



# The Cereal Sentinel

*A newsletter for Treasure Valley cereal producers*

May 23, 2005

Issue No. 39



Topics:	Page
Cereal Leaf Beetle Nursery	2
Water Management and Scheduling	2
Winter Wheat N and Water	3
Barley and Wheat P Response	5
Triticale P	7
New Publications	8
Southern Idaho Wheat Quality	8
Hard White Wheat	9
SW Idaho Extension Cereals Website	10

**Malheur Station Field Day**

**July 13**

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](mailto:bradb@uidaho.edu))**

Brad Brown,  
Extension Soil and Crop Management Specialist

# Cereal Leaf Beetle Nursery

Cereal Leaf beetle will be prevalent in some western Idaho wheat fields, but barley, and oats are preferred hosts, especially those spring planted. Adults have been active since early April and their feeding is easy to find if they are present. We saw the first eggs on April 18 and there have been more eggs laid since. The adult feeding occurs through the entire leaf in short lengths (1/4 to 1 inch ) along a vein in a narrow strip (about 1mm wide) and is typically inconsequential in terms of damage to the plant. Larvae are emerging and beginning to feed. Larval feeding, the greater concern, is confined to the leaf surface and also occurs in strips along the vein.

Early scouting is essential to determine if egg and or larvae populations are high enough to warrant control measures. The economic threshold is three larvae or eggs per plant before boot stage and one larvae per flag leaf after boot stage. If you suspect from CLB egg numbers that control will be necessary and merit a spray, make sure it is the larvae that you're treating rather than the adults. Check the label in all cases.

## CLB Nursery

As we've stated before, biological control holds the greatest promise for CLB control. In contrast to other parts of the country and eastern Idaho, released larval parasitic wasps have not proved effective in controlling CLB in western Idaho. They have been slow to establish.

A parasite that attacks the egg phase rather than the larvae was released in spring 2004. *Anaphes flavipes*, a tiny egg parasitic wasp, was introduced over a year ago into an oat planting at the Parma R & E Center by Ben Simko, Idaho Dept. of Agriculture. Sequential oat plantings were part of a determined effort to attract sufficient CLB adults to increase the likelihood of the parasite's successful establishment. The first wasps released were reared at the USDA-ARS Niles Biological Control Laboratory in Michigan. That laboratory has since closed, and future releases are supposed to come from a Colorado Lab.

To determine the success of last year's egg parasite release, Ben Simko collected eggs from the field on May 4 to determine the level of parasitism. Since it will take some time for the Cereal Leaf beetle larvae or the parasitic wasp to emerge, his report will not be available for awhile. Additional eggs will be collected in the near future.

The adult CLB is again showing a preference for the newest oat seedlings for feeding and egg laying. Fall planted oats aren't nearly as infested as the newly emerged oats planted this spring. Ben Simko plans on additional releases of the egg parasite in the sequential oat plantings.

The best possible outcome would be for the wasp to spread and establish quickly on its own. If we have successful establishment, it might be possible to help the spread of the wasp by making paracitized eggs available to growers who could take them home for release in their own pockets of infestation.

## Water Management and Scheduling

Soil water use by fall planted small grains since February 15 at Parma, Idaho is estimated by the Agrimet System to be 9.8 inches as of May 15. Estimated moisture use by winter and spring grains was 1.2 inches during the previous week of shower activity.

Considering most soils lose only 1 to 3 inches before they are below 50% of what they potentially store within the root zone, it is not surprising that some irrigators are on their second or third irrigation. Small grains normally require soils to be maintained at no less than 50% available moisture for maximum production.

Soil water depletion for spring grains at Parma since April 1 was estimated at 4.4 inches as of May 15. If you have the water and haven't watered your spring plantings yet, a light wetting to replenish the moisture lost from the rooting depth is a good idea if local rain since then has not been significant. Moisture stress at this point will reduce or delay tillering.

The rooting depth for spring grain is considerably less than for fall planted grain. Whereas the rooting depth of winter wheat is nearing it's maximum, the rooting depth of spring grain is no more than double current plant height. The point is, it shouldn't take as much irrigation water to replenish the moisture used from spring grain as for winter grain.

