



# The Cereal Sentinel

*A newsletter for Treasure Valley cereal producers*

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Topics:	Page
Spring Cereal Variety Performance	2
Soft White Spring Wheat	2
Hard Red Spring Wheat	3
Hard White Spring Wheat	3
Spring Barley	6
Six-row varieties	6
Two-row varieties	7
Fractionation/Ethanol	8
Additional Variety Performance	10
SW Idaho Extension Cereals Website	10

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 2004 season marked the 18th 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 and Life Sciences, 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 2004 season. Trials were located at the Parma R & E Center, Kuna, and Weiser. The Parma trial was planted March 12, Kuna March 19, and Weiser on March 18. Lodging was highest at Parma due to excessive residual N. Plant height was shorter at both Kuna and Weiser.

There was no incidence of barley stripe rust in the Treasure Valley during 2004 that we are aware of. As with any variety comparison, the more years and sites varieties can be compared over the more reliable the information.

## Soft White Spring Wheat

The 2004 results for soft white spring wheat varieties are shown in Tables 1-2. There are several relatively new soft white spring releases for growers to consider that offer not only increased yield but significant improvements in milling or baking quality over the most commonly grown **Penawawa**. They include **Alturas** and **Jubilee**, UI Aberdeen releases, both comparable in quality to **Treasure**, the long term quality standard.

**Jubilee** (ID0525) and **Alturas** (ID0526) are high yielding, high quality Idaho releases that have performed very well since their introduction. **Jubilee** is slightly taller, but **Alturas** is more similar to **Penawawa** in height. Test weight is higher in **Jubilee** than **Alturas** which is comparable to slightly lower than **Penawawa**. Lodging was higher for **Alturas** and **Jubilee** than for **Penawawa** in 2004. Certified seed of **Jubilee** and **Alturas** should be available for spring 2005.

**Alpowa** is slightly taller than **Alturas** but comparable to **Jubilee**. **Alpowa** has good lodging resistance and excellent test weight. **Alpowa** baking

Table 1. 2004 Soft White Spring Wheat Performance in the Treasure Valley.

Variety	Yield bu/acre	Protein %	Test Weight lb/bu	Height in	Lodging %
<i>Parma</i>					
Alpowa	103	11.7	61.1	43	60
Alturas	113	11.0	59.5	38	93
Eden	110	11.1	61.3	38	70
IDO599	129	10.3	60.3	40	68
Jubilee	115	11.4	60.9	41	90
Nick	117	11.2	61.3	40	55
Penawawa	108	12.0	61.4	38	63
Whitebird	104	11.6	59.3	42	70
Average	112	11.3	60.6	40	71
LSD <sub>.10</sub>	10	0.5	0.8	2	23
<i>Weiser</i>					
Alpowa	109	11.6	60.8	33	0
Alturas	106	11.3	60.1	32	0
Eden	116	10.5	62.6	32	0
IDO599	124	10.9	61.7	34	0
Jubilee	117	11.1	61.3	35	0
Nick	99	12.0	61.8	32	0
Penawawa	98	11.8	61.4	32	0
Whitebird	104	11.6	60.1	34	0
Average	109	11.3	61.2	33	0
LSD <sub>.10</sub>	16	1.0	1.0	1	--
<i>Kuna</i>					
Alpowa	71	9.8	61.2	32	0
Alturas	78	9.8	59.4	31	0
Eden	84	9.7	59.9	32	0
IDO599	95	9.3	59.9	32	0
Jubilee	86	10.0	61.0	34	0
Nick	83	10.2	61.2	31	0
Penawawa	85	10.2	60.1	32	0
Whitebird	80	9.9	60.9	33	0
Average	83	9.8	60.4	32	0
LSD <sub>.10</sub>	14	0.3	0.8	2	--

<sup>1</sup> Means must differ by more than the LSD to be statistically different

quality is better than **Penawawa** but not as good as **Alturas, Whitebird** or **Jubilee**.

