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Cooperative Extension System

The Cereal Sentinel

A newsletter for Treasure Valley cereal producers

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Topics: **Page**

Important Dates:

July 10 Malheur Station Field Day, Ontario

The goal of this newsletter is to serve the best interests of Treasure Valley cereal producers. It will be issued periodically as information warrants. Correspondence and inquiries should be addressed to: **Parma Research and Extension Center, 29603 U of I Lane, Parma, ID 83660 (208-722-6701 Ext. 216) (Fax-208-722-6708) (Email bradb@uidaho.edu)**

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Spring Cereal Variety Performance

The 2001 season marked the 15th season of the Southwest Idaho Cooperative Extension Variety Performance Trials for spring cereals. The trials, supported by the Idaho Wheat Commission, Idaho Barley Commission, private breeders and the College of Agriculture allow the testing of public and proprietary varieties and advanced lines under the irrigated conditions of the Treasure Valley.

Three irrigated spring trials were conducted during the 2001 season. Trials were located at the Parma Research and Extension Center, Kuna, and Weiser. The Parma trial was planted March 14, Weiser on March 20, and Kuna on March 12. Lodging was greater at Parma and Kuna, with little or none at Weiser. Stress conditions at Weiser reduced plant height and yield.

There was no incidence of barley stripe rust in the Treasure Valley during 2001 that we are aware of. Spring barley variety performance should be interpreted in that light.

Soft White Spring Wheat

The 2001 results for soft white spring wheat varieties are shown in Table 1 on this page and the next. The best indication of long term variety performance is a comparison involving several sites and years.

There are several new soft white spring releases for growers to consider. They are distinguished not so much by their excellent yield potential as much as their excellent milling and baking quality.

For superior milling and baking quality, soft white spring producers previously relied on **Treasure** or its replacement **Pomerelle**, both of which are weaker strawed than desirable and therefore limited in their yield potential. **Pomerelle** and **Treasure** were the least productive when averaged across several years and locations. **Pomerelle** has slightly better straw strength than **Treasure**.

Zak, a recent WSU release, represents a marked improvement in milling and baking quality over previous WSU irrigated releases, but it also lacks sufficient straw strength for our production system.

Table 1. 2001 Early Planted Irrigated Soft White Spring Wheat Performance in the Treasure Valley.

Variety	Yield	Protein	Test Weight	Height	Lodging
	bu/acre	%	lb/bu	in	%
		Parma			
Alpowa	125	8.4	64.9	40	30
Alturas	134	8.2	62.9	38	5
ID0 556	100	8.9	63.5	32	0
Jubilee	119	7.9	63.4	38	3
Penawawa	125	8.9	63.8	38	20
Pomerelle	107	7.5	62.1	38	0
Treasure	131	8.4	61.6	39	38
Vanna	116	8.3	63.3	37	5
WA7884	120	9.0	63.1	41	30
WA7902	112	7.9	63.9	35	3
WB Challis	113	7.9	62.8	38	20
Whitebird	115	7.5	63.0	39	0
Zak	131	9.0	62.3	40	50
$LSD_{.10}$	18	1.2	1.1	2.2	24
		Weiser			
Alpowa	121	11.8	65.3	38	0
Alturas	121	10.9	63.9	35	0
IDO 556	110	11.5	65.8	32	0
Jubilee	124	11.3	65.3	38	0
Penawawa	126	11.1	64.6	35	0
Pomerelle	121	10.7	63.4	38	0
Treasure	120	11.1	63.8	37	0
Vanna	120	10.9	64.3	36	0
WA7884	119	10.3	64.3	37	0
WA7902	123	10.7	64.5	36	0
WB Challis	129	10.8	64.3	36	0
Whitebird	117	11.4	65.3	39	0
Zak	121	10.5	64.3	37	0
$LSD_{.10}$	10	1.0	0.9	1.3	-
		Kuna			
Alpowa	117	11.2	64.3	39	0
Alturas	98	11.1	64.3	35	0
IDO 556	100	12.0	64.5	32	0
Jubilee	114	11.4	64.8	38	0
Penawawa	119	11.1	63.5	37	0
Pomerelle	98	10.8	62.5	38	0
Treasure	104	10.8	62.4	39	0
Vanna	115	10.8	62.6	38	0
WA7884	114	11.1	63.5	39	0
WA7902	94	10.7	63.3	35	0
WB Challis	118	10.6	63.1	37	0
Whitebird	101	11.4	64.1	37	0
Zak	112	11.0	63.0	40	0
$LSD_{.10}$	17	0.6	1.0	2	-

[1] Means must differ by more than the LSD to be statistically different

Table 1 continued. 2001 Irrigated Soft White Spring Wheat Performance in the Treasure Valley.

