



# The Cereal Sentinel

*A newsletter for Treasure Valley cereal producers*

February 11, 1998

Issue No. 15



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## Important Dates:

February 11-12	Idaho Precision Ag conference
February 18-19	Idaho Ag Summit
July 7	Parma Research and Extension Center Field Day
July 8	Malheur Station Field Day

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)**



Brad Brown,  
Extension Crop Management Specialist

# Spring Cereal Variety Performance

The 1997 season marked the 11th season of the Southwest Idaho Cooperative Extension Variety Performance Trials. The trials, supported by the Idaho Wheat Commission, Idaho Barley Commission, private breeders and the University of Idaho College of Agriculture allow the testing of public and proprietary varieties and advanced lines under the irrigated conditions of the Treasure Valley.

Four irrigated spring trials were conducted during the 1997 season. Trials were located at the Parma Research and Extension Center (early and late planted), Mann's Creek, and Kuna.

The early and late Parma trials were planted March 10 and April 14. Kuna was planted March 18 and Mann's Creek on March 21. There was significant lodging of wheat and barley at the early planted Parma site and significant lodging of barley at Kuna and Mann's Creek. The late planted trial was the least productive.

## Soft White Spring Wheat

The 1997 results for soft white spring wheat varieties are shown in Table 1. A better indication of variety performance is possible with comparisons involving several sites and years in Table 2.

**Alpowa** and **Penawawa** yielded more than **Treasure**, **Whitebird**, and **Pomerelle** during the last five years. Yield did not differ appreciably among the other varieties, but they differed in other characteristics. **Alpowa** is slightly taller, but has excellent test weight. **WB Vanna** and **Centennial** had the best straw strength and the least lodging. **Centennial** and **Penawawa** had higher protein than **Alpowa** or **WB Vanna**.

**Pomerelle** (released as a replacement for **Treasure**), has not yielded consistently better than **Treasure** in western Idaho, except over the last two years, but may be more resistant to lodging even though it is slightly taller. **Whitebird** (released as a replacement for **Penawawa**) has not yielded as well as **Penawawa**, but it does have lower protein and superior baking quality.

The advanced lines **ML042-409-1,5** and **ML042-409-52,5** were evaluated only at the Parma location.

Variety	Yield bu/acre	Protein %	Test Weight lb/bu	Height in	Lodging %
<i>Parma (early planted)</i>					
Alpowa	126	9.8	62.0	38	23
Centennial	123	9.9	62.2	37	10
ML042-409-1,5	133	10.0	60.1	39	5
ML042-409-52,5	131	9.7	60.3	39	8
Penawawa	130	10.5	62.3	38	33
Pomerelle	114	9.9	59.5	37	63
Treasure	110	9.7	60.0	37	43
WB Vanna	122	9.9	61.8	38	18
Whitebird	126	9.6	61.5	40	8
LSD <sub>.10</sub>	8	0.4	0.7	1	23
<i>Mann's Creek</i>					
Alpowa	129	10.7	60.6	32	0
Centennial	123	11.1	64.1	31	0
Penawawa	132	11.3	59.9	33	0
Pomerelle	126	10.6	61.5	34	0
Treasure	129	10.7	60.1	34	0
WB Vanna	125	10.9	62.0	32	0
Whitebird	134	10.6	59.6	34	0
LSD <sub>.10</sub>	7	0.5	3.6	1	--
<i>Kuna</i>					
Alpowa	123	11.1	63.3	37	0
Centennial	116	11.5	62.5	36	0
Penawawa	119	11.4	60.6	36	33
Pomerelle	118	10.5	60.5	36	0
Treasure	119	10.6	61.0	36	0
WB Vanna	121	10.7	61.9	36	0
Whitebird	118	10.9	62.5	37	0
LSD <sub>.10</sub>	8	0.8	1.4	2	27

These are Merrill Lewis lines and have performed well in the limited testing. They apparently have good straw strength even though they are bit taller than some of the others.

**WB Vanna** should be available locally for the first time this spring. The new Western Seed facility in Ontario should handle a number of Westbred varieties.

The soft white spring and hard white spring varieties are the most productive of the market classes grown in southern Idaho. But prices for soft whites are currently the poorest.

Table 2. Soft White Spring Wheat Performance for Selected Years.