The most commonly grown spring wheat in western Idaho is **Penawawa**, an early maturing, older release that yields well but tends to be higher in protein, lower in test weight and has very poor milling and baking quality. **Penawawa** is considered less than acceptable on PNW Wheat Commission lists of preferred soft white spring varieties for export. It is an acceptable feed wheat.

**Whitebird** has good yield potential, comparable to **Penawawa** and **Alpowa**. Plant height and straw

## Hard Red Spring Wheat

Hard red spring varieties 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 3 and 4.

**WB936**, a Western Plant Breeders release, is the most commonly planted hard red spring in southern Idaho. It has excellent yield potential, comparable to **Jefferson** and less than **Jerome**.

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

**Jerome** (IDO566) is a new Idaho release that is the most productive entry over three years of testing. It yielded higher than **Jefferson**, the previous Idaho release, and higher than **WB936**. **Jerome** has excellent test weight, better than **WB936**, and is slightly taller than **WB936**. **Jerome** has excellent milling yield, mixing tolerance and very good baking quality.

**ID0592** and **ID0593** are new advanced lines from the UI Aberdeen breeding program. These are high yielding lines that performed quite well in 2004.

**ID0593** is as short as **WB936** with comparable lodging resistance. **ID0592** is taller than **WB936** and may be weaker strawed. These new lines have test weight comparable to **WB936**. Since **Jerome** and these new lines are highly productive, and tend to have lower protein than **WB936**, they may require additional N for both yield and acceptable protein.

Significant discounts can result with hard red spring protein below 14%. The protein levels for the hard reds in these trials are lower than desired for many entries at some sites, particularly Kuna. The hard red springs are typically about 5% less productive than the soft whites. They are more comparable in yield to soft whites under more stressful conditions such as later plantings.

## Hard White Spring Wheat

Hard white spring wheat (HWS) is a different market class from the soft white and hard red classes. Hard whites are used for both noodle and bread making depending on the variety and protein level. Large scale production in the PNW has largely been controlled by

Table 2. Soft White Spring Wheat Performance in the Treasure Valley over several sites or years

Variety	Yield bu/acre	Protein %	Test Weight lb/bu	Height in	Lodged %
2004 (3 sites)					
Alpowa	94	11.0	61.0	36	20
Alturas	99	10.7	59.7	34	31
Eden	103	10.4	61.3	34	23
IDO599	116	10.2	60.5	35	23
Jubilee	106	10.8	61.1	36	30
Nick	100	11.1	61.4	34	18
Penawawa	97	11.3	60.9	34	21
Whitebird	96	11.0	60.1	36	23
Average	101	10.8	60.7	35	24
LSD <sub>.10</sub>	8	0.4	0.5	1	9
1999-04 (18 site years)					
Alpowa	101	11.1	63.6	37	8
Alturas	111	10.7	62.8	35	11
Jubilee	111	10.8	63.5	37	12
Penawawa	106	11.1	63.1	35	10
Whitebird	104	10.7	63.3	37	9
Average	106	10.9	63.3	36	10
LSD <sub>.10</sub> <sup>1</sup>	4	0.2	0.3	0.6	4
1993-02 (27 site years)					
Alpowa	110	10.7	63.0	37	6
Centennial	109	10.7	62.5	36	5
Penawawa	110	11.1	61.9	36	7
Pomerelle	106	10.3	61.2	36	6
Treasure	106	10.5	61.0	36	9
Whitebird	108	10.6	62.6	38	5
Average	108	10.6	62.0	36	6
LSD <sub>.10</sub> <sup>1</sup>	3	0.2	0.3	0.4	3

<sup>1</sup> Means must differ by more than the LSD to be statistically different

strength is similar to **Alpowa** and **Jubilee**. **Whitebird** has low protein and excellent baking quality.

**IDO599** is an Idaho advanced line that performed very well in 2003 and 2004, averaging 10-11 bu/A higher than the next highest yielding entry over six site years. Despite its excellent yield potential the breeder is dropping this line due to problems with threshing and lack of stripe rust resistance.

**Eden** (WA7902) is a spring club from Washington and yielded less than most common wheat entries.

Table 3. Hard Red Spring Wheat Performance in the Treasure Valley. 2004.

