University of Idaho
Cooperative Extension System

The Cereal Sentinel

A newsletter for Treasure Valley cereal producers

October 17, 1996 Issue No. 11

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Important Dates:

Idaho Grain Producers Annual Convention Nov 18-20

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) (Fax-208-722-6708) (Email bradb@uidaho.edu)**

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Winter Wheat Evaluation

The 1996 season marked the 12th season of the Southwestern Idaho Cooperative Extension Winter Wheat Performance Trials. The trials, supported by the Idaho Wheat Commission, allow the testing of public and proprietary varieties and advanced lines under the irrigated and dryland conditions of the Treasure Valley.

Four irrigated winter wheat trials were conducted during the 1996 season. The Parma site was the earliest planted (October 12) and the most productive. A Melba trial was planted October 19, yielded less than Parma, and suffered in part from wind skips. Another Parma trial was planted late (November 13) and the Mtn Home trial was also planted late (November 20) after sugarbeets. The late planted trials included both winter and spring wheat varieties. The results for the trials are given in Tables 1 and 2.

Malcolm has consistently performed as well or better than **Stephens** in high yield environments over the several years of our evaluations. This year it slipped a bit, failing to average higher than **Stephens** in any of the four sites. **MacVicar** likewise did not measure up to its past performance as compared to **Stephens**.

It was a good year for **Stephens,** the most commonly grown variety in our area, with yields across sites that averaged from 3 to 19 bu per acre higher than either **Malcolm** or **MacVicar,** depending on the site. **Rod,** a WSU release did about as well as **Malcolm and MacVicar** when averaged over all sites.

For producers seeking a shorter variety under hand or wheel lines, we evaluated for the second year **OR939645,** a shorter advanced line from OSU. It is 2-3" shorter than **Stephens**, has good straw strength, but poorer test weight, and may not tolerate stress as well as **Stephens**.

The Idaho advanced line **ID8614502B** is also shorter than **Stephens**, a couple days earlier heading, has test weight that ranged from1.0 to 1.9 lb per bushel **better** than **Stephens** and **lower** protein than **Stephens**. The breeder will seek release of this line in the coming year.

BZ6W90-470 is an advanced line from Western Plant Breeders evaluated for the first time. It essentially equaled **Stephens** in yield in the two sites where evaluated but had considerably better test weight.

Lambert, a UI release, is in its 3rd year of testing in the Treasure Valley. **Lambert**, does not appear to have a yield advantage over **Stephens** in high or moderate yielding conditions and is about 4" taller than **Stephens**.

The irrigated club wheat varieties as usual did not yield as well as most common soft white entries. Club wheat premiums would have to exceed 10- 15% of the market price for common soft white wheat to offer equal returns. Those premiums have not been available the past two years even though the portion of club wheat in the Western White market class has increased to 20% from 10%. The premiums can be expected in years when significant winter kill reduces club wheat stocks.

Table 1. 1996 Early Planted Irrigated Winter Wheat Performance in the Treasure Valley.

Variety	Yield	Protein	Test Weight	Height	Lodging
	bu/acre	%	lb/bu	in	%
		Parma (planted Oct. 12)			
Malcolm	159	10.7	60.7	39	3
MacVicar	162	10.1	60.6	39	0
Stephens	165	10.7	60.5	40	3
Madsen	149	10.9	60.3	43	3
Rod	157	9.6	59.5	39	3
Lambert	155	10.7	59.4	42	0
OR939645	158	10.4	59.0	37	0
BZ6W90-470	161	10.8	63.5	38	0
ID8614502B	164	10.3	61.6	37	0
Rohde (club)	146	10.5	59.6	40	6
Tres (club)	147	9.6	60.8	44	0
$LSD_{.10}$	8	0.3	1.3	1	4
		Melba (planted Oct. 19)			
Malcolm	134	10.8	62.4	38	0
MacVicar	144	11.0	62.3	37	0
Madsen	126	11.5	63.7	40	0
Stephens	153	11.3	62.9	38	0
Lambert	147	10.6	62.8	38	0
Rod	145	10.9	61.0	37	3
BZ6W90-470	152	10.7	63.4	38	0
ID8614502B	143	9.8	63.9	38	0
OR939645	127	10.4	61.5	35	0
Rohde (club)	137	10.9	63.2	38	3
Tres (club)	118	10.7	62.6	39	15
$LSD_{.10}$	11	0.7	1.1	2	20

Table 2. 1996 Late Planted Irrigated Winter and Spring Wheat Performance in the Treasure Valley.