Variety	Yield	Protein	Test Weight	Height	Lodged
	bu/acre	%	lb/bu	in	%
			2001 (3 *sites*)		
Alpowa	122	10.7	65.1	38	24
Alturas	125	10.0	63.5	36	4
Centennial	117	10.1	64.5	37	0
IDO 556	107	10.6	65.0	32	0
Jubilee	122	10.2	64.6	38	3
Penawawa	125	10.4	64.3	36	16
Pomerelle	116	9.6	63.0	38	0
Treasure	123	10.2	62.4	37	29
Vanna	119	10.0	63.9	37	6
WA7884	120	9.9	63.9	38	25
WA7902	120	9.8	64.3	36	3
WB Challis	123	9.8	63.8	37	18
Whitebird	117	10.1	64.5	39	0
Zak	124	10.0	63.6	38	27
Average	119	10.1	64.0	37	5
$LSD_{.10}$	8	1.2	0.8	1	11
			1993-01 (24 site years)		
Alpowa	111	10.6	63.0	37	11
Centennial	110	10.6	62.5	36	7
Penawawa	111	11.0	61.9	36	10
Pomerelle	107	10.2	61.0	36	9
Treasure	108	10.4	61.0	36	11
Whitebird	109	10.4	62.6	38	8
Average	110	10.5	62.0	36	9
$LSD_{.10}$[1]	5	0.4	0.6	0.8	5
			1999-01 (9 site years)		
Alpowa	106	10.7	64.3	37	3
Alturas	119	10.4	63.4	36	1
Jubilee	116	10.5	64.3	37	0
Penawawa	112	10.6	63.6	35	2
Pomerelle	111	10.2	62.7	36	0
Treasure	111	10.2	62.1	36	4
WB Challis	116	9.9	63.0	36	2
$LSD_{.10}$[1]	9	0.6	0.6	1.4	3.7

[1] Means must differ by more than the LSD to be statistically different

Alturas (IDO526), WB Challis and **Jubilee (IDO525)** are new, high yielding soft whites with milling and baking quality comparable to that of **Treasure** and **Pomerelle**, the quality standards. **Alturas**, **WB Challis** and **Jubilee** have better yield potential in our area and both **Jubilee** and **Alturas** have much better straw strength and lodging resistance than other currently grown varieties. **Alturas** is shorter than **Jubilee** and has lower test weight.

WB Challis ranked the highest in yield in the 1999 and 2000 tests and No. 4 in 2001. It has moderate height and test weight. **WB Challis** averaged the lowest in protein over three years and has test weight similar to **Alturas**.

Alpowa is slightly taller than many others, but has good lodging resistance and excellent test weight. P**enawawa,** an older Washington release, yields well but tends to be higher in protein and lower in test weight than **Alpowa**. **Penawawa** is a poor milling wheat, and is not on the Idaho Wheat Commission's list of acceptable varieties for quality. It is the most commonly grown spring wheat in western Idaho primarily due to its excellent yield potential.

WB Vanna and **Centennial** also have good yield potential and good straw strength. **Whitebird** has good yield potential but has not yielded as well as **Penawawa** and **Alpowa. Whitebird** does have low protein and excellent baking quality. **Vanna** is among the shorter of the spring wheats with good straw strength and lodging resistance.

Hard Red Spring Wheat

Hard red spring varieties in the Cooperative Extension nurseries are evaluated because of their historically higher prices and potential for greater returns to spring wheat producers. Results for hard red spring wheat are given in Tables 2 and 3. As with any variety comparison, the more years and sites they can be compared over the more reliable the information.

WPB 936, a Western Plant Breeders release, is the most commonly planted hard red spring in western Idaho. It has excellent yield potential and its high yield potential is in part responsible for its lower protein.