Daily water use for spring grain is rapidly catching up with winter grain. The daily estimated water use for winter and spring grain differs by only 0.01 inches or less and the difference will continue to narrow. Daily forecasted water use for winter wheat is currently .23 and will increase to 0.3 with full canopy development and increasing temperatures. At those daily use rates it

doesn't take but a week or so to use a couple inches of water and to get below the 50% available moisture threshold for yield losses.

Daily water use or ET estimates are available for area crops at the Bureau of Reclamation Agrimet System website. The estimates are based on the automated weather stations strategically located throughout southern Idaho and downloaded daily from satellites. The information is available at <http://www.usbr.gov/pn/agrimet>. When you get there, click on "Crop Water Use" and choose the weather station closest to you. Once you find the page most pertinent to your location, bookmark or add it to your list of favorites. You can also get the daily ET for all days of the season up to the present.

With winter wheat rapidly approaching the boot, heading, or flowering stage, keep in mind that these are critical growth stages for avoiding moisture stress. Spring grain on the other hand is not as far along and the late tillering stem extension period is probably the best opportunity we have to save water by stressing the crop and still minimize yield losses. The next best opportunity is probably at late grain fill when the plant is rapidly shutting down and yield losses are minimal from stress conditions.

## Winter Wheat N and Water

Despite recent storm activity, the drought appears no less serious this 2005 season than it was last year, at least in terms of reservoir storage and snowpack. In some areas, allocated water will be limited enough that early cutoffs may occur, even for small grains that have shorter irrigation seasons. Besides affecting yield, early season cutoffs may affect the response to other inputs such as fertilizer.

### Winter Wheat Study

Early season irrigation cutoff can exacerbate the sensitivity of wheat to N. For the second year we measured the soft white winter wheat response to N in several irrigation scenarios at the Parma and Kimberly Research and Extension Centers during the 2004 season. The project was funded by the **Idaho Wheat Commission**.

Irrigation treatments consisted of (1) not irrigating, (2) irrigating all season at 50% of ET, (3) 100% ET or fully irrigating only to flowering, and (4) 100% ET or fully irrigated all season. Rates of N at Parma were topdressed in late winter (0, 70, 140, or 210 lb/A) to each irrigation treatment at Parma. There were four

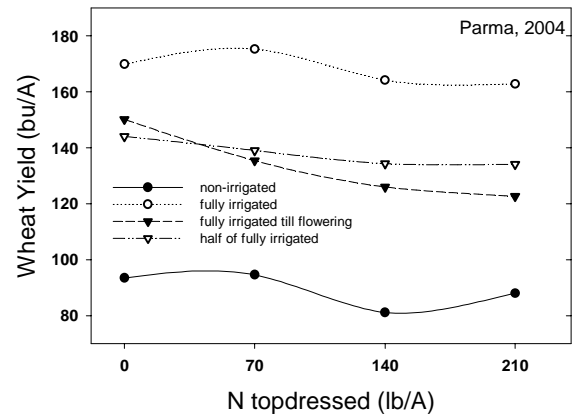


Figure 1. Mean grain yield as affected by four different irrigation scenarios and four topdressed N rates. Parma, 2004.

replications of treatments. Only the results for Parma are discussed here. Residual N (0-24") in early spring measured 45 lb/A at Parma.

The yield response to topdressed N is shown in Figure 1. Yield tended to increase in the fully irrigated treatment (top curve) as the N rate increased to the 70 lb rate, then may have declined with an additional 70 or 140 lb of N. Lodging increased with the higher N but was not severe. Grain protein in the highest N rate was 12.5%, above the level (12%) we have previously associated with excessive N induced yield losses.

There may be factors other than lodging responsible for yield losses due to high N in fully irrigated wheat. We've measured yield losses in fully irrigated wheat previously with excessive N even in the absence of lodging. Yield reductions with excessive N, in the absence of lodging, are not uncommon.

The Australians for years have described a phenomena called "haying off," that occurs when excessive N is available during vegetative growth. Their studies show excessive N results in more structural carbohydrates and proportionally fewer carbohydrates that are translocated to the developing grain. The result is less grain fill and smaller kernels. Our yield reductions with high N in fully irrigated wheat also resulted in smaller kernels.