Variety	Yield	Protein	Test Weight	Height	Lodging
	bu/acre	%	lb/bu	in	%
		Parma (planted Nov.13)			
Winters					
Malcolm	148	-9.6-	60.1	39	0
MacVicar	146	-9.0-	60.9	39	0
Stephens	154	-9.2-	61.3	40	8
Madsen	145	-9.2-	61.7	44	0
Rod	147	-9.2-	59.3	39	5
Lambert	157	-9.0-	61.2	42	0
OR939645	146	-9.2-	59.3	36	0
Springs					
Centennial	134	10.0	63.3	36	20
Treasure	138	8.5	63.2	39	23
Penawawa	145	9.8	63.4	36	18
Vandal	133	11.7	63.4	37	0
WPB936	139	14.0	62.0	38	0
Cortez	111	12.9	63.5	31	0
Kofa	115	11.9	63.8	32	3
$LSD_{.10}$	11	1.0	1.1	2	20
		Mtn Home (planted Nov. 20)			
Winters					
Malcolm	158	9.3	61.3	39	0
MacVicar	154	9.8	60.5	39	0
Stephens	161	10.3	61.5	39	0
Madsen	145	10.3	61.4	42	0
Rod	149	9.6	61.3	38	0
Lambert	143	10.7	60.4	43	0
OR939645	138	10.2	59.7	36	0
Springs					
Treasure	140	9.8	63.4	41	30
Centennial	143	9.6	62.2	40	18
Penawawa	156	10.5	63.0	39	23
Vandal	136	13.1	64.3	39	0
WPB926	144	12.2	61.7	41	1
$LSD_{.10}$	13	1.0	1.6	2	22

Long Term Performance

Performance in any given trial is not as reliable as the combined performance over several sites and years. The yield results for each year since 1991 are shown in Table 3. There were 2, 3, or 4 trials in each year.

Table 3. Winter Wheat Yield Performance, 1991-96.

Variety	1991	1992	1993	1994	1995	1996
Malcolm	112	113	153	155	140	147
MacVicar	120	101	143	154	137	149
Stephens	108	104	144	145	138	155
Madsen	--	93	149	142	126	138
Rod	--	102	148	143	138	146
Lambert	--	--	--	138	135	147
OR939645	--	--	--	--	130	139
ID8614502B	--	--	--	--	--	144
$LSD_{.10}$	6	11	7	6	5	6

The performance of **Malcolm** over the years should be obvious. The yearly average for **Malcolm** was less than **Stephens** in only one year (this year) and in some years was appreciably higher than **Stephens**. The yearly average for **MacVicar** has been less consistent relative to **Stephens**.

Rod and **Stephens** are closely matched for yield. **Madsen** in most years provided no advantage in yield over **Stephens**. **Lambert** also has no advantage in yield over Stephens.

Winter vs Spring with November Seeding

Three trials have been conducted in the last two years to evaluate the performance of late fall planted spring and winter wheat varieties. Spring varieties were included in the late planted winter wheat trials because previous work had shown them to be as productive, if not more so than winter varieties, when germination and emergence were delayed until spring.

The weather after planting the late trial in 1994 was wet and cool but wheat emerged in December. Temperatures were mild after the late fall 1995 plantings and wheat emerged by early December and continued to grow well into the month. Fall growth in 1995 was more typical of a late October or early November planting.

Centennial, **Penawawa**, and **WPB926** are early spring varieties that headed several days earlier than **Treasure**, **Vandal,** and the winter varieties regardless of the year planted. Test weight of the springs were

generally higher than the winter varieties. Spring varieties were more susceptible to lodging.

For the second year, spring varieties included in the late fall plantings were less productive than the winter varieties. Last year the difference was attributed to frost, but there was no evidence of frost after heading in 1996. We conclude that mid November or earlier plantings of spring wheat that emerge in the fall will not generally yield as well as winter wheat.