Jefferson is a new hard red spring from the UI breeding program at Aberdeen. It has yielded as well as **WPB936** over several years of testing. **Jefferson** is taller than **WPB936** and more susceptible to lodging. It has protein comparable to **WB936. Jefferson** has moderate Hessian fly resistance, excellent milling yield and good baking quality.

Hi-Line, a Montana variety, has been evaluated for five years in western Idaho. **Hi-Line** was less productive than **WPB 936** but generally has better protein and higher test weight. It was slightly taller than **WPB 936** but had good straw strength.

Table 2. Hard Red Spring Wheat Performance in the Treasure Valley. 2001.

Variety	Yield	Protein	Test Weight	Height	Lodged
	bu/A	%	lb/bu	in.	%
			Parma		
Hi-Line[1]	112	9.8	64.9	36	3
IDO 557	109	9.1	62.9	36	0
Jefferson	110	8.9	65.1	36	0
Scarlet	86	8.2	64.5	40	0
SDM50040	110	9.0	63.8	35	0
Sunstar King	97	9.2	64.3	34	0
Tara	88	8.3	64.8	38	0
WA7839	83	8.6	64.5	34	0
WPB936	118	9.0	64.0	33	0
WPB Hank	104[1]	8.7	63.4	35	0
Average	102	8.9	64.2	36	0.3
$LSD_{.10}$	13	1.1	1.1	1.9	2
			Weiser		
Hi-Line	106	13.8	63.9	34	0
IDO 557	100	13.8	63.0	34	0
Jefferson	114	13.7	63.4	36	0
Scarlet	109	13.4	62.6	39	0
Tara	90	14.1	63.6	37	0
WA 7839	98	14.1	64.5	36	0
WPB 936	109	13.4	63.8	34	0
WPB Hank	106	13.9	63.8	34	0
Average	104	13.8	63.6	35	0
$LSD_{.10}$	11	0.6	1.1	2.2	-
			Kuna		
Hi-Line	109	13.5	62.9	36	0
IDO 557	105	13.2	63.1	36	5
Jefferson	105	13.3	62.3	38	0
Scarlet	106	13.3	61.6	44	18
Tara	106	13.2	63.1	40	0
WA 7839	91	13.2	64.1	37	0
WPB 936	108	13.7	62.4	35	0
WPB Hank	100	13.8	61.4	36	0
Average	104	13.4	62.6	38	2.8
$LSD_{.10}$	17	0.6	1.4	1.9	9

[1] Means must differ by more than the $LSD_{.10}$ to be statistically different

WPB Hank is a release from Western Plant Breeders. It has been the highest yielding variety over the last three years. **WPB Hank** is taller than **WPB 936** but has good lodging resistance and good test weight. Protein for **WPB Hank** is comparable to **WPB936**. It has above average milling and baking quality.

Table 3. Hard Red Spring Wheat Performance in the Treasure Valley over several locations or years.

Variety	Yield	Protein	Test Weight	Height	Lodged
	bu/A	%	lb/bu	in.	%
			*2001 (*3 site years)		
Hi-Line[1]	108	12.5	64.2	34	1
IDO 557	103	12.2	63.0	34	0
Jefferson	112	12.1	63.4	36	0
Scarlet	101	11.7	63.3	39	0
Tara	90	12.2	64.0	37	0
WA7839	93	12.3	64.5	35	0
WPB 936	112	11.9	63.8	33	0
WPB Hank	105[1]	12.2	63.6	35	0
Average	103	12.1	63.8	36	0.1
$LSD_{.10}$	10	2.3	0.7	1.3	0.7
			1999-2001 (9 site years)		
Hi-Line	104	12.5	64.8	34	3
Jefferson	110	12.2	64.4	36	0
WPB 936	106	12.1	64.2	32	0
WPB Hank	111	12.3	64.0	34	0
Average	108	12.3	64.1	34	0.1
$LSD_{.10}$	8	0.8	0.4	1	0.3
			1997-01 (15 site years)		
Hi-Line	99	12.8	63.4	34	0.5
Jefferson	107	12.5	63.2	36	1.3
WB 936	102	12.6	62.5	32	0
$LSD_{.10}$	6	0.6	0.8	0.8	1.1

[1] Means must differ by more than the $LSD_{.10}$ to be statistically different

Scarlet and **Tara** are new releases from WSU, They have not yielded as well as the more productive hard reds such as **Jefferson, WPB Hank,** or **WPB936**. They have good test weight, and good straw strength and excellent milling and baking quality.