Variety	Yield bu/A	Protein %	Test Weight lb/bu	Height in.	Lodged %
<i>Parma</i>					
IDO592	125	12.4	61.8	39	73
IDO593	122	13.1	62.2	37	43
Jefferson	108	13.4	62.0	37	75
Jerome	121	12.3	62.8	37	18
WB936	111	13.8	62.0	36	45
Average	117	13.0	62.1	37	51
LSD <sub>.10</sub>	9	0.7	1.0	2	34
<i>Weiser</i>					
IDO592	100	14.5	60.6	34	0
IDO593	98	14.2	60.7	30	0
Jefferson	95	14.5	60.9	34	0
Jerome	96	14.3	60.6	32	0
WB936	91	15.1	60.6	33	0
Average	96	14.5	60.7	33	0
LSD <sub>.10</sub>	6	0.7	1.0	1	--
<i>Kuna</i>					
IDO592	83	10.6	60.5	31	0
IDO593	82	10.8	60.6	29	0
Jefferson	81	11.5	61.2	32	0
Jerome	81	11.6	60.4	31	0
WB936	74	11.7	60.6	28	0
Average	80	11.3	60.7	30	0
LSD <sub>.10</sub>	11	0.2	0.9	2	--

<sup>1</sup> Means must differ by more than the LSD<sub>.10</sub> to be statistically different

the Promar Select Coop through the use of licensed varieties, but open hard white production is increasing. Pendleton Flour Mills is using hard whites and other millers have expressed interest in southern Idaho production. Acreage has increased also with the potential \$14 per acre HWS marketing production incentive provided in the farm bill.

Consequently, there is considerable breeder and industry interest in the hard whites as they have potential for re-capturing significant foreign bread and noodle markets, as well as satisfying an increasing demand for

Table 4. Hard Red Spring Wheat Performance in the Treasure Valley over several locations or years.

Variety	Yield bu/A	Protein %	Test Weight lb/bu	Height in.	Lodged %
<i>2004 (3 site years)</i>					
IDO592	103	12.5	61.0	35	24
IDO593	101	12.7	61.2	32	14
Jefferson	95	13.1	61.4	35	25
Jerome	99	12.7	61.2	33	6
WB936	92	13.5	61.1	32	15
Average	98	12.9	61.2	33	17
LSD <sub>.10</sub>	5	0.3	0.5	0.9	12
<i>2002-04 (9 site years)</i>					
Jefferson	100	13.4	63.1	35	37
Jerome	109	13.0	63.2	34	15
WB936	101	14.0	62.6	33	13
Average	103	13.5	63.0	34	22
LSD <sub>.10</sub>	5	0.4	0.4	0.6	7

<sup>1</sup> Means must differ by more than the LSD<sub>.10</sub> to be statistically different

hard white wheat domestically. The primary advantage of hard whites to millers is that they can mill a light bran wheat to include more of the bran in the flour without affecting flour color.

**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. It is primarily a noodle wheat. **Lolo**, a more recent UI release, tends to be higher yielding than **ID377s**, is similar in height, protein and lodging resistance, but has better test weight. **Lolo** also has higher gluten strength and is better for breadmaking than **ID377s**.

**Winsome**, an OSU release, has yielded as well as **ID377s**, is shorter and more lodging resistant. It has lower test weight and protein is lower than **ID377s**.

**WPB Pristine** was not evaluated in 2004. It has good yield potential. It has excellent protein and test weight, the highest of all entries tested. It is shorter than **ID377s** and more lodging resistant.

Table 5. Hard White Spring Wheat Performance in the Treasure Valley. 2004.