Dryland Wheat

Dryland wheat production in southwestern Idaho's outlying areas generally receives less than 15 inches annual rainfall. Much of this land is currently in the Conservation Reserve Program, but these contracts are scheduled to expire within the next few years. With favorable wheat prices these past two years, and more stringent requirements for CRP eligibility, much of this land could come back into production.

We conducted several variety performance trials in these areas prior to 1991. Our results indicated that hard red winter wheat was as productive, if not more so, than the soft white winter wheat commonly grown. In addition, the hard red winter class averaged about three pounds per bushel higher test weight.

Several new soft white and hard red winter wheat varieties have been released since our dryland trials were discontinued. In addition, there is greater potential for club wheat production in these areas now that club wheat commands a premium.

A dryland variety performance trial was conducted near Midvale in both 1995 and 1996 to evaluate new varieties. Rainfall was above normal and yields were high for this production system in both years, especially 1996. The performance results for 1996 and the average for both 1995 and 1996 are given in Table 3.

Average yield for the two market classes essentially did not differ in either year. Test weight averaged at least 2.1 lbs per bushel higher for the hard red class than for the soft white class. Stephens had lower test weight than many other varieties currently available, suggesting that the No. 1 grade may be more difficult to obtain with Stephens in this production system.

Protein averaged slightly higher for the hard red class. Protein was low in both years of testing due to higher rainfall and greater than normal production.

Table 4. Dryland Wheat Performance, Midvale, 1995, 1996.

Variety	Yield		Test Weight		Protein		Height	
	1996	1995-96	1996	1995-96	1996	1995-96	1996	1995-96
	bu/acre		lb/bu		percent		inches	
Soft White Winter Wheat								
Stephens	55	49	60.0	59.7	8.2	9.0	30	29
MacVicar	50	45	61.8	61.7	8.0	8.8	31	28
Malcolm	55	48	61.8	61.3	8.2	8.9	31	29
Madsen	56	48	61.3	61.1	8.2	9.1	32	31
Eltan	57	46	61.5	61.7	7.7	8.8	28	27
Lambert	59	--	60.7	--	8.1	--	32	--
ID8614502B	55	--	61.0	--	7.8	--	29	--
Rod	61	--	60.9	--	7.7	--	29	--
Rohde (club)	43	43	59.7	60.1	8.4	8.7	28	26
Tres	51	--	60.0	--	7.7	--	27	--
Hiller	53	--	56.8	--	7.5	--	28	--
OR92CL0049	43	--	57.4	--	8.3	--	26	--
OR92CL0054	49	--	58.7	--	8.6	--	30	--
Average	53	48	60.2	60.3	8.1	8.6	29	28
$LSD_{.10}$	6	5	1.2	0.8	0.4	0.3	3	2
Hard Red Winter Wheat								
Promontory	59	52	63.5	63.6	8.9	9.2	34	32
Buchanan	56	50	60.6	61.7	7.9	8.7	32	30
Utah 150	57	--	60.7	--	8.7	--	34	--
Hoff	50	45	60.2	61.2	9.9	9.7	33	31
Meridian	57	47	63.3	63.5	8.9	9.7	31	29
Bonneville	52	44	63.3	63.8	8.7	9.3	35	34
Hatton	47	42	64.7	64.6	7.8	8.8	34	32
Judith	47	42	60.1	61.1	8.1	9.0	37	33
WA7773	62	--	64.0	--	8.4	--	37	--
IDO467	55	--	60.9	--	7.8	--	37	--
Average	54	47	62.3	62.8	8.4	9.1	34	32
$LSD_{.10}$	9	6	1.0	1.0	0.7	0.5	4	2

Club wheat did not yield as well as the common types and also tended to have poorer test weight.

The hard red class continues to agronomically perform well relative to the soft white class in the dryland system.

Winter Barley Evaluation

Winter Barley is also evaluated in the Cooperative Extension Variety Trials with support from the Idaho Barley Commission. Irrigated winter barley was included at the two October planted sites and the results are shown in Table 4.

Only two of the entries have resistance to Barley Stripe Rust. OSU's **Kold** was the first PNW release with documented resistance and **Strider**, OSU's recent release also has resistance. Barley Stripe Rust was evident in most fields examined this past season,

Table 5. 1996 Irrigated Winter Barley Performance.