Significant discounts can result with hard red springs if protein is below 14%. The protein levels reported for the hard reds in these variety trials are low at most locations. The trials were not fertilized with N for maximum protein and quite often the sites are under fertilized with N. The commercial production of these varieties would entail quite different N management than what is provided for soft white spring wheat.

The hard red springs are typically about 5% less productive than the soft whites when early spring

planted. They are more comparable in yield when planted late in western Idaho.

Spring Barley

The Southwest Idaho Cooperative Extension Variety Performance trials have evaluated barley varieties and advanced lines since 1987. Spring barley variety performance is presented in Tables 4 and 5 for the six-rows, Tables 6 and 7 for the two-rows.

Barley stripe rust was not evident this past season in western Idaho. Consequently there was no advantage to those releases with stripe rust resistance.

Test weights and yields of six rows at Parma averaged higher than at other locations. Plant heights were lower at Weiser suggesting that moisture stress may have limited production at that site.

Six-Row Varieties

Steptoe, still the most commonly grown six-row in western Idaho, has serious flaws for an irrigated feed barley. Its height, weak straw, and susceptibility to lodging limit its yield potential under high yielding conditions. The greater productivity of more recently released varieties is largely related to their greater resistance to lodging. **Steptoe** is more competitive in yield under more stressful conditions.

Steptoe has been displaced in Washington, Oregon, and all other production districts in Idaho due to its lower productivity and poorer feed quality. **Steptoe** is generally poorer in feed quality than other six-rows due to its higher and less digestible hull content.

WB Gustoe and **WB Nebula,** Western Plant Breeder releases, are the shortest of the six row varieties and have excellent lodging resistance. They have better yield potential than **Steptoe** under more optimum conditions but no better test weight. **WB Nebula**, the more recent release, has lower test weight but possibly fewer thins and a slight yield advantage over **WB Gustoe**.

Maranna, an OSU release, yields better than **Steptoe** in the absence of stripe rust and has better test weight, stronger straw, and is shorter. However, **Maranna** is particularly susceptible to barley stripe rust.

Colter, a USDA release from Aberdeen, has several advantages over **Steptoe** including better yield potential and test weight. Though it tends to be slightly taller than **Steptoe** it has much better straw strength and lodging resistance. **Colter** also matures earlier than **Steptoe**.

Table 4. Six-Row Spring Barley Variety Performance in the Treasure Valley. 2001

Variety	Yield	Test Weight	Height	Lodging
	bu/A	lb/bu	in.	%
		Parma		
Brigham	150	52.8	40	10
Century	126	54.1	43	13
Colter	155	53.0	43	3
DA587-124	165	54.4	29	23
Legacy	133	55.0	46	30
Maranna	143	54.5	34	13
Millennium	158	53.9	36	0
Statehood	134	54.0	41	23
Steptoe	152	53.3	46	28
Tango	147	53.3	44	13
WPB Gustoe	160	56.4	31	5
WPB Nebula	173	53.4	33	5
Average	150	54.0	39	14
$LSD_{.10}$	17	1.9	1.6	19
		Weiser		
Brigham	84	50.0	25	0
Century	80	52.0	30	0
Colter	102	52.0	27	0
DA587-124	92	53.0	18	0
Legacy	72	51.8	26	0
Maranna	90	53.5	20	0
Millennium	113	53.3	27	0
Statehood	83	52.0	28	0
Steptoe	126	53.1	27	0
Tango	102	52.8	23	0
WPB Gustoe	117	53.0	22	0
WPB Nebula	113	51.6	23	0
Average	98	52.3	25	0
$LSD_{.10}$	32	2.4	4	-
		Kuna		
Brigham	130	49.0	33	0
Century	108	52.1	35	23
Colter	136	52.9	34	23
DA587-124	157	52.6	28	3
Legacy	131	55.0	36	43
Maranna	135	53.2	30	0
Millennium	134	52.6	33	0
Statehood	132	52.1	34	20
Steptoe	127	54.1	34	70
Tango	117	50.5	32	73
WPB Gustoe	127	51.4	27	0
WPB Nebula	155	51.4	31	0
Average	132	52.3	32	21
$LSD_{.10}$	13	2.5	2.2	27

[1] Means must differ by more than the LSD to be statistically different.