Variety	Yield bu/A	Protein %	Test Weight lb/bu	Height in.	Lodged %
<i>1993-97 (14 site years)</i>					
Alpowa	121	10.4	62.9	37	17
Centennial	118	10.6	62.8	36	9
Penawawa	120	10.9	62.0	36	14
Pomerelle	113	10.0	61.1	36	14
Treasure	113	10.2	61.3	36	16
WB Vanna	118	10.1	62.2	36	8
Whitebird	115	10.3	62.5	37	13
LSD <sub>.10</sub> <sup>1</sup>	3.5	0.2	0.6	0.7	6
<i>1996-97 (6 site years)</i>					
Alpowa	122	10.7	62.1	37	20
Centennial	116	10.8	62.4	36	14
Penawawa	121	11.3	61.5	35	23
Pomerelle	115	10.3	60.7	36	23
Treasure	111	10.5	60.6	35	25
WB Vanna	116	10.6	61.5	36	16
Whitebird	117	10.6	61.5	37	20
LSD <sub>.10</sub>	3.0	0.4	0.7	0.6	9
<i>1997 (3 sites)</i>					
Alpowa	126	10.5	62.0	36	8
Centennial	121	10.9	63.0	35	3
Penawawa	127	11.1	60.9	36	22
Pomerelle	119	10.3	60.5	36	21
Treasure	119	10.3	60.4	36	14
WB Vanna	123	10.5	61.9	35	6
Whitebird	126	10.4	61.2	37	3
LSD <sub>.10</sub>	4	0.3	1.3	1	12

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

### Six-Row Varieties

Six-row barley varieties have traditionally yielded more than two-row types. **Steptoe**, still the most commonly grown six row in western Idaho, has serious flaws for an irrigated feed barley. It's 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.

Several six row varieties perform better than **Steptoe** in high yield environments. **WB Gustoe**, **Colter**, and **Maranna** all yielded more than **Steptoe** averaged over the 1994-97 period.

**WB Gustoe**, a Western Plant Breeders release, has better yield potential and is substantially shorter with better lodging resistance than **Steptoe**.

**Maranna**, an OSU release, yielded more than **Steptoe** and has better test weight, stronger straw, and is shorter.

**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**.

**Steptoe** has proved an excellent variety for less productive plantings. Late planted or subjected to less intensive management, **Steptoe** generally yields as well or better than many varieties released for high yielding environments. But the feeding quality of **Steptoe** is generally poorer than other six-rows due to higher hull content, hulls that are also less digestible than other six-row hulls.

**WB Nebula** is a new Western Plant Breeders release. In two year's testing over 6 site years **WB Nebula** out yielded the next highest entry by 8 bu/A. **WB Nebula** is a short variety with excellent lodging resistance. Test weight is comparable to **WB Gustoe** and **Steptoe** but lower than **Maranna** and **Colter**.

Two Utah varieties were tested for the first time in the 1997 trials. **Century** and **Statehood** were named in honor of Utah's centennial celebration. Both varieties tend to lack the straw strength of the more productive six row varieties.

## Spring Barley

The Southwest Idaho Cooperative Extension Variety Performance trials have evaluated barley varieties and advanced lines since 1987. Spring barley variety performance during the past season is presented in Table 3 (six-row), Table 4 (two-row) and over longer time periods in Table 5.

Table 3. Six-Row Spring Barley Variety Performance in the Treasure Valley, 1997

Variety	Yield bu/A	Test Weight lb/bu	Height in.	Lodging %
<i>Parma</i>				
Century	129	50.8	37	0
Colter	156	50.5	39	5
WB Gustoe	129	51.1	27	8
Maranna	117	50.1	30	0
WB Nebula	127	49.8	29	0
Statehood	144	49.4	36	8
Steptoe	118	50.3	38	71
LSD <sub>.10</sub>	17	1.4	2	22
<i>Mann's Creek</i>				
Century	134	49.5	31	28
Colter	135	51.0	32	0
WB Gustoe	135	50.0	24	0
Maranna	112	52.1	27	0
WB Nebula	127	50.0	27	0
Statehood	132	49.5	29	40
Steptoe	140	49.8	30	70
LSD <sub>.10</sub>	13	1.4	1	21
<i>Kuna</i>				
Century	137	47.3	34	55
Colter	151	47.0	34	43
WB Gustoe	149	47.1	27	30
Maranna	154	48.4	29	0
WB Nebula	162	46.9	32	3
Statehood	138	46.6	33	48
Steptoe	123	45.6	35	65
LSD <sub>.10</sub>	15	1.9	2	33