Variety	Yield	Test Weight	Height	Lodging
	bu/acre	lb/bu	in	%
		Parma		
WPB Sprinter	169	50.8	41	0
Boyer	138	51.7	42	0
OR81019	152	50.0	39	0
Strider	159	50.5	41	23
Kold	147	49.8	39	0
Sunstar Pride	175	49.5	40	8
$LSD_{.10}$	13	1.2	2	21
		Melba		
WPB Sprinter	163	51.5	40	0
Boyer	149	49.3	40	0
OR81019	151	52.0	36	0
Strider	166	49.5	41	0
Kold	147	47.4	39	0
Sunstar Pride	200	49.1	41	0
$LSD_{.10}$	13	3.0	2	--

although incidence was generally very light. It could be a significant factor in future Treasure Valley barley production. Of the two varieties with resistance, **Strider**, the new release seems to be the more productive after two years of testing (four sites).

Sunstar Pride was evaluated this year for the first time in western Idaho. It proved well adapted to the season's conditions, especially at Melba where it yielded higher than all other entries. This variety has been evaluated in the Magic Valley more extensively where it also did well. **Sunstar Pride** does not have stripe rust resistance.

Westbred Sprinter is also well adapted. For many years few entries could match **Sprinter** for its excellent yield and test weight. Only the Oregon advanced line **OR81019**, has consistently had test weight equal to **Sprinter**.

The high yield potential of winter barley is reflected in the trial results. It is an interesting time for winter barley variety development. We appear to be on the verge of major improvements in winter barley performance with new varieties, particularly if stripe rust does not become any more of a problem than it has this year.

Malting Barley????

A malting barley option for Treasure Valley producers is getting closer and closer. A large malting barley company has expressed interest in contracting for malting barley in Western Idaho. One field was contracted this past year with good success. The quality was excellent.

Samples of two row malting varieties from the Cooperative Extension Spring Variety Performance Trials in western Idaho were also submitted to this company for their evaluation. Preliminary results indicate that the samples were acceptable, and provide further evidence that good quality malting barley can be grown in our production area.

Percentage thins generally was less than 10%, with only one of seven samples at 15%, which was also acceptable. The sample with 15% thins also had low plumpness and high protein, consistent with the extensive lodging recorded for the plot.

Yields for the varieties were lower than the most productive trial entries, due primarily to lodging (Table 1). These malting varieties will not yield as well as the feed barley normally grown with irrigation in our area, but the contract price should be better.

Assuming the better yielding of the two rows was 10% less productive than Steptoe, the contract price must be 10% better in order to match the returns for Steptoe. Malting barley typically runs $1 per hundred better than the feed barley price. If feed barley is $5 per hundred and malting barley is $6, the 20% better malting price should give higher returns to the grower than feed

barley. Malting barley may also require less fertilizer N than Steptoe feed barley.

Actual contract prices may not be set at this time but I understand that different kinds of contracts will probably be available. For information on producing malting barley for contract please leave your name and number with me or the secretary in our office (722-6701) The information will be forwarded to the company and you then will be contacted by them.

Free, Free at Last!

Karnal Bunt Update

You've probably read that Karnal Bunt, found this year in the Southwest, is a concern to the wheat industry throughout the US, primarily because it can limit export markets for our wheat. Since 85% or more of Treasure Valley wheat is exported we have reason for concern.

The national survey conducted to identify Karnal Bunt free areas is well under way, and finished in our area. Michael Cooper, Idaho Dept. of Agriculture, informs me that **none** of the counties in southwest Idaho were found to have samples testing positive for Karnal Bunt.

This is exactly what we expected and hoped for. It should result in the designation for our area of **Karnal Bunt free**. This means that wheat shipped from this area, intended for export, will no longer require the phytosanitary inspection. It may also mean that we will no longer need to participate in the survey.

Its nice to have the cloud of suspicion lifted. Many of the elevators and growers participating in the survey may have had concern for their enterprises should the results have proved otherwise. They can now breathe the proverbial sigh of relief. Areas within some of the quarantined area in the Southwest were not so fortunate.

Though we do not have the disease in our area, we need to be vigilant about bringing materials or equipment into the area that may be contaminated with Karnal Bunt spores. Regardless of whether the disease will ever become established in the area, the detection of Karnal Bunt spores in grain or equipment could jeopardize the Karnal Bunt Free designation.