Table 5. Spring 6-Row Barley Variety Performance in the Treasure Valley over several sites and years

Variety	Yield	Test Weight	Height	Lodged	Thins
	bu/A	lb/bu	in.	%	%
		2001 (3 sites)			
Brigham	106[1]	50.9	30	3	0.6
Century	95	52.7	35	4	1.0
Colter	119	52.3	32	1	1.2
DA587-124	138	53.3	25	9	0.7
Legacy	112	53.9	36	24	0.8
Maranna	108	53.8	25	4	1.2
Millenium	128	53.5	30	0	1.1
Statehood	100	52.7	32	8	0.8
Steptoe	135	53.2	33	9	0.5
Tango	117	52.9	30	4	0.7
WB Gustoe	131	54.1	25	2	0.5
WB Nebula	133	52.2	26	2	0.3
Average	117	52.8	30	4	0.8
$LSD_{.10}$	24	1.1	5	8	0.4
		2000-01 (6 site years)			
Brigham	133	50.8	32	2	1.0
Century	115	52.2	35	2	1.2
Colter	129	51.9	34	1	2.0
Maranna	128	52.3	27	2	1.5
Millenium	151	52.4	32	0	2.3
Statehood	120	51.8	33	4	1.5
Steptoe	140	52.3	35	5	1.1
Tango	127	51.6	33	2	2.3
Average	130	51.9	33	2	1.6
$LSD_{.10}$	16	1.1	3	3.9	0.9
		1997-01 (15 site years)			
Century	115	50.7	37	17	1.2
Colter	118	49.9	36	9	2.6
Maranna	116	50.4	29	6	1.9
WB Gustoe	125	50.1	27	7	1.1
WB Nebula	123	48.7	29	4	0.8
Steptoe	122	49.9	36	30	1.7
Statehood	115	50.2	35	16	1.3
$LSD_{.10}$	10	1.3	1.4	8	0.7

[1] Means must differ by more than the LSD to be statistically different.

Colter, like **Maranna,** is especially susceptible to stripe rust.

Two Utah varieties were tested for the fifth year in 2001. **Century** and **Statehood** were named in honor of Utah's centennial celebration. Both varieties tend to lack the straw strength of more productive Utah six row varieties including **Brigham** and **Millenium**.

Two new Utah releases **Millenium** and **Brigham** were evaluated for the second year in 2001. These two varieties had excellent lodging resistance. **Brigham** is the shorter of the two but **Millenium** had the better test weight. **Millenium** is about as tall as **Steptoe**..

Tango was released for it's resistance to stripe rust. An OSU release, it has **Steptoe** parentage which accounts for its poor lodging resistance. **Tango** does not appear to have the stress tolerance of **Steptoe**.

Legacy is a Busch malting six row. It is less productive than most of the other varieties, is taller and more susceptible to lodging.

DA587-124 is a WPB advanced line. It is very short but apparently lacks some straw strength. It ranked number 2 in yield behind **WPB Nebula** under the better yield conditions at Parma and Kuna, but faired poorly under the stress conditions at Kuna.

Two-Row Varieties

Feed

Six and two-row variety yields have narrowed considerably over the years. With better tolerance to stripe rust, the better two row varieties can now be expected, when stripe rust is present, to be more productive than many six row barleys normally produced in western Idaho.

Baronesse, from Western Plant Breeders (originally from Germany), has replaced most of the **Steptoe** acreage in Washington because it yields more in those rainfed environments and has better feed quality in all environments. In the Treasure Valley, **Baronesse** often yields less than **Idagold** under more optimum conditions primarily due to its poorer straw strength and susceptibility to lodging. **Baronesse** does have better test weight than **Idagold**.

Idagold, an Adolph Coors feed barley, is generally better yielding than **Baronesse** due in part to lower height, better straw strength and less lodging. **Idagold** has ranked #1 in yield among two rows over the last three years of testing. **Idagold** is six to seven inches shorter than **Baronesse**. **Idagold** has yielded better than **Steptoe** in many trials where lodging was significant.