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

Table 4. Two-Row Spring Barley Variety Performance in the Treasure Valley, 1997

Variety	Yield bu/A	Test Weight lb/bu	Height in.	Lodging %
<i>Parma</i>				
AB1202	117	51.9	37	13
Baronesse	112	53.1	35	50
C19	123	51.4	35	8
C22	145	51.4	33	3
Galena	126	52.3	34	0
Harrington	113	50.5	38	33
Idagold	143	50.9	29	0
Lud	121	52.3	37	43
Merit	128	51.9	38	13
Orca	137	51.5	35	0
81AB11843	98	59.9	37	58
LSD <sub>.10</sub>	17	1.4	2	22
<i>Mann's Creek</i>				
AB1202	125	52.1	30	91
Baronesse	137	51.8	30	81
Galena	115	52.8	28	48
Harrington	111	51.5	31	90
Idagold	131	50.9	26	8
Lud	126	53.8	38	88
81AB11843	97	59.8	30	85
LSD <sub>.10</sub>	13	1.4	1	21
<i>Kuna</i>				
AB1202	107	48.5	35	85
Baronesse	136	49.6	32	70
Galena	124	48.9	32	40
Harrington	114	47.8	36	98
Idagold	142	47.4	29	15
Lud	116	50.8	35	73
LSD <sub>.10</sub>	15	1.9	2	33

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

Feed barley is currently priced higher than soft white wheat. Producers should seek the *Idaho Prime* certification for the barley they market.

#### Two-Row Varieties

Breeders have made great strides in providing two-row barley for feed or malt with significantly improved yield. The difference in yield between available six and

two-row varieties has narrowed considerably.

Substantial gains have also been made in straw strength.

**Baronesse**, from Western Plant Breeders (originally from Germany), is now widely grown in the Pacific Northwest. **Baronesse** replaced much of the **Steptoe** acreage in Washington because it yields more in those

Table 5. Spring Barley Variety Performance in the Treasure Valley.

Variety	Yield bu/A	Test Weight lb/bu	Height in.	Lodging %
<i>1994-97 (12 site years)</i>				
<i>Six-Rows</i>				
Colter	137	50.3	40	32
WB Gustoe	139	49.0	29	27
Maranna	139	50.3	32	13
Steptoe	128	48.8	39	70
<i>Two-Rows</i>				
Baronesse	123	52.2	36	63
Lud	117	52.9	38	63
Idagold	138	50.8	30	24
LSD <sub>.10</sub>	5	0.6	1	8
<i>1996-97 (6 site years)</i>				
<i>Six-Rows</i>				
Colter	133	49.9	39	33
WB Gustoe	132	48.6	29	29
Maranna	127	49.8	32	17
WB Nebula	141	48.4	32	16
Steptoe	125	48.4	38	78
<i>Two-Rows</i>				
AB1202	108	50.6	37	60
Baronesse	112	51.1	35	73
Harrington	107	49.8	37	78
Idagold	127	49.7	30	23
Lud	111	52.0	37	73
LSD <sub>.10</sub>	6	0.7	1	10

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

better protein and test weight than **Baronesse** and **Idagold**.

**Harrington** and **AB1202** are two-row malting barleys from Busch Ag Resources. They were comparable in yield to **Lud** and **Baronesse**. **AB1202** has the better straw strength of the two. Both of these varieties met the requirements for malting in 1996 and 1997 despite considerable lodging in some trials and very high temperatures during grain filling. **Merit**, a new Busch variety, was examined only at Parma.

**Orca**, a new release from OSU, is one of the first two-rows with barley stripe rust resistance. It was evaluated only at Parma. **Orca** is taller than **Idagold** but has comparable straw strength and resistance to lodging.

**Galena** is a two-row malting barley from Adolph Coors. This variety was available to all growers in 1997 and Coors will again offer the seed for sale for 1998 plantings. **Galena** is contracted in the Magic Valley and Coors may purchase non-contracted production in 1998, as they did in 1997.

