61.0	64.2
Alturas (IDO526)	67.8	68.9	68.5	67.4	68.1	62.1	65.2	66.9
Challis	69.2	68.1	68.3	66.7	66.0	---	---	67.7
Eden (WA7902)	69.2	70.2	69.7	60.4	68.0	60.5	62.9	65.8
IDO556	66.2	69.1	68.1	64.7	66.7	59.7	61.9	65.2
Jubilee	68.6	68.4	68.3	65.9	67.2	59.5	65.0	66.1
ML042-409-1,5	68.8	69.4	68.1	68.0	66.8	---	---	68.2
Penawawa	67.9	64.6	64.5	63.5	62.9	54.6	59.3	62.5
Treasure	69.5	69.6	69.3	69.0	67.6	61.4	63.5	67.1
WA007905	68.6	69.8	68.8	68.3	66.5	59.3	64.2	66.5
Whitebird	68.6	68.4	69.7	68.4	67.4	59.2	63.7	66.5
Zak	67.9	69.5	68.7	67.9	65.6	60.2	63.4	66.2
Average	68.3	68.6	68.2	66.3	66.6	59.3	63.0	66.1

Table 34. Percent break flour yield for soft white spring wheat, 2002.

	---------- Percent Break Flour Yield ----------							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Alpowa	39.1	36.9	37.1	38.2	35.1	47.1	13.3	35.3
Alturas (IDO526)	37.1	38.7	36.5	39.9	36.1	39.9	13.2	34.5
Challis	40.6	39.7	38.2	40.2	38.0	---	---	39.3
Eden (WA7902)	41.5	41.7	42.4	41.8	41.2	41.8	13.5	37.7
IDO556	35.5	36.7	37.6	37.3	36.3	42.4	13.3	34.2
Jubilee	40.5	38.3	39.7	42.8	39.9	45.3	13.4	37.1
ML042-409-1,5	40.3	41.1	41.1	38.9	41.6	---	---	40.6
Penawawa	39.3	38.0	39.5	37.8	36.0	41.8	33.7	38.0
Treasure	41.9	39.6	42.6	39.7	41.8	44.9	13.5	37.7
WA007905	40.0	39.1	44.4	40.7	41.6	44.9	13.4	37.7
Whitebird	43.2	39.3	42.7	40.1	38.7	42.4	37.2	40.5
Zak	41.9	42.5	40.7	40.6	63.4	39.9	13.4	40.3
Average	40.1	39.3	40.2	39.8	40.8	43.0	17.8	37.7

Table 35. Cookie Diameter for soft white spring wheat, 2002.

	---------- Cookie Diameter ----------							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Alpowa	8.6	8.6	8.6	8.4	8.2	7.8	8.3	8.4
Alturas (IDO526)	9.0	8.6	8.8	8.4	8.4	7.9	8.8	8.6
Challis	8.8	8.4	8.4	8.4	8.4	---	---	8.5
Eden (WA7902)	9.0	8.5	9.0	9.0	8.6	8.2	8.8	8.7
IDO556	8.8	8.7	8.5	8.6	8.6	8.1	8.6	8.6
Jubilee	8.7	9.2	8.7	8.6	8.4	8.1	8.6	8.6
ML042-409-1,5	8.9	8.7	8.6	9.0	8.7	---	---	8.8
Penawawa	8.8	8.6	8.6	8.4	8.4	7.9	8.1	8.4
Treasure	9.2	8.9	8.5	8.4	8.5	8.2	8.6	8.6
WA007905	9.0	8.9	8.8	8.5	8.7	8.0	8.3	8.6
Whitebird	8.8	8.9	8.6	8.9	8.5	7.9	8.5	8.6
Zak	9.1	9.0	8.7	9.1	8.4	8.0	8.6	8.7
Average	8.9	8.8	8.7	8.6	8.5	8.0	8.5	8.6

MILLING AND BAKING-HARD WINTER WHEAT, 2002

Table 36. Percent flour protein and flour yield for hard winter wheat at Jerome, Rupert, Aberdeen, and Ririe 2002.