Merit is a two-row malting barley from Busch Ag Resources. It yields less than **Idagold**. **Orca**, an OSU release, is one of the first two-rows with barley stripe rust resistance. **Orca** is taller than **Idagold** but has

Table 6. Two-Row Spring Barley Variety Performance in the Treasure Valley. 2001

Variety	Yield	Test Weight	Height	Lodged
	bu/A	lb/bu	in.	%
		Parma		
Baronesse	155	56.4	39	5
BCD47	140	56.1	32	28
C32	155	55.4	31	3
C40	147	54.8	34	3
C46	156	55.9	31	13
C53	173	54.3	34	8
C56	154	56.1	31	5
C57	166	54.8	30	0
Camas	138	55.4	41	5
Farmington	154	54.5	33	3
Galena	156	55.0	35	0
H3860224	142	57.3	39	10
Idagold	157	55.6	31	15
Merit	148	56.1	40	10
Moravian 37	153	57.1	34	5
Orca	128	54.9	40	8
Valier	144	56.1	40	13
Average	151	55.6	35	8
$LSD_{.10}$	16	1.8	1.6	18
		Weiser		
Baronesse	112	56.9	28	0
BCD47	115	57.1	24	0
C32	93	54.1	24	0
C40	104	56.3	25	0
C46	129	55.4	25	10
C53	126	54.1	25	0
C56	115	56.5	23	0
C57	119	52.9	22	0
Camas	125	56.8	28	0
Farmington	117	55.8	26	0
Galena	91	56.5	27	0
H3860224	111	54.9	27	0
Idagold	123	53.9	24	0
Merit	102	55.9	27	0
Moravian 37	117	57.4	27	0
Orca	101	55.1	30	0
Valier	116	56.0	29	23
Average	113	55.6	26	2
$LSD_{.10}$	20	1.8	2.4	10.2

[1] Means must differ by more than the LSD to be statistically different.

Table 6 continued. Spring 2-Row Barley Variety Performance in the Treasure Valley. 2001

Variety	Yield	Test Weight	Height	Lodged
	bu/A	lb/bu	in.	%
			Kuna	
Baronesse	133	56.0	32	70
BCD47	131	52.9	29	3
C40	128	54.1	31	3
C46	137	52.7	30	53
C53	138	53.4	32	8
C56	142	55.1	29	23
C57	156	51.8	30	3
Camas	130	55.1	34	48
Farmington	137	53.9	33	15
Galena	149	55.5	34	3
H3860224	114	56.4	33	43
Idagold	156	52.4	30	8
IdagoldII	149	54.9	32	8
Merit	133	52.6	33	50
Moravian 37	139	54.6	31	25
Orca	108	54.5	35	38
Valier	132	55.3	35	58
Average	136	54.2	32	27
$LSD_{.10}$	16	1.7	1.9	31
			2001(3 sites)	
Baronesse	126	56.7	31	2
BCD47	124	56.8	27	9
C40	119	55.8	28	1
C46	138	55.5	27	11
C53	141	54.1	28	3
C56	128	56.4	26	2
C57	134	53.5	25	0
Camas	129	56.3	33	2
Farmington	129	55.3	28	1
Galena	113	56.0	29	0
H3860224	121	55.7	31	3
Idagold	134	54.5	27	5
IdagoldII	114	54.5	26	1
Moravian 37	129	57.3	29	2
Merit	118	56.0	32	3
Orca	111	55.0	33	3
Valier	125	56.0	33	19
Average	125	55.6	29	4
$LSD_{.10}$	17	1.0	3.3	8

[1] Means must differ by more than the LSD to be statistically different.

comparable straw strength and resistance to lodging. It has yielded less than **Idagold** and **Baronesse**.

Idagold II (C32) is another Coors feed barley release with seed to be handled by Western Seed. It has better test weight and lodging resistance than **Idagold**. It did not perform as well as **Idagold** in 2001 due

primarily to its poor yield under the stress conditions at Weiser. Yield performance in previous years was as good or better than **Idagold**.

Farmington is a new WSU release. It is taller than **Idagold** and **Idagold II** but shorter than **Baronesse**. It is comparable in yield to **Baronesse**. **Camas** is a North Dakota line released by the UI. It may have better stress tolerance than **Idagold,** but does not yield as well under more optimum conditions.