Whatever the reason for the yield decline, it pays to know the residual N available before planting wheat. Unfortunately, local surveys suggest that few producers arrange for soil testing their small grains in the Treasure Valley, even by those who normally soil test for other crops they grow.

The unfertilized - non-irrigated wheat yielded a respectable 65 bu/A in 2003 with only 3.2 inches of rainfall after March 1, and over 90 bu/A in 2004 with only 2.9 inches of rain after March 1. These non-irrigated yields suggest appreciable moisture was used from the lower soil depths. Yield increased from 53 to 61% over that of the non-irrigated wheat by fully watering only until flowering or applying half the estimated water requirement at each wetting.

Yield was also reduced by higher N rates in the less than fully irrigated treatments, especially when fully irrigated to flowering and then shutoff for the remainder of the season. Higher N increased vegetative growth, increased soil moisture depletion, and with no additional irrigation, exacerbated the stress during grain fill.

Wheat yield at the highest N rate was about 12 bu/A lower with the early cutoff of water (at flowering) than when only half of ET was provided throughout the season, despite receiving 1.9 inches more moisture for the season.

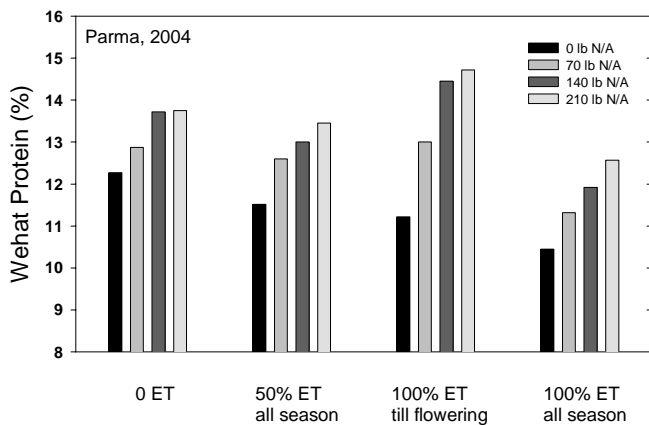


Figure 2. Wheat protein as affected by irrigation scenario and applied N. Parma, 2004.

Irrigation scenarios had appreciable effects on the grain protein response to applied N. Irrigation timing was a significant factor. Higher moisture and greater yields reduced protein if the irrigation treatment was applied uniformly throughout the irrigation season. Protein increased with additional N regardless of irrigation treatment, but the protein increase from N was exacerbated if irrigation was shut off after flowering. This occurs because by flowering the plant accumulates practically all of its N. With the irrigation shutoff after flowering, wheat yielded about 25% less than the fully

irrigated wheat. With the yield reduction there was more plant N available for the smaller kernels that developed.

The protein response to limited water and applied N has implications for market class selection in water short years. Higher protein in soft wheat is undesirable for much of the export market. Soft wheat yields limited by drought could be even more difficult to market with higher protein, what with importer specifications for less

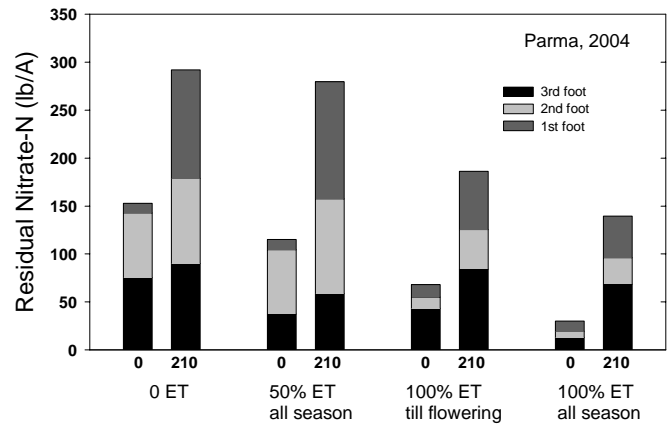


Figure 3. Shown is the post-harvest residual N at three depths from four different irrigation scenarios and two N rates, 0 and 210 lb N/A. The N rates are shown on the bottom axis for each irrigation scenario. Parma, 2004.

than 10.5, 10.0, 9.5 or 9.0% protein. Hard wheat classes in contrast would benefit from higher protein resulting from lower yields and drought stress. The premium for higher protein hard red spring, especially with a 2% protein increase, has amounted to more than \$1.00 a bushel higher than soft whites this spring.