Variety	Yield bu/A	Protein %	Test Weight lb/bu	Height in.	Lodged %
<i>Parma</i>					
IDO377s	111	12.5	62.1	39	90
IDO595	123	12.5	60.0	41	58
IDO597	102	13.9	60.8	38	58
Klasic	126	12.4	62.6	30	58
Lolo	117	12.5	62.4	39	90
Otis (WA7931)	126	12.6	60.7	45	48
Winsome	115	12.0	59.9	36	40
YU995-231W	127	12.5	62.9	28	15
Average	118	12.6	61.4	37	57
LSD <sub>.10</sub>	10	0.4	2.0	2	26
<i>Weiser</i>					
IDO377s	93	14.5	60.3	32	0
IDO595	92	14.3	57.2	32	0
IDO597	98	14.8	60.1	35	0
Klasic	93	14.0	62.8	23	0
Lolo	92	14.3	61.1	33	0
Otis (WA7931)	91	14.6	58.5	34	0
Winsome	84	14.3	56.6	30	0
YU995-231W	94	14.2	61.5	24	0
Average	92	14.4	59.7	30	0
LSD <sub>.10</sub>	10	0.6	0.8	2	--
<i>Kuna</i>					
IDO377s	77	11.2	60.2	33	0
IDO595	84	10.7	59.5	33	0
IDO597	75	12.0	59.9	32	0
Klasic	69	11.1	59.8	23	0
Lolo	86	11.0	60.7	32	0
Otis (WA7931)	87	10.8	62.1	36	0
Winsome	78	11.1	59.0	28	0
YU995-231W	82	11.3	60.2	20	0
Average	80	11.2	60.2	30	0
LSD <sub>.10</sub>	13	0.6	1.3	2	--

<sup>1</sup> Means must differ by more than the LSD<sub>.10</sub> to be statistically different

The Western Plant Breeders advanced line **YU995-231W** has been evaluated for three seasons and ranked the highest in yield over the nine site years. It is significantly higher yielding than **ID377s**, is very short,

Table 6. Hard White Spring Wheat Performance in the Treasure Valley over sites and years. 2002.

Variety	Yield bu/A	Protein %	Test Weight lb/bu	Height in.	Lodged %
<i>2004 (3 sites)</i>					
IDO377s	94	12.7	60.8	35	30
IDO595	100	12.5	58.9	36	19
IDO597	92	13.6	60.2	35	19
Klasic	96	12.5	61.7	26	19
Lolo	98	12.6	61.4	35	30
Otis	101	12.7	60.4	38	16
Winsome	93	12.5	58.5	31	13
YU995-231W	101	12.7	61.5	24	5
Average	97	12.7	60.4	32	19
LSD <sub>.10</sub>	7	0.3	0.8	1	9
<i>2002-04 (9 sites)</i>					
IDO377s	101	13.0	63.4	36	36
Lolo	104	12.8	64.0	36	29
Winsome	103	12.3	62.0	33	16
YU995-231W	109	12.7	63.8	25	4
Average	105	12.7	63.3	32	21
LSD <sub>.10</sub>	4	0.3	0.6	0.6	6
<i>1999-2004 (18 sites)</i>					
IDO377s	110	12.3	64.1	36	19
Lolo	111	12.2	64.6	36	15
Winsome	109	11.7	62.7	33	8
Average	110	12.1	63.8	35	14
LSD <sub>.10</sub>	4	0.3	0.4	0.5	5

<sup>1</sup> Means must differ by more than the LSD<sub>.10</sub> to be statistically different

with the best lodging resistance of all entries, and has excellent test weight. Since it has higher yield potential it may require more N to reach acceptable protein. Protein is comparable to **Lolo**.

**Otis** (WA7931), a 2004 WSU release, has been evaluated for the past two years. It yielded closer to **YU995-231W** than any other released variety. It has protein and test weight similar to **Lolo** but lower than **WB Pristine**. It is taller than most but has excellent straw strength and lodged less than **ID377s** and **Lolo** where lodging was heavy.

**Klasic** is the oldest hard white currently produced. It has good gluten strength and is used primarily for breadmaking. It is poorly suited for noodles. It yielded comparable to **ID377s** and **Lolo** in 2004 but is considerably shorter. Test weight for **Klasic** is high.