	------ Flour Protein (14% mb) ------					------ Flour Yield (%) ------				
Variety	**Jerome**	**Rupert**	**Aberdeen**	**Ririe**	**Average**	**Jerome**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
Hard Red Winter Wheat										
Boundary	10.7	11.5	8.2	10.1	10.1	69.2	67.7	70.5	67.1	68.6
Declo	11.4	13.0	8.8	10.5	10.9	66.3	61.9	68.3	55.1	62.9
DW	11.3	12.1	9.3	11.2	11.0	67.0	67.1	69.5	67.8	67.9
Garland	10.5	11.1	8.5	11.2	10.3	65.3	65.0	65.6	67.8	65.9
IDO571	11.3	12.0	8.3	10.7	10.6	66.5	66.2	68.1	65.6	66.6
Moreland (IDO517)	11.1	11.9	8.7	11.0	10.7	66.6	65.2	67.7	66.3	66.5
Neeley	11.9	12.0	9.0	11.4	11.1	67.7	64.9	69.3	64.8	66.7
Promontory	9.9	11.3	7.9	11.1	10.1	70.2	68.1	69.7	69.1	69.3
Residence	10.7	10.9	9.5	11.1	10.6	69.8	66.0	69.0	69.1	68.5
Semper	10.7	11.2	9.3	11.0	10.6	67.7	65.7	67.8	69.3	67.6
UT2030-32	11.7	11.3	9.3	11.1	10.9	72.1	71.5	71.8	69.9	71.3
Utah 100	10.5	12.0	8.7	11.3	10.6	67.5	63.9	68.4	66.9	66.7
Ute	11.2	11.3	9.2	---	10.6	63.3	67.4	70.1	---	66.9
Weston	---	---	---	12.3	12.3	---	---	---	66.4	66.4
Hard White Winter Wheat										
Gary	11.3	11.4	8.1	10.8	10.4	66.2	64.6	66.5	66.9	66.1
Golden Spike	11.4	11.8	8.6	10.7	10.6	68.1	64.8	71.8	68.6	68.3
NuFrontier	10.3	10.6	7.6	10.7	9.8	68.4	67.5	66.5	67.2	67.4
NuHorizon	10.9	10.9	8.6	10.8	10.3	68.4	67.3	69.0	67.2	68.0
OR850513-8	10.7	12.2	8.1	10.8	10.5	68.8	65.9	70.1	69.2	68.5
Average	11.0	11.6	8.7	11.0	10.6	67.7	66.2	68.9	66.9	67.4

Table 37. Bake volume for hard winter wheat at Jerome, Rupert, Aberdeen, and Ririe, 2002.

	----------Bake Volume (cc)----------				
Variety	**Jerome**	**Rupert**	**Aberdeen**	**Ririe**	**Average**
Hard Red Winter Wheat					
Boundary	875	1025	825	1050	944
Declo	950	1100	825	1050	981
DW	950	1100	900	1150	1025
Garland	925	1000	825	1150	975
IDO571	1050	1050	900	1050	1013
Moreland (IDO517)	1025	1075	900	1125	1031
Neeley	975	1025	850	1100	988
Promontory	925	1025	850	1000	950
Residence	800	775	825	1000	850
Semper	825	850	825	1000	875
UT2030-32	925	1000	900	1125	988
Utah 100	950	1100	900	1125	1019
Ute	925	950	950	---	942
Weston	---	---	---	1100	1100
Hard White Winter Wheat					
Gary	950	1025	825	1050	963
Golden Spike	1050	1050	900	1050	1013
NuFrontier	875	950	775	1050	913
NuHorizon	950	1050	900	1050	988
OR850513-8	775	950	775	1000	875
Average	928	1006	858	1068	970

MILLING AND BAKING-HARD SPRING WHEAT, 2002

Table 38. Percent flour protein for hard spring wheat, 2002.