$ Data Bank for Idaho Production $

Our small grains industry is increasingly moving toward specialty markets for our production. The hope and expectation is that market and production options will expand while the price increases for the grower's product.

A good step in that direction was recently taken by the **Idaho Grain Producers Association** (IGPA). The IGPA will keep a data bank of the specific varieties held in on-farm or commercial storage together with the quality of the grain stored. Potential buyers will be notified of the data bank. When buyers request grain with specific quality, the IGPA will provide a list of the locations of that grain.

I see a number of possibilities here. Whether you have a bin full of a specific variety, or several bins of the same variety but variable quality in each bin, you now have greater potential for marketing that storage according to its quality.

Higher prices could be offered for grain with particularly low dockage, for low or high protein grain depending on the intended usage, for extra plumpness or higher test weight barley. The possibilities are limited only by the specific needs of our customers.

The catch here is that you have to be a member of the **Idaho Grain Producers Association** to list your grain stocks in the data bank. Simply paying the wheat or barley assessment does not automatically make you an IGPA member. And just because you get the Idaho Grain magazine doesn't necessarily mean you are a member either. The IGPA is a separate organization from either the Idaho Wheat Commission or the Idaho Barley Commission, the two commissions that receive the assessments. To join the IGPA, and for additional information contact Steve Johnson at the IGPA office in Boise (208-345-0706).

Wheat after Wheat?

Small grain producers enjoyed excellent prices this past season and current futures prices for next year aren't too bad either. Many will be tempted, or circumstances will be such that following wheat with another wheat crop will be the option chosen by producers.

Wheat after wheat is not the norm for western Idaho wheat production, but its not unheard of either. Two years of wheat between potato crops is common in eastern Idaho.

Many growers seem to get by planting wheat after wheat, with production nearly as good the second year as the first, when the wheat is managed well and stresses on the plant are avoided. But wheat after wheat does involve some risk.

Disease Risks

Wheat normally brought into the Parma Research and Extension Center with serious problems in the spring is generally wheat that followed a previous wheat crop. The problems frequently involve root systems that are a fraction of their normal size due to root diseases.

The diseased root systems preclude the plant from obtaining the moisture and nutrients necessary for maximum production. Plants are also less able to withstand other pressures such as insect feeding, weeds or foliar diseases.

The diseases occur because the disease organism, or pathogen, builds up on the previous root system, then is perpetuated and further increased on the new root systems of volunteering wheat. The increased pathogen numbers then increase the risks of the next wheat crop being infected. Volunteering wheat serves as a "green bridge" for the pathogen from the old crop to the new crop.

Reducing Risks

Producers can't avoid some increase of pathogens on the first wheat crop. Its normal and generally has minimal effects on yield because the population starts out so low to begin with. And there's no way to avoid the buildup of pathogens on volunteer root systems without expensive fungicides. But producers can influence the risk of the pathogen infecting the following wheat crop by means of their residue and volunteer management.

Research has shown that infection is reduced the earlier that volunteer wheat is destroyed or killed before the planting of the second wheat crop. Without the living root system of the volunteer wheat, the numbers of some pathogens decline.

For root diseases such as *Take-all* and others, plant pathologists have long recommended planting the wheat later in the fall. The problem is that later planted wheat, in the absence of serious infection, is also less productive than earlier planted wheat due to reduced tillering.

If wheat is grown after wheat, timely incorporation of the residue and destruction of the volunteering wheat can be critical to the success of the second crop. The longer the volunteer wheat is allowed to grow, the greater the infection level on the volunteer wheat roots, and the greater the risk of infecting the second wheat crop. Volunteering wheat should be destroyed at least two and preferably three weeks earlier than the intended planting date. The residues from the first crop should be incorporated as early as possible to allow maximum time for their decomposition before the next planting, provided the residue isn't needed for conservation compliance.

Adequate fertility can also reduce the risk of yield limiting infections. Though excessive N may exacerbate the problem by stressing the plant, adequate P is critical for reducing the spread of the disease in the plant. Sources of chloride such as KCl and NH_4Cl have also reduced the level of infection of root feeding pathogens. Ammonium sources of N have also reduced take-all infections as compared to nitrate sources.