BCD47 is a stripe rust resistant line from OSU. It has not yielded as well as the better feed types.

Malting

Increased malting capacity in Idaho Falls will eventually increase the competition for malting barley acreage in eastern Idaho. We do not anticipate contracted malting barley in western Idaho in the near term. But malting variety performance data is collected because of the interest of mallsters and brewers in our area.

Galena is a two-row malting barley from Adolph Coors. It typically yields less than **Idagold** with earlier plantings but better than **Idagold** in later seedings. **Galena** is earlier and taller than **Idagold** and has higher test weight. **Galena** is to be replaced with **Moravian 37**.

Moravian 37 has excellent yield potential, yielding comparable to **Idagold** over the last three years of testing. It is the highest yielding two row approved for malting that we have evaluated. **Moravian 37** is more productive than **Galena**. It will be contracted primarily in the Magic Valley but seed is available from Coors for non-contracted plantings. Coors may purchase non-contracted production if there are problems in other production areas, as there has been in previous years.

Merit is a Busch two row approved for malting. It yielded comparable to **Galena** and **Orca** but did not yield as well as **Moravian 37**. **Merit** is taller than most two rows.

Treasure Valley producers can now enjoy the high yields typical of six-row barley as well as the superior test weight and feed quality of a two-row. With the uncertainty of barley stripe rust, the more tolerant two rows offer an excellent alternative.

Table 7. Long term spring 2-Row Barley Variety Performance in the Treasure Valley.

Variety	Yield	Test Weight	Height	Lodged
	bu/A	lb/bu	in.	%
		1997-01 (13 sites)		
Baronesse	123	53.5	33	0.6
Galena	119	52.8	31	0
Idagold	125	50.6	28	1.7
$LSD_{.10}$	9	1.2	1.0	2.4
		1999-01 (9 sites)		
Baronesse	132	55.4	33	1
BCD47	122	54.9	27	3
Camas	128	55.0	35	1
Farmington	130	55.0	30	1
Galena	125	54.7	31	0
Idagold	137	53.4	28	2
IdagoldII	133	54.2	28	1
Moravian 37	135	55.4	31	1
Merit	123	54.1	35	1
Orca	124	54.6	35	1
$LSD_{.10}$	10	0.8	1.6	2.7

[1] Means must differ by more than the $LSD_{.10}$ to be statistically different.

Hard White Wheat

Hard white spring wheat is a market class separate and different from the soft white class. Large scale production in the PNW has largely been controlled by the Promar Select Coop through the use of licensed varieties in selected areas of the PNW.

There is considerable breeder and industry interest in the hard whites as they have potential for re-capturing significant domestic or foreign bread and noodle markets. Several hard whites were evaluated in the Cooperative Extension Nurseries in 2001.

ID377s, an Idaho release, was the first public hard white spring release for the PNW and was licensed to Promar Select Inc. **ID377s** has excellent yield potential typically equaling that of the best soft whites.

Lolo, a new UI release , was the most productive of all released hard whites in 2000 but did not perform as well in 2001. Although it is as tall as **ID377s**, it has much better straw strength and slightly better test weight.

Winsome, an OSU release, and **UC896**, a UC release, did not do as well as **ID377s** in 2000 or 2001. Both are shorter than **ID377s**. **Winsome** has lower test weight and protein than **ID377s**.

Pristine, a WPB release, yielded significantly less than **ID377s** and **Lolo** in two of three 2001 locations. General Mills and the WSU breeding program submitted

Table 8. Hard White Spring Wheat Performance in the Treasure Valley. 2001.