Treasure Valley barley producers no longer have only the option of six-row barley for maximizing yield and profitability. 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.

## Hard Red Spring Wheat

Hard red spring varieties in the Cooperative Extension nurseries are evaluated because of their higher prices and potential for greater returns to spring wheat producers. Results are given in Table 6.

**WB 936** historically yields better than **Vandal**, has a test weight advantage, and matures earlier than **Vandal**. **Vandal's** primary advantage over **WB 936** is its protein, which is excellent. Both varieties have good straw strength.

**Jefferson** is a new hard red spring from the UI breeding program at Aberdeen. In the two years it has been evaluated in the Treasure Valley, it has not yielded as well as **Vandal** or **WB936**. It had significantly lower protein than **Vandal** or **WB 936**.

rained environments and has better feed quality in all environments. In the Treasure Valley, **Baronesse** yields better than **Lud**, our most commonly grown two row, but it does not yield higher than **Steptoe**.

**Idagold**, an Adolph Coors feed barley, has now been tested for four years in the Treasure Valley. Over this period **Idagold** yielded 15 bu/A more, was six inches shorter than **Baronesse**, and lodged considerably less than **Baronesse** or **Lud**. **Idagold** is later than **Baronesse** and has lower test weight. **Idagold** yielded as well as the best six-row types over this same time period, and significantly better than **Steptoe**.

**Lud**, an Agripro release, does not have the yield potential of **Baronesse** or **Idagold**. But **Lud** has both

## Durum Wheat

Pendleton Flour Mills will write durum wheat contracts for southern Idaho producers again this season. The mill uses over 2 million bushels of durum wheat annually, most of which is produced outside the PNW.

The contract price quoted to me was \$5.20 per bushel at Pendleton. Assuming \$.35 per bushel for trucking, that gives a local price of \$4.85 per bushel. Soft white wheat prices by comparison were quoted the same day at \$3.00 a bushel locally (if stored in your own bin) and recent forward contracts for August delivery are only about \$3.06. The price advantage for durum at harvest using the forward contract price is over \$1.70 per bushel, or 58% higher.

Contract specifications include at least 13% protein, 85% hard amber vitreous kernels, and 60 lb test weight. There is no tolerance for sprout as indicated by falling number values less than 325. Also, there is no tolerance for black tip, the discoloration of the germ end of the kernel. Dockage must not exceed 1%.

Durum wheat performance was measured at 10 sites during the 1994-97 seasons. Results for varieties grown in all 1997 trials as well as those evaluated over the 1994-97 period are given in Table 6.

**WB Cortez** and **WB Kofa** were more productive over the four-year period than **WB 881**, the older quality standard. Protein percentage and the percentage of hard amber vitreous kernels did not differ among the varieties. Over these sites, **WB Cortez** and **WB Kofa** yielded as well as the hard red spring variety included.

**Kronos** is an Arizona Plant Breeders variety. It yielded as well as **WB Cortez** and better than **WB 881** and **WB Kofa** in the one year of testing.

We've had no difficulty obtaining 85% hard and vitreous kernels with the varieties listed in Table 7. Protein values have averaged less than 13% in some sites because the trials have not been managed for hard red spring or durum production. Our results suggest that it will be easier to meet the vitreous kernel requirement than the protein specification. Even so, acceptable protein for durums (13%) should be easier to produce than for hard red spring wheat (14%).

Table 6. Hard Red Spring Wheat Performance in the Treasure Valley.

Variety	Yield bu/A	Protein %	Test Weight lb/bu	Height in.	Lodged %
<i>1993-97 (14 site years)</i>					
Vandal	111	13.2	61.5	34	1
WB 936	118	12.3	62.5	33	2
LSD <sub>.10</sub>	3	0.2	0.3	0.4	2
<i>1996-97 (6 site years)</i>					
Jefferson	108	12.7	62.8	36	26
Vandal	113	13.6	60.7	33	2
WB 936	117	12.9	61.8	33	3
LSD <sub>.10</sub>	5	0.3	0.8	1	8
<i>1997 (3 sites)</i>					
BZ987-331	106	12.0	62.1	34	15
Hi-Line	100	12.8	63.2	34	1
Jefferson	108	12.5	63.3	35	5
Vandal	112	13.4	61.3	33	0
WB 936	111	13.0	62.3	31	0
LSD <sub>.10</sub>	4	0.5	1.0	1	6

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

**BZ987-331** is an advanced line from Western Plant Breeders. It had the poorest protein of all varieties.

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. The trials were not fertilized with N for maximum protein and quite often the off-station 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.