	---------- Flour Protein (14% mb) ----------							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Hard Red Spring Wheat								
Hank	10.8	12.7	11.2	11.7	11.3	17.3	14.1	12.7
IDO545	---	---	10.8	---	---	17.5	13.8	14.0
IDO557	10.9	12.4	11.7	11.6	11.5	16.7	13.3	12.6
IDO566	10.1	12.2	10.7	10.8	10.7	16.6	12.9	12.0
Iona	10.2	12.2	10.1	11.8	11.6	17.2	13.4	12.4
Jefferson	11.3	11.8	10.3	10.8	11.6	17.3	14.2	12.5
Rick	9.3	11.1	9.2	10.2	10.4	14.6	12.3	11.0
Saxon	10.6	11.9	10.8	11.0	11.7	17.5	11.4	12.1
Scarlet	10.2	11.3	9.8	11.5	11.3	16.6	12.7	11.9
SX1501B	8.2	10.0	9.0	9.7	9.7	15.7	9.5	10.3
SX1502B	10.4	11.9	10.6	11.2	11.6	16.2	11.4	11.9
SX1503B	9.1	10.7	8.5	9.7	10.0	13.7	10.5	10.3
Tara 2002	10.7	11.8	10.4	11.4	12.4	17.4	14.1	12.6
WA007859	10.7	12.1	11.2	12.2	12.4	17.9	12.7	12.7
Westbred 936	10.7	12.3	11.4	11.7	11.3	17.4	12.9	12.5
Zeke	10.4	11.6	9.5	10.5	11.4	16.8	13.0	11.9
Hard White Spring Wheat								
Blanca Grande	10.9	12.1	10.0	11.5	11.6	15.3	13.1	12.1
GM40002	10.6	11.5	10.2	9.7	11.8	16.7	12.5	11.9
GM40003	10.6	11.2	9.8	10.2	10.5	15.3	12.0	11.4
IDO377s	9.4	11.4	9.8	10.8	10.8	17.5	11.8	11.6
Klasic	10.0	12.0	10.6	10.1	10.5	17.2	13.3	12.0
Lolo	9.6	10.9	8.4	10.4	10.8	17.2	12.6	11.4
Macon (WA8799)	9.7	11.7	9.9	10.2	10.9	16.5	13.0	11.7
ML181,A-1-38	9.4	10.5	10.6	10.1	---	---	---	10.2
Plata	9.6	11.9	9.7	10.3	11.4	16.8	13.8	11.9
Pristine	10.0	12.2	10.6	11.4	10.8	16.4	13.1	12.1
Winsome	9.2	10.2	9.6	10.2	10.3	16.2	12.3	11.1
YU995-231W	10.1	11.1	9.3	10.4	9.4	---	---	10.1
Average	10.1	11.6	10.1	10.8	11.1	16.6	12.7	11.8

Table 39. Percent flour yield for hard spring wheat, 2002.

	---------- Percent Flour Yield ----------							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Hard Red Spring Wheat								
Hank	70.0	69.8	68.6	68.9	68.7	62.7	65.0	67.7
IDO545	---	---	70.8	---	---	65.4	67.2	67.8
IDO557	72.4	70.8	71.1	70.4	69.2	64.7	65.1	69.1
IDO566	70.5	68.3	70.6	71.4	70.0	64.2	68.0	69.0
Iona	72.6	72.6	71.7	69.9	70.5	66.3	66.0	69.9
Jefferson	72.2	71.1	72.5	72.0	69.6	64.2	66.0	69.7
Rick	68.8	68.4	67.4	69.9	67.7	61.3	64.0	66.8
Saxon	69.9	70.7	69.2	69.2	69.2	62.9	64.8	68.0
Scarlet	72.1	72.1	71.9	71.6	69.1	65.0	64.3	69.4
SX1501B	62.9	69.7	69.2	67.7	66.7	65.0	62.0	66.2
SX1502B	73.7	67.4	70.2	69.0	68.1	64.3	60.7	67.6
SX1503B	50.4	51.0	57.0	57.3	50.6	49.9	53.8	52.9
Tara 2002	70.3	71.1	70.2	69.2	68.9	64.5	65.6	68.5
WA007859	71.3	70.2	70.2	70.3	68.8	64.7	65.3	68.7
Westbred 936	70.2	70.0	70.1	70.5	68.1	63.8	64.7	68.2
Zeke	70.2	69.9	68.8	68.9	68.4	62.6	65.9	67.8
Hard White Spring Wheat								
Blanca Grande	67.7	67.6	68.9	67.9	66.0	60.3	63.5	66.0
GM40002	67.7	66.1	68.8	67.5	67.7	60.2	63.7	66.0
GM40003	68.0	69.2	68.1	68.9	67.8	62.0	65.3	67.0
IDO377s	67.7	68.0	66.4	67.3	64.8	61.0	61.8	65.3
Klasic	69.9	70.5	69.2	71.2	69.7	59.1	66.1	68.0
Lolo	68.8	69.5	67.3	67.9	66.0	61.8	63.1	66.3
Macon (WA8799)	71.0	68.5	69.4	68.0	69.2	66.6	67.3	68.6
ML181,A-1-38	67.1	67.0	67.8	66.5	---	---	---	67.1
Plata	69.7	67.4	67.8	67.5	68.2	60.0	62.6	66.2
Pristine	70.1	71.3	69.6	71.3	69.3	66.2	67.3	69.3
Winsome	66.9	68.2	67.8	68.9	68.7	64.3	63.9	67.0
YU995-231W	66.9	67.8	68.2	67.7	66.3	---	---	67.4
Average	68.9	68.7	68.9	68.8	67.6	62.8	64.3	67.2