Another aspect to this study that was reported last year is the residual N measured after the wheat harvest. The results from 2004 are similar to 2003. The post-harvest residual N at three depths is shown for the lowest and highest N rates in all irrigation treatments (Figure 3). Post-harvest residual N was highest in the non-irrigated wheat, where limited moisture reduced root activity, vegetative growth, and N uptake. Notice there is appreciable residual N in the 3<sup>rd</sup> foot of the non-irrigated and non-fertilized treatment. Limited moisture reduces the potential of wheat to scavenge N.

In contrast, N was scavenged (residual N is lower) from as deep as the third foot to leave minimal amounts where wheat was fully irrigated. The results demonstrate that wheat can use residual N well beyond

the first foot, the depth to which most soil samples are collected. The results provide a useful reminder that estimates of fertilizer N requirements can be improved if residual N throughout the rooting depth is measured.

We estimated the N requirement for 140 bu wheat in this trial to be about 140 lb N/A based on the residual N measured in the first two feet of the profile. We actually measured yields considerably higher than 140 bu/A, yet the optimum N rate was no more than 70 lb N/A if not less. There was about 70 lb N/A in the third foot remaining in the non-irrigated wheat after harvest. Measuring that additional residual N in the third foot would have reduced the estimate of fertilizer N required in this study by at least half. There was apparently more N in the third foot in early spring than in the first and second foot combined.

The higher residual N in the non-irrigated wheat and where excessive N was applied to some extent would be available for subsequent crop N use. It should be measured and taken into consideration when fertilizing the next crop.

### Summary

If the irrigation water supply is unknown for the coming season, as it is in many seasons, it is imprudent to apply a normal N rate for fall planted wheat in hopes that water supplies will be adequate. If supplies turn out to be short, you risk losing any return on the fertilizer investment, or worse, reducing yield and income if supplies run out altogether at flowering.

If limited N is applied pre-plant and irrigation supplies turn out to be more adequate, there are other opportunities for adjusting the available N to match estimated water available. If rainfall and estimated snow water equivalent improve by the start of late winter or early spring resumption of growth, or after 40 to 60% of the normal snow pack occurs, then N can be topdressed in late winter or early spring without sacrificing yield in most years. Since N can be tank mixed with many herbicides, weed control applications provide an additional opportunity to adjust applied N to updated estimates of irrigation supplies. Of course sprinkler systems provide the maximum flexibility for adjusting the N to available irrigation water.

Also, given the option of using all of the limited water prior to flowering or spreading it out over the entire season, it is better to spread it over the entire season, or saving it for the most sensitive growth stages when N has already been applied.

The problem with determining appropriate N rates, especially preplant applied N in fall planted wheat, is

that the next season's availability of irrigation water is largely unknown. Pre-plant fertilization, assuming a full water supply, risks spending unnecessary dollars, possibly lowering yields and quality, and reducing returns.

## Barley and Wheat P Response

Spring barley and spring wheat are assumed to have similar P requirements but their response to P is normally evaluated separately making direct comparisons difficult. If spring barley and spring wheat differ in P requirements, those differences need to be quantified. If P requirements do not differ for barley and wheat it will expedite the development of optimal P fertilization practices for both crops by precluding the need for separate studies.

Irrigated field studies were conducted on a calcareous silt loam (10-12% free lime) at the Parma Research and Extension Center for four years (2001-04). They involved two spring barley (C32 and Millenium) and two soft white spring wheat varieties (Treasure and Whitebird) grown in soils previously treated with P to give a range in available P.

Plant biomass or dry weight (Fig. 4) and P uptake (Fig. 5) increased in all years with higher residual P and typically increased more consistently and to a greater extent than grain yield did. For example in 2004, biomass increased 34% and P uptake 90% when yield increased only 7%.