For those of you that don't follow hard red spring prices, the following may be of interest. Hard red spring at 14% protein was trading on Feb.4 in Portland at \$.86 per bushel over soft whites. At 15% protein the difference was closer to \$1 a bushel. The hard red springs are typically about 5% less productive than the soft whites when early spring planted.

## Economic Return

Even though durums are not as productive as the soft whites, the percent price difference exceeds the percentage difference in productivity.

How do economic returns for durums and soft whites compare? Let's assume soft whites yield 90 bu/A and the durums only 80 bu/A. Assume also that the durums are \$20/A more expensive to produce than soft whites due to additional N management and seed costs.

Additional freight costs for the durums are \$.35/bu. If we assume \$5.20/bu prices for durums delivered to Pendleton, the difference in economic returns for the two market classes are shown in Table 8 for a range of soft white prices.

The price for soft whites that would give comparable returns to \$5.20/bu durums is over \$4. With lower soft white prices, and these assumptions, there's an economic advantage in favor of the durums. Prices higher than \$4 favor the soft whites. How many believe soft white prices will rise to \$4 from their current level?

Of course, the assumptions on which the economic returns are based could be quite different. The difference in yields could be greater than 10 bu/A. Then again, there might not be any difference in production or the production costs for the two market classes, depending on the residual N available at the beginning of the season.

## Who should grow durum?

Production of durums is not without risk. Failure to meet any of the contract specifications could mean outright rejection or a discounted price. Careful nitrogen management is critical for meeting the 13% protein specification. Sprinkler injection of N provides the optimum flexibility of applying N for maximizing grain protein.

One of the biggest concerns for Pendleton Flour Mills is black tip, the discoloration due to fungal growth on the germ end of the kernel. Black tip discolors the flour as it is not milled from the kernel when processed.

Table 7. Durum performance relative to Vandal hard red spring wheat.

Variety	Class	Yield bu/A	Protein %	Height in	Test Weight lb/bu	HVAK %	Lodged %
<i>1997 (3 sites)</i>							
Kronos	Durum	97	13.7	29	61.2	92	0
Vandal	Hard Red	112	13.4	33	61.3	--	0
WB 881	Durum	89	13.9	30	60.7	95	0
WB Cortez	Durum	98	13.6	29	61.4	96	0
WB Kofa	Durum	88	14.0	30	60.2	95	0
LSD <sub>.10</sub>		4	0.5	1	1.0	2	6
<i>1994-97 (ten sites)</i>							
Vandal	Hard Red	110	13.0	34	61.6	--	1
WB 881	Durum	103	13.0	32	62.3	91	5
WB Cortez	Durum	110	12.9	32	63.4	93	2
WB Kofa	Durum	107	13.0	32	62.4	93	4
LSD <sub>.10</sub>		4	0.3	1	0.5	3	5

It seems to occur more readily with high humidity, rainfall, or sprinkler irrigation during the grain filling period. Whereas sprinkler irrigated wheat may provide more flexibility in managing late season nitrogen, furrow irrigated durum wheat may incur less blacktip.

Durum wheat production will entail the same nitrogen management as for hard red spring wheats. It involves a delayed N application if available N at the beginning of the season is not adequate for both yield and acceptable protein. Typically 30-50 lb/A of N are injected through the lines between heading and flowering.

Furrow irrigated durum producers can apply additional nitrogen as an aerial spray, but the amounts used are limited by the foliar burn that occurs. Typically up to 25 lb of N/A as Solution 32 can be used without causing foliar burn. Somewhat higher rates of straight

Table 8. Economic returns for soft white and durum wheat for different soft white prices.

Soft White Local Price \$/bu	Soft White Returns (\$/A)	Durum Returns (\$/A)	Return Difference (\$/A)	%
2.00	180	368	188	104
2.50	225	368	143	63
3.00	270	368	98	36
3.50	315	368	53	17
4.00	360	368	8	2

urea N solutions can be used.

