

California Wheat

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Weekly Wheat Bulletin

Date: March 22, 2007 Issue# 10

*The Weekly Wheat Bulletin is designed to share quick, informal and reliable information about the state's wheat crop and disease conditions. Comments forwarded by Thursday morning of each week will be posted in the Bulletin for distribution Thursday evening. Archived copies of the 2007 Wheat Bulletin may be accessed on the California Wheat Commission website:
www.californiawheat.org*

Comments:

3-20-07 - "With the warm weather wheat is looking well. Most irrigated areas are looking good. Several irrigated areas are showing severe water stress resulting in stunted wheat and will result in yield losses. Our dryland region has suffered severely.

We have one area in S. Kings County with a combination of Osprey and freeze damage. In general, Osprey treated wheat recovered well applied a weak or 2 after the freeze in January, but several wheat fields treated in December with Osprey were just recovering from the temporary injury typical of Osprey, when they were hit hard by the freeze. These early applied fields were severely injured resulting in dead tillers in some cases and mostly secondary tillers

making up the crop. This I expect will result in delayed maturity and yield loss. We saw somewhat similar symptoms several years ago with Hoelon during extreme cold and wet conditions.



Field sprayed with Osprey and hit by the freeze. Photo taken 2 months after application.

We are also having a frustrating experience this season with Shark herbicide applications on several fields. In some areas this resulted in very poor control of fiddleneck and other broadleaves and in some areas more crop injury than usual. I am wondering if perhaps some of this is associated with high temperatures and higher rates of UN-32 mixed with Shark at the time of application where more injury was seen.

Currently I am not seeing any stripe rust pustules but am seeing some flag leaves (yellow and spotting) showing an indication that it is fighting off some infection. With warm dry weather mostly

ahead I expect growers to wait longer to see if a fungicide is need this season.”

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3-21-07 – “The cold temperatures in January may be responsible for lower over-winter survival of the stripe rust pathogen and absence (so far) of new infections this season. See the forecast from Dr. Chen below.”

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Stripe Rust Forecast for the Pacific Northwest and Current Situations in the US

Xianming Chen,
March 20, 2007

Based on our analysis of the weather data in December 2006 and January 2007 using forecast models for stripe rust in the Pacific Northwest, we predict a light to moderate level of stripe rust in 2007. The model analysis resulted in a disease severity level value of “6” out of the “0” (no rust) to “9” (>99% rust) scale. A value of 6 indicates that stripe rust may reach 61 to 80% at the flowering stage of susceptible winter wheat

varieties. This prediction is much lower than those for the last 5 years and equivalent to those for 2000 and 2001.

The forecast was solely based on the winter temperatures. The cold January temperatures, which were much lower than normal, could reduce the rust survival, resulting in a late start of rust development.

On March 16, we conducted a field survey in the Walla Walla and Horse Heaven Hills areas in southeastern Washington, where stripe rust usually shows up first in the eastern Pacific Northwest. We did not observe any stripe rust as we expected based on the forecast model. Most winter wheat fields had quite uniform crops ranging from stage 1 to 4 in the Feeks growth scale.

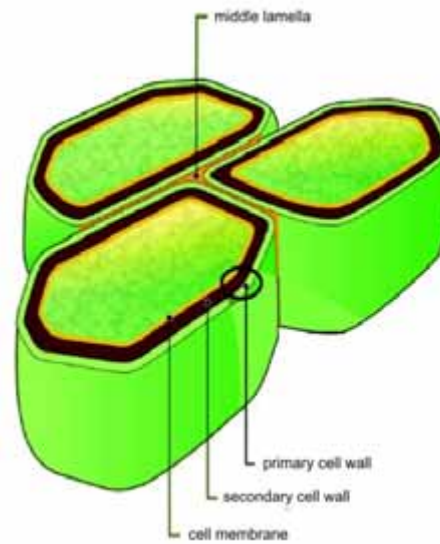
Because stripe rust has not been reported in the major wheat-growing areas in the eastern PNW and rust is predicted to occur late, early application of fungicides mixed with herbicides is not recommended. Growers in the central and southeastern areas in Washington and adjacent regions in Oregon and Idaho may start to check their winter wheat fields for stripe rust in mid to late April. Growers in eastern Washington and northern Idaho may check their fields from mid May.

Based on Dr. Lee Jackson, stripe rust has not been observed in central California, indicating that stripe rust may be much later than last year.

Stripe rust has been reported in commercial wheat fields in Louisiana and Arkansas. By late last week, stripe rust had not been found in Texas and Oklahoma.

More Comments:

3-22-07 – “During the last week I have found only a small amount of old stripe rust injury from previous weeks in wheat fields in Tehama, Glenn & Butte counties. This injury consisted of small dead/yellow areas in stripes and some scattered yellow flecking, probably from a resistance reaction. At this time, these levels are well below the levels we have been treating our trials at in previous years. Most fields in the northern Sacramento Valley will need to be checked closely for wheat stripe rust symptoms over the next 2-3 weeks.” - *Doug Munier, Glenn County Farm Advisor*



The Plant Cell Wall

On-going Wheat Research:

Series (3/5) – USDA Agriculture Research Service, Western Regional Research Center, Albany, CA.

Attached to this bulletin is a summary of the Biofuels Research Projects at the Projects at the USDA-ARS Western Regional Research Center Plant Gene Expression Center Albany, CA

An excerpt of that attachment follows:

Converting Straw to Biofuels: “The Plant Cell Wall Initiative”

In the next decade, the only way to meet our nation’s targets for renewable fuels is to convert ag-derived cellulose from plants into ethanol and other fuels. The “**Plant Cell Wall Initiative**” and Bioenergy programs in Albany provide a wide array of biomass-to-biofuels research that will enable us to meet biofuels needs.

Research Groups under the “Plant Cell Wall Initiative”

- Bioproduct Chemistry & Eng. Dr. William Orts orts@pw.usda.gov 510-559-5730
- Plant Gene Expression Center Dr. Sarah Hake maizesh@nature.berkeley.edu 510-559-5907
- Genomics & Gene Discovery Dr. Olin Anderson oanderson@pw.usda.gov 510-559-5773
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