A couple of UI advanced lines, **ID0595** and **ID0597**, were evaluated in 2004. It was the second year of testing for **ID0595** which was comparable in yield to **Otis** and **YU995-231W**. However **ID0595** was dropped by the breeder from further testing in favor of **ID0597** which yielded less than **ID0595** in 2004.

The hard white market involves considerable risk to existing soft white markets and vice versa. Producers are reminded that co-mingling soft white and hard white wheat will destroy the value of the mix for food uses, a sure way to lose both domestic and export markets.

Growers are urged to grow hard whites only if they have a ready market and can insure the segregation of hard whites from soft whites. This is perhaps the greatest concern with large scale hard white production in a traditional soft white production area such as western Idaho. There are currently very limited local hard white markets in the Treasure Valley.

## 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 7-10.

Barley stripe rust was not evident this past season in western Idaho. There was considerably more lodging at Parma than at Weiser or Kuna. Plant heights at both Kuna and Weiser were shorter than at Parma.

### 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. **Steptoe** has been displaced in Washington, Oregon, and all other Idaho production districts due to its lower productivity, weak straw, and well known inferior feed quality.

**WB Nebula**, a **Western Plant Breeder** release, is the shortest of the six rows and has excellent lodging resistance. It yields better than **Steptoe** under more optimum conditions but has no better test weight.

**Colter**, a USDA release from Aberdeen is slightly taller than **Steptoe**, but has better test weight. **Colter** also matures earlier than **Steptoe**. **Colter** is especially susceptible to stripe rust and has not consistently yielded as well as **Steptoe**.

The most recent Utah State releases, **Millenium** and **Brigham**, were evaluated for the fifth year in 2004. Both are 2 to 3 inches shorter than **Steptoe** with far superior

Table 7. Six-Row Spring Barley Variety Performance in the Treasure Valley, 2004.

Variety	Yield bu/A	Test Weight lb/bu	Height in.	Lodging %	Thins %
<i>Parma</i>					
01ID255	164	50.7	46	80	5.09
00ID1550	163	50.2	46	98	5.64
Brigham	179	49.6	41	80	4.11
Colter	160	50.5	45	95	7.23
Creel	160	49.8	40	100	9.93
Legacy	161	51.6	45	83	6.94
Millennium	178	51.1	42	28	5.98
Nebula	173	50.7	36	58	3.04
Steptoe	153	48.5	43	98	5.41
Tradition	160	52.8	47	88	3.36
Average	165	50.5	43	81	5.67
LSD <sub>.10</sub>	17	2.1	2	24	1.93
<i>Weiser</i>					
01ID255	112	51.8	33	0	7.12
00ID1550	129	52.9	35	0	10.02
Brigham	124	51.9	32	5	6.01
Colter	118	53.9	33	0	10.00
Creel	130	53.1	32	0	10.58
Legacy	128	55.1	36	20	5.74
Millennium	140	52.7	31	0	13.39
Nebula	128	52.3	25	0	6.38
Steptoe	120	52.3	31	5	4.68
Tradition	120	56.5	37	0	3.82
Average	125	53.2	32	3	7.77
LSD <sub>.10</sub>	16	1.2	2	8	2.96
<i>Kuna</i>					
Legacy	113	52.2	38	0	2.84
Millennium	136	51.1	32	0	3.55
Nebula	128	49.7	25	0	2.22
Tradition	107	52.3	36	0	1.59
Average	121	51.3	33	0	2.55
LSD <sub>.10</sub>	12	2.4	1	--	0.68

<sup>1</sup> Means must differ by more than the LSD to be statistically different.

straw strength and lodging resistance. **Millenium** had the better test weight of the two. **Millenium** has excellent yield potential and ranked highest in yield over five years of testing (12 site years), averaging 16 bu/A higher than **Steptoe**.

**Creel** is a USDA 2002 release that is comparable in height and lodging resistance to **Steptoe** but with better test weight.

Table 8. Spring 6-Row Barley Variety Performance in the Treasure Valley over several sites and years.