Table 40. Bake volume for hard spring wheat, 2002.

	Bake Volume (cc)							
Variety	Twin Falls	Rupert	Aberdeen	Idaho Falls	Ashton	Ririe	Soda Springs	Average
Hard Red Spring Wheat								
Hank	1000	1175	1025	1025	1050	1300	1225	1114
IDO545	---	---	1050	---	---	1200	1200	1150
IDO557	975	1250	1100	1075	1025	1250	1100	1111
IDO566	1050	1200	1075	975	1100	1275	1150	1118
Iona	1000	1150	1025	1125	1100	1300	1225	1132
Jefferson	1175	1200	1075	1000	1075	1300	1300	1161
Rick	975	1050	900	950	1000	1000	1125	1000
Saxon	925	1175	1050	975	1050	1200	1000	1054
Scarlet	1100	1125	1000	1000	1075	1250	1150	1100
SX1501B	750	950	850	850	925	1125	800	893
SX1502B	875	1050	1025	950	1100	1100	1050	1021
SX1503B	850	950	850	875	1000	1175	900	943
Tara 2002	1000	1200	1100	1100	1175	1375	1250	1171
WA007859	1100	1125	1075	1025	1150	1350	1100	1132
Westbred 936	1075	1175	1075	1025	1100	1300	1200	1136
Zeke	1100	1150	975	1000	1075	1325	1200	1118
Hard White Spring Wheat								
Blanca Grande	1000	1150	1025	1075	1150	1250	1250	1129
GM40002	900	1050	1000	925	1150	1175	1200	1057
GM40003	950	1100	1050	925	1000	1200	1100	1046
IDO377s	825	1000	950	925	975	1150	950	968
Klasic	1025	1250	1075	1050	1050	1400	1300	1164
Lolo	850	1000	850	875	1000	1200	1100	982
Macon (WA8799)	900	1150	1050	1025	1150	1225	1300	1114
ML181,A-1-38	650	1000	1000	850	---	---	---	875
Plata	900	1175	1075	1000	1125	1050	1350	1096
Pristine	925	1100	1000	1000	1000	1175	1100	1043
Winsome	800	950	950	900	1000	1125	1075	971
YU995-231W	925	1050	975	950	875	---	---	955
Average	948	1107	1009	980	1057	1222	1142	1063

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 Spring
- Klasic

Club
- Hiller

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

Hard Red Spring (Min 13 Protein)
- Hank
- Jefferson
- WB 906R
- WPB 936

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

Soft White Winter
- Cashup
- Eltan
- Hill 81
- Lambert
- Madsen
- Malcolm
- Rod
- Sprague
- Weatherford

Soft White Spring
- Pomerelle
- Wawawai

Hard White Spring
- 377s
- Lolo

Club
- Coda

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

Hard Red Spring (Min 13 Protein)
- Iona
- Sunstar King
- WPB 926

Limited Markets: It is suggested these varieties be grown only if a buyer is 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.