If spring wheat can not be planted until mid April or later, durum wheats may be especially appropriate. Late planted soft whites are seldom more productive than durums or hard reds.

The number to call at Pendleton Flour Mills for contract information is 541-276-6511. On farm storage may be required unless there is enough interest that a local elevator is willing to dedicate storage to this market class. For seed the numbers are 541-963-8815 (OR) or 208-678-2286 (ID).

## 377S Hard White Spring Wheat

As you may know, ProMar Select Wheat of Idaho, Inc. has the license for the production and variety preserved marketing of the **377S** hard white spring wheat variety developed by Idaho. Variety-preserved markets for this Idaho line have been identified with both domestic and foreign customers. Premiums for the marketed wheat ranged from \$.30 to over \$1 a bushel in the past year.

To produce and market **377S** you need to be a member of the ProMar Coop. Few western Idaho producers participated in the initial offering of ProMar shares when the coop was first organized in fall of 1996. Western Idaho producers may not have been fully aware of the opportunities available with this initial offering.

To help western Idaho producers determine whether production of **377S** is feasible for them we have evaluated the variety in the Cooperative Extension Trials since 1993. The results are shown in Table 9.

Over the five year period, **377S** proved as productive as the soft white spring varieties evaluated in the same trials. **377S** is a little weaker strawed than the soft whites and is more susceptible to lodging. **377S** has excellent test weight, considerably better than the soft whites evaluated.

The results show that **377S** is well adapted to western Idaho and other areas in southern Idaho. Producers need not sacrifice production to participate in this new opportunity.

The ProMar coop board of directors is providing an additional opportunity for nonmembers in Idaho, Washington, and Oregon to participate in this new venture. Questions regarding membership should be directed to Vince Zortman (509-533-5167). This is one of the few opportunities available to growers to niche market a wheat variety.

## Malting Barley

Malting barley may offer yet another option for spring small grain producers. Malting barley was contracted on a limited basis by Busch Ag Resources in the Treasure Valley during the 1997 season. Practically all the Treasure Valley production was accepted for malting. Only one isolated problem field was rejected.

Busch Ag Resources learned that the Treasure Valley can produce good quality malting barley. These results are especially encouraging given the fact that lodging was a serious problem in many of the fields that I examined. Contracted acreage in 1998 will likely be reduced, but this corporate decision is due to factors

other than the quality of the barley produced.

The two varieties contracted were **AB1202** and **Harrington**. The performance of these varieties relative to other two or six-row barley varieties can be seen in Table 4 and Table 10. **AB1202** and **Harrington** were not as productive

Table 9. Hard white and soft white spring wheat performance in the Treasure Valley. 1993-97, 16 site years.

Variety	Yield					Ave.	Protein	Test Weight	Height	Lodging
	1993	1994	1995	1996	1997					
	-----bu/a-----							%	lb/bu	in
	%									
<i>Hard White</i>										
377S	116	140	123	113	122	<b>119</b>	11.5	63.5	37	23
<i>Soft Whites</i>										
Centennial	122	134	112	115	121	<b>118</b>	10.6	62.8	36	9
Treasure	117	127	110	106	119	<b>113</b>	10.2	61.3	36	16
Penawawa	118	137	114	117	127	<b>120</b>	10.9	62.0	36	14
LSD <sub>.10</sub>	7	8	8	7	4	<b>4</b>	0.2	0.4	0.6	7

as **Step toe**. They are about as susceptible to lodging as **Step toe**, **Baronesse**, and **Lud**. For information on contracting Busch varieties contact Weiser Feed and Storage (208-549-1882).

Adolph Coors will announce shortly the availability of seed for **Galena**, another two-row barley acceptable for both feed and malting. No contracts will be written, but if good quality **Galena** malting barley is in short supply due to production or quality problems in other production areas, Coors would consider the production from western Idaho.

**Galena** is a moderately short, stiff strawed variety that is well adapted to western Idaho. We evaluated **Galena** in six trials over a three year period as part of the Cooperative Extension Performance trials (Table 10). **Galena** yielded as well as or better than **Step toe**, the most commonly grown barley in the Treasure Valley. It yielded somewhat less than **Idagold**, a Coors two row barley released for feed. **Galena** and **Idagold** have excellent resistance to lodging as compared to **Step toe**, and other two-row barleys used for feed such as **Lud**, and **Baronesse**. **Galena** test

weight is lower than **Lud**, but appreciably better than the six-rows evaluated.