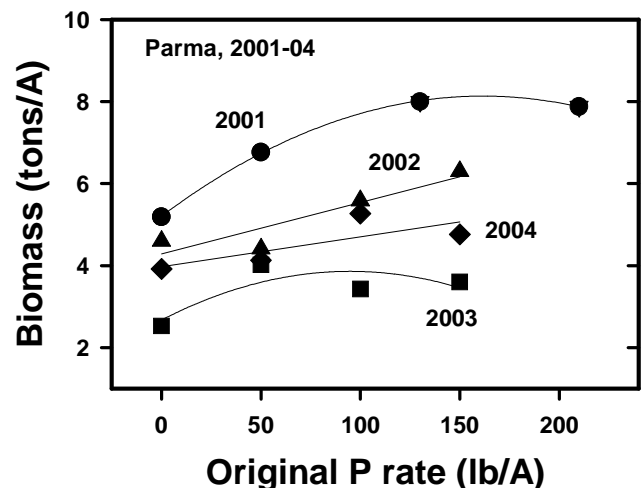


Figure 4. Biomass dry weight averaged for all spring barley and wheat as affected by original P applied.

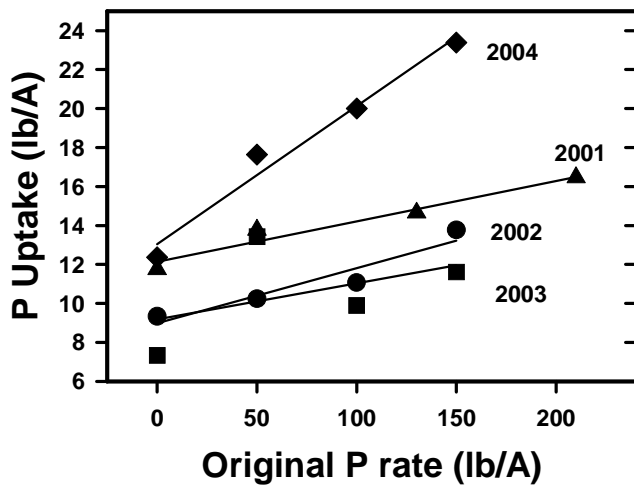


Figure 5. Uptake of P averaged for all spring barley and wheat as affected by original applied P.

Plant P concentrations increased with available P in only two of four years (2001 and 2004). Plant P concentrations are typically less sensitive than biomass to available P because increased P uptake is diluted by greater vegetative biomass. Plant P concentrations likely increase more readily with increased available P when the P required to satisfy the requirements for biomass have been satisfied.

Though yield was not as responsive to available P as biomass and P uptake, yield did increase each year with higher residual P. The critical soil test P for maximizing grain yield was about 12 ppm based on these four years of data (Fig. 4). That is consistent with the values for critical P used in the UI Fertilizer Guides for small grains in soils with 0% lime. The soil in our study measured 10% lime.

In the four years of testing we did not find appreciable differences between wheat and barley in their yield, biomass or P uptake response to higher residual P. There were more differences among barley varieties or wheat varieties than between wheat and barley.

Two row barley responded to higher P somewhat differently than six row barley or wheat. For example, kernel numbers per head for two-row barley were fixed and did not increase with higher P as they did in other genotypes. Yield increased in all years with increased available P as a result of greater tillering and heavier kernels. In some years, two-row barley tillering was

more was more responsive to higher available P than six-row barley or wheat.

When higher available P increased yield, grain protein decreased. Protein was lower with fall planting than with spring planting only in 2003. Fall planting invariably hastened heading by 10 days at the lowest available P and increased test weight in two of three years. Increased P hastened heading dates by two to three days and reduced test weight in two of three years.