Variety	Yield bu/A	Test Weight lb/bu	Height in.	Lodged %	Thins %
<i>2004 (2 sites)</i>					
00ID255	146	51.5	40	49	7.83
01ID1550	138	51.2	39	40	6.10
Brigham	152	50.7	37	43	5.06
Colter	139	52.2	39	48	8.61
Creel	145	51.4	36	50	10.25
Legacy	145	53.3	40	51	6.34
Millennium	159	51.9	36	14	9.69
Nebula	150	51.5	31	29	4.71
Steptoe	137	50.4	37	51	5.04
Tradition	140	54.6	42	44	3.59
Average	145	51.9	38	42	6.72
LSD <sub>.10</sub>	14	1.3	1.6	14	1.97
<i>2000-04 (12 site years)</i>					
Brigham	133	51.0	34	23	1.92
Colter	126	52.3	37	34	3.75
Millennium	149	52.8	34	18	4.06
Nebula	142	51.1	30	19	1.59
Steptoe	133	52.0	37	55	2.24
Average	137	51.8	34	30	2.71
LSD <sub>.10</sub>	7	0.5	0.8	8	0.61
<i>1997-04 (22 site years)</i>					
Colter	120	50.7	37	25	3.42
Nebula	127	49.2	30	13	1.32
Steptoe	123	50.4	37	50	2.18
Average	123	50.1	35	29	2.31
LSD <sub>.10</sub>	5	0.4	0.6	6	0.46

<sup>1</sup> Means must differ by more than the LSD to be statistically different.

**Legacy** and **Tradition** are **Busch Ag** malting varieties that are somewhat taller than **Steptoe** with comparable straw strength. **Tradition** and **Legacy** are generally more productive than **Steptoe** under heavy lodging conditions.

Two USDA lines from Aberdeen, **00ID255** and **01ID1550**, were introduced into western Idaho testing in 2004. These lines are distinctive in that they carry the low phytate gene. They have significant **Colter** parentage and are similar to **Colter** in most agronomic characteristics. Low phytate grain has a greater percentage of seed phosphorus in forms that are better used by non-ruminants. Greater utilization of seed phosphorus by non-ruminants results in less P excreted in manure which provides several advantages to the

feeder. The low phytate gene typically leads to somewhat lower test weight. These lines were as productive as **Steptoe** and somewhat taller in 2004.

### *Two-Row Varieties*

With better tolerance to stripe rust, moisture stress, and improved lodging resistance, the better two row varieties can now be expected, especially with stripe rust present, to be more productive than many six row barleys normally produced in western Idaho.

**Idagold**, the **Adolph Coors** feed barley release, has excellent yield potential and better straw strength than older two rows. **Idagold** is six to seven inches shorter than **Baronesse** and shorter than most other two-row barleys. **Idagold** has yielded better than **Steptoe** in many trials where lodging was significant.

**Bob** is a WSU release that is taller and weaker strawed than **Idagold**. **Bob** has excellent test weight but does not yield as well as **Idagold**. **Radiant** is a 2004 WSU release. It yielded less than **Idagold** under high lodging conditions but was comparable under more stressful conditions. It is considerably taller.

**Moravian 37** is a **Coors** malting variety that has excellent yield potential, comparable to **Idagold** over the last four years of testing. **Coors** is changing their contracted variety to **Moravian 69** in 2005 which has not been tested in western Idaho.

**Merit** is a **Busch** two-row malt barley that is taller than **Moravian 37**, has lower test weight, but has good straw strength and lodging resistance. It yielded comparable to **Moravian 37** in 2004. **B5057** is a **Busch Ag** advanced line that yielded comparable to **Merit**.

**WA10701-99** and **WA8601-97** are WSU advanced lines in their first year of testing in the Treasure Valley. **WA8601-97** was the more productive of the two.