Avoiding any stress becomes more critical in second year wheat. Root diseases that are minor in the absence of stress can cause appreciable yield losses when combined with inadequate fertility or moisture.

For additional information on soil borne diseases of wheat there are some excellent information sources available. Roger Veseth, the Conservation Tillage Specialist in Moscow, has published a handbook with a section that covers the influence of the "Green Bridge." Chapter 4 Series 16, "Green Bridge" Key to Root Disease Control, is a nice treatment of the green bridge effects. The Conservation Tillage Handbook is available ($20) from

Ag Publications
Building J40, Idaho St.
University of Idaho
Moscow, ID 83844-4199
208-885-7982.

For a publication on other wheat diseases you might consider ***Wheat Health,*** a book authored by Roger Veseth and Jim Cook, and published by the American Phytopathological Society Press. To order call 1-800-328-7560

Planting Dates and Spring Wheat Performance

Some producers know they will be planting spring wheat in certain fields for the 97 harvest rather than winter wheat and they can prepare the field for planting this fall. We know spring wheat is more productive the earlier it is spring planted. But we now know that fall planted spring wheat, though not always as productive as winter wheat, is generally more productive than spring planted spring wheat.

We have conducted planting date trials for three years at the Parma Research and Extension Center to evaluate early and late fall plantings with spring seeding of spring wheat. The yield results for 1994 and 1995 are shown in Table 6. The table values are the average of two spring varieties, either Treasure and Owens (1994) or Treasure and Centennial (1995).

The success of fall vs spring planted spring wheat depends on how early the spring planting is done. Very late fall and very early spring plantings would not differ as much as late fall and mid to late spring plantings.

The greater productivity of fall planted spring wheat was associated with higher test weight, lower protein in some years, and greater lodging. Fall planted spring wheat does involve some risk. Although it has not occurred in our trials yet, spring varieties do not have the winter hardiness of true winter types, and winter kill some years could be a factor. In the event of appreciable winter kill, the ground could be re-seeded with the same variety in the spring.

Another risk is spring frost. The spring varieties mature earlier than winter varieties planted the same day. This is particularly true for Centennial and Penawawa, which are early spring types. But even Treasure and Vandal head and mature earlier than winter wheat planted the same day.

Fall planted spring wheat is more susceptible to lodging, at least in part because the heads are heavier and there are more of them. Straw strength may also be affected. It may be possible to improve fall planted spring wheat yield with Ethephon (Cerone).

Nitrogen management will be more critical for fall planted spring wheats since they are more susceptible to lodging than (1) most currently used winter varieties, as well as (2) the same varieties spring planted.

Most of the N requirements of fall planted spring wheat should be applied in the spring, just as it should for winter wheat.

Table 6. Spring yield as affected by planting dates at Parma. 1994-95.

Planting Date	Yield	Protein	Test Weight	Height	Lodging
	bu/acre	%	lb/bu	in	%
			1994 Season		
Oct. 15	151	10.2	61.5	38.9	44
Nov. 16	154	10.3	61.1	39.1	52
Mar 1	148	9.5	61.1	43.0	11
Apr. 18	76	10.2	56.0	37.0	0
			1995 Season		
Oct. 12	135	9.6	62.6	37.8	88
Feb. 27	111	9.6	61.7	39.4	19
Mar. 22	92	10.0	61.4	39.8	0
Apr. 12	76	10.2	61.5	39.4	5

Barley Stripe Rust

We've been expecting this disease in western Idaho ever since it was found in the Magic Valley last year. The disease is now with us. I looked for the disease in every barley field I entered this summer and was always able to find its presence.

Fortunately it came in fairly late and had minimal impact for most fields. But it is now here and with local sources of inoculum it could prove more serious this next season. Readings from the Cooperative Extension trials indicate that the six row barley varieties were more susceptible than the two rows.

Barley producers this next spring need to be especially vigilant for this disease. Few varieties currently available have resistance to Barley Stripe Rust.

Weed Contaminated Fertilizer/Seed??

Back hauls offer relatively cheap alternatives for bulk transport of commodities such as fertilizer and seed. For those using fertilizer or seed transported by truck back hauls, producers should be especially vigilant about potential contamination of the hauled commodity with noxious weeds such as wild oats and goat grass.