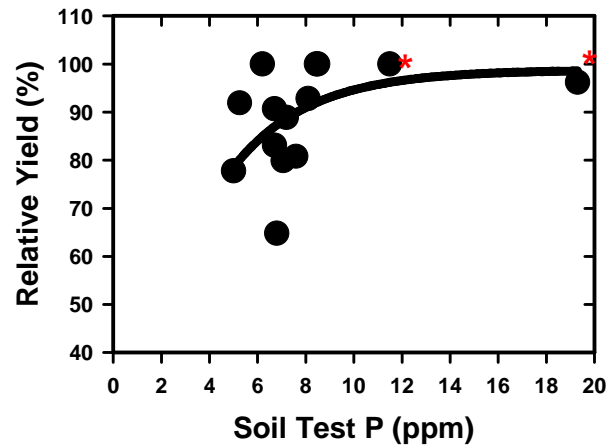


Figure 6. Relative yield as related to soil test P concentration for the years 2001 - 2004 at Parma.

#### Summary

The results from four years of study indicate that spring wheat and spring barley have similar critical soil test P for maximizing yield. The results suggest P fertilizer recommendations can be standardized for spring barley and wheat. Furthermore, future P fertilization research on either spring barley or spring wheat can most likely be extrapolated to the other genotype without duplicating the research at considerable resource savings.

This research was supported by the **Idaho Wheat Commission** and **Idaho Barley Commission**. Additional details are available in annual IWC Progress Reports on the Southwest Idaho Extension Cereals website under the fertilization topic.

# Triticale P

Triticale in southern Idaho is used primarily for forage. The triticale is harvested at the late stem extension to heading stage and generally followed by silage corn. The triticale forage is popular among dairies who must maximize crop P removal in order to facilitate higher manuring rates on available lands. Manuring rates are limited by statute to crop P removal when soil test P exceeds 40 ppm in the first foot. The system is also used to maximize forage production.

The credit for P removal depends on both the amount of forage produced and the forage P concentration. If the forage P concentration isn't measured, National Research Council (NRC) estimates are used in the Idaho OnePlan Nutrient Management Planning software. For a heading stage harvest, the NRC default value is 0.33% P on a dry matter basis.

We have measured values higher than 0.33% P in research trials at Parma. If area triticale P concentrations are higher than the NRC value, then producers aren't getting full credit in the OnePlan software for the P actually removed in the forage harvest. Since it was not clear how appropriate this NRC default P concentration is for southern Idaho triticale grown in soils enriched with manure P, we surveyed forage triticale grown in southern Idaho during the spring of 2004.

Samples were collected from 34 fields in the Treasure and Magic Valleys by UI Cooperative Extension faculty including Joe Dalton, Scott Jensen, Bill Hazen, Mireille Chahine, Steve Salisbury, and Brad Brown. The growth stage of samples ranged from stem extension to heading with most at the boot stage.

Triticale total P concentration ranged widely from 0.21 to 0.53% P with a mean of 0.34% for boot stage samples. This mean value is only slightly higher than the NRC default value of 0.33% for triticale at heading.

The range in triticale P was surprising and suggests considerable potential for accumulating P quantities above those we have previously measured in non-manured treatments. The highest triticale P concentrations more than doubled the lowest values.

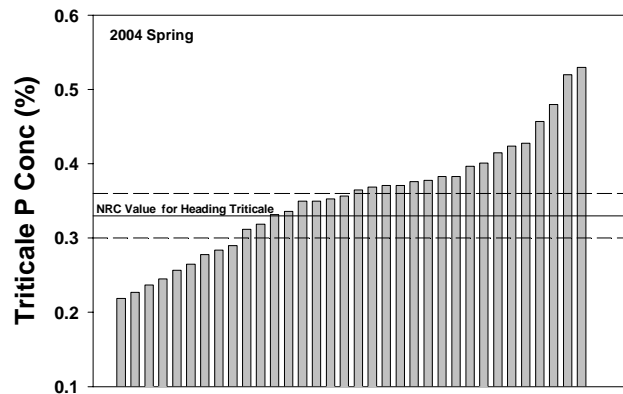


Figure 7. The distribution of southern Idaho spring 2004 triticale P concentrations, from lowest to highest, in relation to the NRC default value used in the Idaho OnePlan.

The P concentrations for each of the triticale samples are arrayed from lowest to highest in Figure 7. Over 75% of the samples had P concentrations that differed by more than 10% (about 0.03%) from the NRC value of 0.33%.