Variety	Yield	Protein	Test Weight	Height	Lodged
	bu/A	%	lb/bu	in.	%
			Parma		
GM40002	93	9.2	65.5	35	0
GM40019	117	8.0	65.1	33	0
GM40020	110	8.8	65.0	33	0
IDO377s	128	8.7	64.3	40	18
IDO560	116	7.7	63.3	38	3
Lolo	98	7.6	64.9	37	0
Pristine	91	8.7	64.8	35	0
UC896	97	7.7	64.8	34	0
WA7899	106	7.9	65.1	37	5
WA7900	118	8.5	66.3	39	23
WA7901	123	8.2	64.8	41	5
Winsome	110	8.0	62.9	35	0
Average	109	8.2	64.7	36	4
$LSD_{.10}$	17	1.0	1.0	1.9	10
			Weiser		
GM40002	96	13.3	65.3	35	8
GM40019	108	12.8	64.0	30	0
GM40020	108	13.5	65.6	31	0
IDO377s	118	12.8	64.1	37	5
Lolo	111	13.7	64.5	36	0
Pristine	94	14.0	65.5	34	0
UC896	111	12.7	64.6	33	0
WA7899	115	12.4	65.0	36	0
WA7900	114	12.7	64.9	37	0
WA7901	109	13.3	64.6	38	0
Winsome	115	12.2	63.5	32	0
Average	109	12.9	64.6	35	1
$LSD_{.10}$	15	0.9	1.3	1.5	6
			Kuna		
GM40002	101	13.0	63.1	36	0
GM40019	103	12.3	62.4	31	0
GM40020	103	13.2	63.0	33	0
IDO377s	108	12.5	62.9	41	0
Lolo	95	12.7	63.4	38	0
Pristine	110	13.6	64.6	37	0
UC896	93	12.6	62.1	35	0
WA7899	105	13.6	61.9	39	18
WA7900	106	12.3	63.5	39	0
WA7901	103	13.1	61.8	40	0
Winsome	88	12.1	60.0	36	0
Average	101	12.7	62.6	37	1
$LSD_{.10}$	22	0.7	1.8	1.5	10

[1] Means must differ by more than the $LSD_{.10}$ to be statistically different

several hard whites but none matched the yield of **ID377s**.

The hard white market involves considerable risk to existing soft white markets and visa versa. Producers are reminded that co-mingling soft white and hard white wheats will destroy the value of the mix for food uses.

Growers are urged to venture into the hard whites only if they have a ready market and can insure the segregation of hard whites from soft whites. Co-mingling the two classes and ruining the quality of the mix for either soft white or hard white uses is a sure way to lose both domestic and export markets.

Additional Variety Performance Information

Variety performance information from related areas is available from other extension cereal and research

Table 9. Hard White Spring Wheat Performance in the Treasure Valley over sites and years. 2001.

Variety	Yield	Protein	Test Weight	Height	Lodged
	bu/A	%	lb/bu	in.	%
			2001 (3 sites)		
GM40002	95	11.6	65.3	35	5
GM40019	111	11.2	64.4	31	0
GM40020	109	12.0	65.4	32	0
IDO377s	121	11.5	64.2	38	9
IDO 560	111	10.6	63.5	36	1
Lolo	107	11.7	64.6	36	0
Pristine	93	12.2	65.3	35	0
UC896	107	11.0	64.7	33	0
WA7899	112	10.9	65.0	36	2
WA7900	115	11.3	65.3	38	8
WA7901	113	11.6	64.7	39	2
Winsome	113	10.8	63.3	33	0
Average	109	11.3	64.6	35	2
$LSD_{.10}$	10	2.0	0.7	1.2	4.8
			1999-2001 (9 sites)		
ID377s	119	11.8	64.9	36	3
Lolo	118	11.6	65.3	37	0
UC896	106	11.8	65.0	34	0
Winsome	115	11.3	63.4	34	0
Average	114	11.5	64.6	35	1
$LSD_{.10}$	9	0.3	0.4	0.8	1.8

[1] Means must differ by more than the $LSD_{.10}$ to be statistically different

breeding program web sites including the following: OSU (http://www.css.orst.edu/cereals), USU (http://wheat.usu.edu), UI (http://www.uidaho.edu/aberdeen/cereals/).

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Southwest Idaho Extension Cereals Website

Previous issues of the ***Cereal Sentinel*** newsletter back to 1996 can be viewed as PDF files on the Southwest Idaho Extension Cereals Homepage at http://www.ag.uidaho.edu/SWIdaho. If you would like to receive electronic notice of new ***Cereal Sentinel*** newsletters posted to the website, rather than the hard copy through the mail, send an e-mail message to me at bradb@uidaho.edu. The advantage for us is that we don't need to produce a hard copy and put it in the mail to you. The website is still under development but the content is considerably expanded from the initial website published in June 2000. In addition to the ***Cereal Sentinel*** newsletters, variety descriptions and performance have been added as well as other topics. If you have suggestions for the website send them to me at bradb@uidaho.edu.

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