



## Weekly Wheat Bulletin

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*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](http://www.californiawheat.org)*

### **Special Report:**

#### **Treat or not to Treat for Wheat Stripe Rust**

Jerry Schmierer, Doug Munier, Kent Brittan & Lee Jackson

Extensive testing of fungicides over the last four years by University of California Cooperative Extension has shown on average, a 35% yield difference between treated and non-treated plots when stripe rust is present at the time of fungicide application in the Sacramento Valley. This has occurred on all varieties susceptible to stripe rust.

Although there has been no sign of wheat stripe rust so far in 2007, unlike the previous four years, the disease may still appear and cause damage. Only time will tell if wheat stripe rust will appear this year and infect the previously resistant but now susceptible varieties and/or the newer stripe rust resistant wheat varieties,

The following three tables and one figure show results of fungicide evaluation tests for all of the fungicides tested (Table 1), for different application rates (Figure 1), timed either early, just after flag leaf emergence, or late, just before flowering (Table 2), and yield responses averaged over four years (Table 3). A single fungicide application increased yields an average of 35% compared to no fungicide.

So any fungicide listed in Table 1, at any tested rate and at any tested timing, gave the same significant yield response. In addition to the yield response, bushel weights were increased an average of 3.7 pounds per bushel. These results are based on over 450 individually treated and harvested plots over four years in the Sacramento Valley.

**Treat or not to Treat for Wheat Stripe Rust cont....**

Table 1: Wheat yield (as % of non-treated) response to different fungicides.

<b>Fungicide</b>	<b>All Timings Yield (% of non-treated)</b>
Headline	140
Quilt	139
Stratego	133
Quadris	133
Tilt	130
LSD <sub>.05</sub>	NS

Figure 1: Wheat yield response (no significant difference) to different rates of fungicides.

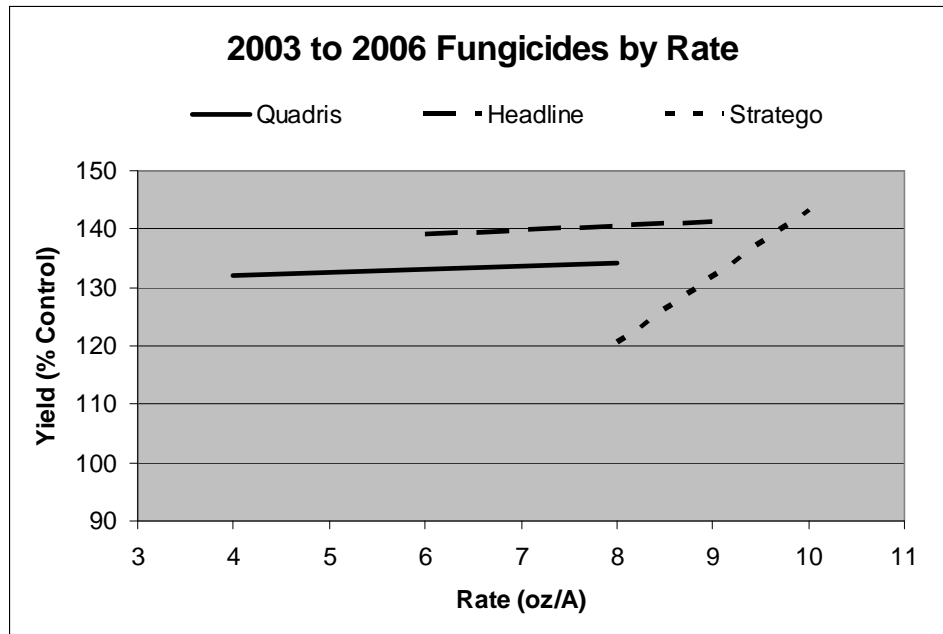


Table 2: Wheat yield (as % of non-treated) response to fungicide timing.

<b>Fungicide</b>	<b>Early (Feeks 8.0)</b>	<b>Later (Feeks 10.5)</b>	<b>LSD<sub>.05</sub></b>
<b>Quadris</b>	132.4	133.4	NS
<b>Headline</b>	140.3	138.6	NS

## Treat or not to Treat for Wheat Stripe Rust cont....

Table 3: Wheat yield (as % of non-treated) response by year.

Year	All Fungicide Yields (% non-treated)
2006	166
2005	137
2004	103
2003	135
<b>2003-06</b>	<b>135</b>
LSD <sub>.05</sub>	13

### Know Your Wheat Diseases:

From: Small Grain Production Manual, Part 6: Pest Management of Small Grains – Diseases, University of California

Agriculture and Natural Resources,  
Publication 8169.  
<http://www.ipm.ucdavis.edu/PMG/r730100611.html>

### Stripe Rust:



**The stripes of stripe rust are made up of many tiny pustules arranged between the leaf veins.**

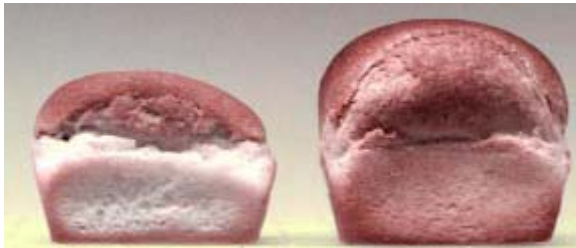
Photo by Jack Kelly Clark.

### On-going Wheat Research:

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Telephone (530) 661-1292, Fax (530) 661-1332, [www.californiawheat.org](http://www.californiawheat.org)

Series (2/5) – USDA Agriculture  
Research Service, Western Regional  
Research Center, Albany, CA.

**Molecular Analysis of Effects of  
Environment on Wheat Quality and  
Allergenic Potential.**



This project investigates how high temperatures during grain development influence flour quality and allergenicity. Using tools of molecular biology, protein chemistry and proteomics, the project goals are to determine the basis for changes in flour protein composition and quality that result from exposure to high temperatures during wheat grain development and to identify and characterize wheat proteins responsible for human sensitivities and allergies and develop methods to detect allergenic proteins in downstream products.

For further information contact:

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Or check out more on the ARS website:

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=53-25-32-00](http://www.ars.usda.gov/main/site_main.htm?modecode=53-25-32-00)

.....Next week...biofuels research....

**Resources:**

**Soils to Go** - The “Soils to Go” Geographic Information System (GIS) is a compilation of publicly available spatial data (maps) and a methodology for interaction with those maps. The purpose of “Soils to Go” is to provide geographic landscape information for the general public use. This website includes information on soil type, slope, acreage, boundaries, roadways, flood plains, water districts and more. Website address:

<http://arcims.gis.uckac.edu/soilstogo/>