Using a mean value for triticale P concentration for calculating P removal with triticale haylage would grossly under estimate P removal in some fields and over estimate P removal in others. Measured forage P concentrations would clearly more accurately represent forage P removal than using default NRC values in most fields.

There is a certain irony in the results if estimates of P removal are based on measured forage P concentrations instead of default NRC values. Those operations using the lowest manuring rates, that have the lowest soil P enrichment, and the least potential for P runoff into surface waters end up with the greatest limitations for manuring. Conversely, those using historically higher manuring rates that have enriched soils with excessive P, and document higher forage P concentrations are by statute allowed higher manuring rates.

Growth stage differences account for some of the triticale P concentration variability. Samples were collected as early as mid stem extension, prior to any swelling of the head in the stem, and as late

as late boot. Four fields were sampled twice, the samplings separated by about ten days in western Idaho (April 23 and May 3, mid stem extension to late stem extension) and seven days in the Magic Valley (May 7 and May 14, late stem extension to early boot). The decrease in P concentration from the first to second sampling ranged from 0 to as much as 0.14% P.

Total dry matter was estimated only in western Idaho fields. Dry biomass ranged from 1.6 to 6 tons/A and the P removed ranged from 7 to over 36 lb/A. The 36 lb/A is considerably more than we've documented in research trials. Biomass and P removal ranged more widely than P concentrations.

The lowest triticale P values are probably adequate for maximum production of grain, based on reports in the literature. It is not clear if they are adequate for the maximum production of boot stage forage.

Most of the tissue P research information available relates early season P concentrations to grain yield. There is much less information on the plant P concentrations necessary for maximizing vegetative growth forage production.

It is not unusual in P research with small grains to measure early season differences in vegetative growth that are not evident in the grain harvested. Early season P availability is reduced by cooler soil temperatures. By maturity soil temperatures increase, and wheat apparently adjusts and compensates effectively for earlier season P limitations.

Since there is limited information on triticale P concentrations associated with maximum boot stage forage production, we initiated a study at Parma this past fall to develop that information. Both triticale and wheat were fall planted in soils treated in fall 2002 with variable manure or compost rates that resulted in soil test P ranging from 10 to 60 ppm in late summer 2004. A sugarbeet (2003) and wheat (2004) crop were harvested since the manure and compost applications.

Triticale and wheat dry weight and nutrient concentrations will be measured at stem extension, boot, flowering, and soft dough stages. Dry matter yields will be related to soil test P and forage P

concentration. Grain yields will also be measured. The research is supported by a Cooperative Extension Critical Issues grant.

## New Publications

**Nitrogen Management for Hard Wheat Protein Enhancement**, PNW Extension Bulletin 578, is a new publication. For the first time in the PNW there is a publication that covers in depth the issues and principles of managing nitrogen for increasing hard wheat protein. It was prepared by UI, OSU, WSU, and MSU faculty.

This publication is available on-line for viewing or downloading at

<http://info.ag.uidaho.edu/PDF/PNW/PNW0578.pdf>.

Original hard copies can be ordered from Ag Publications at the same website.

## Southern Idaho Wheat Quality

You may have seen the summary of the 2004 Harvest U.S. Pacific Northwest - Soft Wheat Quality Report sponsored in part by the **Idaho Wheat Commission**. The Pacific Northwest was divided into 6 production zones including the Southeast zone which includes all of southern Idaho (western and eastern Idaho). The summary includes averages over the last two or three years.

Our soft wheat quality from southern Idaho was pretty much in line with other production zones, with some exceptions. Our wheat was drier (9.1%) than most of the wheat in central and western Oregon (10.4%) and western Washington (11.6%). Our soft wheat also ranked the lowest in hardness which is desirable for most soft wheat uses.

There were two parameters that we needn't be particularly proud of; one we can control, the other we probably can't. Southern Idaho averaged the highest dockage (0.9%) of any zone. We also had the highest average kernel ash (1.57%) and flour ash content (0.45%) which is likely a function of our preponderance of irrigated production.