The risks for planting noxious weeds are greatly reduced when certified seed is used in clean equipment. But trucks used for back hauls are not always inspected for cleanliness before filling. And even certified seed will not protect you from fertilizer or fertilizer equipment contaminated with weed seeds.

The risks of planting weed seeds increases as equipment such as fertilizer spreaders are used for broadcast seedings. If you rely on this seeding method be particularly careful of your seed source and the cleanliness of the equipment used. The same goes for any fertilizer applied.

Weed scientists tell us the most common method for
spreading wild oats and goat grass is the seeding operation. We don't need these weeds in our fields. Evidence of goat grass is sufficient to disqualify a field for certified seed production, forever. Wheat seed production in much of eastern Washington has been lost from the area because of discovered jointed goat grass infestations.

Congratulations ProMar!

You've probably heard by now that the license for the production and variety preserved marketing of the spring hard white wheat variety IDO377S was awarded to **ProMar Select Wheat of Idaho, Inc**. This recently organized coop was the result of a flurry of meetings (22) throughout the summer to gauge interest in a coop, and their winning proposal for the license to the variety.

The coop is associated with the Idaho Grain Producers Association and questions regarding the details for membership should be directed to the association (345-0706).

This should be a positive development for all Idaho wheat producers. Idaho need not be the residual wheat supplier for the country and world. We've recently seen Oregon and Washington successfully promote the increased use of club wheat in the Western White market class destined for Japan. Idaho produces very little club wheat, and any increase in club wheat used for the Western White class comes at the expense of common white wheat producers.

The organization of this coop and the awarding of the license to them insures that markets and premiums for this variety, be they domestic or foreign, will involve Idaho producers. Specialty wheat marketing will increase in the future. The Pro-Mar Select Wheat of Idaho, Inc. coop and its producers are going to be in a good position to benefit from this trend. Hats off to the new Coop, the Idaho Wheat Commission, and the Idaho Grain Producers Association for their far sighted initiative. And best wishes for a successful IDO377S marketing year.

Leaf Spot Susceptibility

Physiological leaf spotting is a common occurrence in our soft white winter wheat. The leaf spotting has not been associated with any disease but may be related to a shortage of chloride. Winter wheat varieties differ in their susceptibility to this spotting.

Dr. Russ Karow, OSU Cereal Specialist, has ranked varieties according to the leaf spot ratings in five eastern Oregon trials. Stephens, our most commonly grown variety, as it turns out is the most prone to leaf spotting of any of the varieties evaluated (Table 7).

We have also observed in our Cooperative Extension Variety Trials that spotting is generally more severe with Stephens than with Malcolm and MacVicar. We know this malady is widespread in western Idaho, but we don't know how serious it is in terms of lost production. Symptoms that we have seen have not been severe

Table 7. Physiological leaf spot ratings

Variety	Leaf Spot Rating 0=least, 10=most
Stephens	5.1
MacVicar	4.1
Kmor	4.1
Malcolm	3.9
Madsen	3.9
$LSD_{.05}$	0.9

An increasing amount of data from a variety of sources shows that chloride is implicated. The response to chloride is related to soil test chloride in the 0-24 inch depth. There was greater likelihood of leaf spotting when chloride was less than 32 lbs per acre. With severe spotting, chloride has significantly increased yield. Whole plant tissue levels of 0.40% at heading were adequate to avoid leaf spotting. An attempt will be made in the coming year at two western Idaho locations to evaluate chloride treatments designed to protect the wheat from spotting. More later.

New Publications

Viral Diseases of Barley (PNW 493) is a new Pacific Northwest Extension publication that describes three viral diseases in barley. Only one of these, Barley Yellow Dwarf, is known to occur in southwestern Idaho.

The publication can be ordered free from the **Idaho Barley Commission** (208-334-2090) which helped to fund the publication.

Dwarf Bunt of Winter Wheat in the Northwest, (PNW 489) is another new Pacific Northwest Extension publication. This publication provides an up to date description of Dwarf Bunt, the disease that essentially precludes the shipment of PNW wheat to the huge market in China.

The publication (($1.00 plus handling) can be ordered from Ag Publications in Moscow (208-885-7982) or at your local Cooperative Extension office.

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