Coors is also offering seed of **Moravian 14** for production. We evaluated **Moravian 14** in two years of tests and the results for western Idaho are also in Table 10. **Moravian 14** appears to be as well adapted to the Treasure Valley as **Galena**. Seed for **Moravian 14** will not be available in Idaho but seed is available in Colorado. For information on seed of **Galena** or **Moravian 14** contact Bruce Waag at Burley (208-278-3586) or Dave Dougherty at Buhl (208-543-6411).

Western Idaho producers now have the option of producing malting barley that yields comparable to the feed types commonly grown. Malting barley typically is sold for about a \$1 a bushel more than feed barley depending on the contract.

## Marketing Miscellaneous

Carryover soft white wheat stocks are predicted to be twice as high as they've been in at least ten years and are predicted to go even higher. These stocks are helping to depress the prices for August and September delivery.

Higher prices for other market classes such as hard red winter, hard red spring, or durum wheat reflect lower stocks in relation to predicted usage. Currently soft white wheat is the lowest priced of all the market classes grown in the Pacific Northwest.

USDA reports hard red winter wheat plantings are down 10% from just two years ago, the lowest planted acreage since 1973. It is too early to tell what spring wheat planting intentions are.

## Wheat Protein in Southwest Idaho

The *Idaho Grain* magazine reported the Idaho Wheat Commission's 1998 protein survey in the winter issue. As I've suggested in earlier issues, wheat protein can indicate the effectiveness of our nitrogen management. High protein indicates excessive available nitrogen for the growing conditions during the season. Low protein indicates the opposite, that wheat production was limited due to a shortage of available N.

Our research suggests that for the variety **Stephens**, the most commonly grown soft white winter wheat in western Idaho, that 9.5% protein represents a 15% loss

Table 10. Malting barley agronomic performance in the Treasure Valley as compared to Idagold and Step toe feed barley.

Variety	Test			
	Yield	Weight	Height	Lodged
<i>1994-95 (five site years)</i>				
Galena	141	52.9	34	15
Idagold	153	52.4	30	26
Moravian 14	143	54.0	33	23
Step toe	133	49.3	40	59
LSD <sub>.10</sub>	7	0.5	1	13
<i>1994-96 (six site years)</i>				
Galena	140	52.5	34	19
Idagold	145	52.0	30	22
Step toe	137	49.3	40	66
LSD <sub>.10</sub>	7.6	0.7	1	13
<i>1996-97 (six site years)</i>				
Step toe	125	48.4	38	78
AB1202	108	50.6	37	60
Harrington	107	49.8	37	78
Idagold	127	49.7	30	23
LSD <sub>.10</sub>	6	0.7	1	10

of production due to inadequate nitrogen. Maximum production was more closely associated with 10.5% protein.

The protein results for southwest Idaho are similar to the results in 1997 and just as disturbing. About 37% (up from 35% in 97) of our wheat had less than 9.5% protein in the 1997 season. It suggests over a third of our production was limited in yield by at least 15%. For the production involved, that's \$1.7 million lost to producers in this area at current prices.

At the other extreme, almost a fourth (23%) of producers (down from 31% in 1996) marketed wheat with over 10.6% protein. It means that much of the wheat produced had excessive nitrogen available. This excessive nitrogen contributed to increased lodging, more difficult combining, higher dockage, wasted fertilizer, and in some cases lower yield, all of which reduced financial returns to producers.

The overall results suggest that significant income is lost to producers from either excessive or inadequate nitrogen. Spring soil testing and following research based fertilizer recommendations should be useful in fine tuning nitrogen management for maximum economic returns.

## Barley Stripe Rust

There was no Barley stripe rust in the Treasure Valley in the 1997 season. But stripe rust was present the previous year. Whether it is going to be with us is impossible to predict with certainty. We do know that inoculum will likely be present some time during the season, and that current varieties for the most part do not have resistance.

Seed treatment is available but is not recommended. Incidence of stripe rust has been sporadic in the last two years. The stripe rust that occurred in 1996 resulted from fairly late infestations of inoculum. Seed treatment does not provide season long protection and would likely not control late infestations.

UNIVERSITY OF IDAHO  
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