Our soft white wheat wasn't the highest in flour protein (8.7%) but it was higher than in some other areas that ranged from 7.2 to 8.5%. Despite the protein values, cookie diameter for our wheat ranked the highest of all areas. This may in part reflect the contribution of high quality Brundage

winter wheat, and Treasure spring wheat to the variety mix in southern Idaho.

The report overall shows that southern Idaho irrigated production has good quality. This should put us in a favorable position to market our production to domestic and foreign customers.

## Hard White Wheat

There has been considerable industry interest of late in the marketing of hard white wheat, given the eroding market share in several traditional soft white export markets. The advantage of hard whites over soft whites is that they produce a better noodle.

PNW Wheat Commissions have discussed hard whites for some time now and what might be needed to market more PNW hard white wheat so as to better compete with Australia, and preserve or increase our market share. They have supported the development of new varieties.

Breeders, both public and private, have responded with releases of new hard white varieties to meet the new demand. Spring varieties include ID 377s, Winsome, ML 455, Pristine, Lolo, Macon, and Otis. Winter varieties include Ivory, Gary, Golden Spike, and New Frontier. Many of these have been evaluated in Cooperative Extension trials throughout the state.

Performance of some of the hard whites in relation to soft whites in the Treasure Valley is shown in Table 1. The hard whites were as productive as the best soft whites that we have available. There is certainly no yield penalty for growing hard whites. This differs somewhat from hard reds, which typically average 5% lower yield than soft whites.

Protein of the hard whites are higher than the soft whites as we'd expect. One of the frustrating issues irrigated hard red spring producers have faced is the lower than desired protein levels. With hard white springs, the protein bar is more comparable to hard red winter, so it should be easier to produce without the risk of low protein discounts.

Hard white protein in the table above was gained without any special nitrogen treatment. Irrigated hard white production may in fact require

Table 1. Hard White and Soft White Spring Wheat Performance in the Treasure Valley over sites and years.

Variety	Yield bu/A	Protein %	Test Weight lb/bu	Height in.	Lodged %
1999-04 (18 site years)					
<i>Soft Whites</i>					
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
<i>Hard Whites</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					

N management similar to hard reds to consistently reach 12-13% protein.

Hard white wheat production is actually subsidized in the farm bill by means of an incentive payment through the 2005 marketing year. The incentive isn't much for irrigated production in that it is capped at \$14 per acre. There is no protein requirement for the incentive payment.

If there is no yield penalty, and higher prices are available, why is hard white production in western Idaho so scarce? Western Idaho producers have limited opportunities to market hard white wheat locally. Eastern Idaho has the advantage of the Pendleton Flour Mill at Blackfoot, the Utah mills, or elevators willing to segregate. There are more elevators in the Magic Valley eastward with more experience segregating different market classes.

The USDA Grain Inspection, Packers, and Stockyards Administration announced changes recently to facilitate hard white wheat marketing. Whereas before, hard white wheat was defined as a "contrasting market class" or CCL in hard red samples, as of May 1, 2006 it will be defined as a "wheat of other classes" or WOCL.

Where all the concern, encouragement, and incentive for hard white production is leading local producers is not clear. If there were clear signals of greater market price advantages it might be different. There are no listed market prices for hard whites in our daily papers. Local elevators might be able to get a Portland price for hard white, but few list them and few if any currently handle hard whites since there is so limited local production. There is no hard white option trading.

In any event, we will continue to evaluate promising new hard whites in our trials. Those comparisons should be useful for producers if and when the financial incentives are clear to encourage hard white production.

## Acknowledgement

The **Idaho Wheat Commission** has awarded a grant of \$3000 to subsidize this newsletter. We are pleased to acknowledge their support for this Cooperative Extension educational project.

## 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 [bradb@uidaho.edu](mailto:bradb@uidaho.edu). The advantage for us? 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. If you have suggestions for the website send them to me at [bradb@uidaho.edu](mailto:bradb@uidaho.edu).

COOPERATIVE EXTENSION SERVICE  
Parma Research & Extension Center  
29603 U of I Lane  
Parma ID 83660

NONPROFIT  
ORGANIZATION  
US POSTAGE PAID  
PARMA ID  
Permit No. 4

AN EQUAL OPPORTUNITY EMPLOYER

Address Service Requested  
Please Forward