At this point it is not clear if **Busch Ag Resources** will contract for Treasure Valley acreage of two-row **Harrington** during the 2004 season. **Harrington** averaged 90% as high in yield as **Steptoe** (99 vs 109 bu/A) over three years of testing. **Harrington** averaged 2.2 lb/bu higher test weight than **Steptoe**, averaged three inches shorter, and lodged 21% less than **Steptoe**. Contact **Weiser Feed and Storage, Inc** for contracting information (208-414-1882)

Table 9. Two-Row Spring Barley Variety Performance in the Treasure Valley, 2004

Variety	Yield bu/A	Test Weight lb/bu	Height in.	Lodged %	Thins %
<i>Parma</i>					
Bob	130	51.1	39	98	10.37
B5057	139	52.0	44	100	6.04
Harrington	136	51.9	43	95	7.59
Idagold	162	50.6	35	100	10.70
Merit	141	51.3	42	95	10.04
Moravian 37	151	53.8	38	100	3.29
Radiant	133	50.6	42	100	12.75
WA8601-97	144	51.3	44	98	11.24
WA10701-99133	144	51.7	43	98	6.24
Average	141	51.6	41	98	8.70
LSD <sub>.10</sub>	16	1.5	2	6	2.43
<i>Weiser</i>					
Bob	118	54.6	33	53	8.34
Burton	97	54.7	36	38	7.42
B5057	125	55.1	33	3	5.62
Harrington	114	55.4	34	8	9.18
Idagold	130	53.9	27	0	11.33
Merit	132	52.8	34	0	13.82
Moravian 37	124	55.9	30	13	6.70
Radiant	135	56.2	32	18	9.15
WA8601-97	126	55.0	35	10	6.14
WA10701-99	109	54.8	34	23	10.71
Average	121	54.8	33	16	8.74
LSD <sub>.10</sub>	18	1.4	2	22	3.00
<i>Kuna</i>					
B5057	133	53.0	34	0	1.30
Harrington	143	55.3	35	0	1.73
02HR684	90	58.4	32	0	2.93
02HR1808	93	58.1	34	0	2.65
02HR7263	64	60.2	36	0	5.73
Idagold	117	51.2	26	0	1.57
Merit	130	52.1	36	0	1.86
Average	110	55.5	33	0	2.54
LSD <sub>.10</sub>	28	3.2	2	--	1.72

<sup>1</sup> Means must differ by more than the LSD to be statistically different.

Table 10. Spring 2-Row Barley Variety Performance in the Treasure Valley over several years or sites, 2004

Variety	Yield bu/A	Test Weight lb/bu	Height in.	Lodged %	Thins %
2004 (2 sites)					
Bob	124	52.8	36	75	9.36
B5057	132	53.5	39	51	5.83
Harrington	125	53.6	39	51	8.38
Idagold	146	52.3	31	50	11.01
Merit	136	52.0	38	48	11.43
Moravian 37	138	54.8	34	57	5.00
Radiant	134	53.4	37	59	10.95
WA8601-97	135	53.1	39	54	8.69
WA10701-99121	135	53.2	39	60	8.48
Average	132	53.2	37	56	8.79
LSD <sub>.10</sub>	13	1.0	1.6	11	2.30
2001-04 (8 sites)					
Idagold	128	53.8	29	26	3.62
Merit	126	54.4	35	33	4.24
Moravian 37	125	55.6	32	26	2.06
Average	127	54.6	32	28	3.32
LSD <sub>.10</sub>	7	0.5	0.7	7	0.82

<sup>1</sup> Means must differ by more than the LSD to be statistically different.

Oregon state approval for the location near Ontario, OR. For information on the progress of this proposed facility contact John Hamilton at TVRR@fmtc.com.

Fractionation involves separation of food grade fiber, starch, and protein components from the grain kernel and marketing the residual as feed or ethanol. Components marketed separately bring higher returns than marketing the whole grain or ethanol alone. If the necessary permits are obtained as planned, construction will begin this spring. The first contracted crop would be that planted for the 2006 season.

A waxy hull-less barley is being considered as more food grade starch is recovered and the hull-less character will mean less residual to market as feed. While the yields from hull-less barleys are lower than those we currently produce, with sufficiently high contract prices they could offer higher returns.

We conducted replicated trials involving these barley genotypes and other specialty barleys at the Parma R & E Center in 2003 and 2004. Observational and replicated trials in 2003-04 demonstrated the increased yield potential from fall planted spring varieties even though in one year there was significant

## Fractionation/Ethanol

The grain (barley, wheat, corn) fractionation/ethanol production facility pursued by **Treasure Valley Renewable Resources, LLC**, a group of local investors, has received Malheur County and

Table 11. Spring planted specialty barley performance. Parma, 2004.

Entry	Yield			Height in	Test wt lb/bu	Lodged %	Heading ----Julian Date----	Maturity
	-----bu/A-----							
	2003	2004	Mean	-----2004-----				
				2-Row				
00AH3778 hl <sup>1</sup>	111	125	118	44.3	60.5	15	139	183
00AH4136 hl	117	125	121	44.1	59.9	65	144	186
00AH5590 hl	113	126	120	43.9	60.3	98	148	190
00AH6155 hl	119	131	125	39.6	60.6	50	143	186
01AH2812 hl, w, hB	109	119	114	41.8	60.4	35	144	188
01AH2822 hl, w, hB	118	119	118	40.9	58.7	80	154	191
01ID209H hl, lp	110	114	112	42.3	58.3	85	150	191
01ID435H hl, lp	115	123	119	43.4	57.5	100	149	190
97Ab6526 hl	122	122	122	41.4	57.6	75	149	189
99Ab38-5 hl, lp	115	117	116	45.2	57.8.	83	151	189
99Ab38-6 hl, lp	110	126	118	43.1	57.0	68	151	189
Baronesse h	155	156	156	39.0	53.1	98	148	189
Bear hl	133	126	130	44.4	56.8	80	151	188
BZ598-095 h, w, hB	129	137	133	41.7	53.1	100	148	191
CDC Alamo hl, w	115	119	117	42.0	58.5	33	149	186
CDC Fibar hl, w	--	111	--	44.3	57.3	100	147	192
CDC McGwire hl	136	118	127	42.0	60.8	78	151	190
CDC Rattan hl	--	128	--	42.2	59.2	93	153	190
Idagold h	156	153	154	33.7	51.7	63	154	193
Meresse hl, w	111	140	126	37.9	60.6	70	146	189
Merlin hl, w	114	137	125	30.6	59.4	28	149	190
Waxbar h, w	96	102	99	44.2	51.1	100	153	190
				6-Row				
96M5288 hl	128	121	125	44.8	55.2	100	150	192
Azhul hl, w, hB	109	122	116	30.7	54.2	78	139	191
Nebula h	133	165	149	35.4	50.3	30	147	191
Steptoe h	131	166	149	44.2	49.8	100	147	193
YU502-88 hl, w	84	96	90	43.3	56.7	55	150	185
YU502-91 hl, w	87	99	93	43.0	58.8	28	152	182
YU599-006 h, w, hB	111	152	131	31.3	50.5	3	148	184
LSD <sub>.10</sub>	13	13	13	2.1	1.5	32	4.3	2.2
Mean	116	127	121	40.8	56.7	68	148	189

<sup>1</sup>h is hulled and hl is hull-less; w is waxy, lp is low phytate, hB is high B-Glucan

winter kill and stand loss, and appreciable lodging. Space prohibits showing the fall planting results.

Spring planted barley performance for 2003-04 is shown in Table 11. After two years of testing we have a clearer picture of the relative performance of specialty

barley. The mean performance of hull-less low phytate barley yielded from 76-80%, hull-less waxy high Beta-glucan barley yielded 75-79%, and hulled waxy high B-glucan barley yielded 85-90% of the yield of commonly grown feed barley. Feed barley standards included

**Idagold** and **Baronesse** for two rows and **Nebula** and **Steptoe** for six rows.

Additional experience with hull-less barley is needed in the Treasure Valley. Both fall and spring seeded trials are planned for the 2005 season.

## Additional Variety Performance Information

Variety performance information from related areas is available from other extension cereal and research breeding program web sites including the following: OSU (<http://www.css.orst.edu/cereals>), USU (<http://wheat.usu.edu>), and 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](mailto: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](mailto:bradb@uidaho.edu).

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