Soybean Rust - 2008 in Review

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Abstract
While 2008 will be known for its early season rains, this did not translate into soybean rust arriving in Iowa. Soybean rust was reported in Alabama, Florida, Louisiana, Mississippi, Texas and Mexico in January. However, dry weather during early spring in southern Texas and Gulf Coast states helped keep soybean rust from building up inoculum and spreading early in the season. Since January 2008, soybean rust has been reported in 396 counties in the U.S. and Mexico, which is more than any previous year (Table 1). However, many of these finds were late in the season, more so than in previous years.

Keywords
Plant Pathology

Disciplines
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Soybean Rust - 2008 in Review

Daren Mueller, Department of Plant Pathology

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<table>
<thead>
<tr>
<th>Year</th>
<th>Number of counties where soybean rust was reported By August 15</th>
<th>End of year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>0</td>
<td>96</td>
</tr>
<tr>
<td>2005</td>
<td>32</td>
<td>138</td>
</tr>
<tr>
<td>2006</td>
<td>37</td>
<td>275</td>
</tr>
<tr>
<td>2007</td>
<td>74</td>
<td>340</td>
</tr>
<tr>
<td>2008</td>
<td>33</td>
<td>396</td>
</tr>
</tbody>
</table>

*Typically when soybeans in Iowa reach growth stage R5

Another bullet dodged

So what happened? Why did soybean rust once again fail to infect soybeans and cause yield loss in Iowa? Soybean rust overwintered in the right (or wrong, depending on your perspective) places and we had plenty of rain. There were hurricanes and other storm systems coupled with cooler-than-normal temperatures for portions of the summer that provided ideal conditions for disease establishment and development. We even had a late-planted crop and a season that lagged about two to three weeks behind, extending the vulnerable period for yield loss into early September.

Despite all of these factors that increased our chances for getting soybean rust, we didn’t. In most of the places where the pathogen overwintered, it petered out as spring became summer. Disease did not spread or completely disappeared in the overwintering sites in Alabama, Mississippi, Louisiana and Texas. The infected crops in Mexico were harvested. Bottom line, the inoculum did not build up in the south like it did in 2007. So all of the storms that would have been major problems in 2007 were not, as there was little to no inoculum to transport.
Soybean rust on leaves.

Website and Fast Track System Overhauled
The Iowa State University Soybean Rust Web site was redesigned in 2008. The new site highlights weekly messages written throughout the growing season that provide up-to-date information on soybean rust. Individuals can sign up to have these reports e-mailed to them. The website also provides the basics and management of soybean rust, as well as fast facts about soybean rust.

In 2004, the Soybean Rust Fast Track System was put in place to ensure rapid identification of soybean rust through first detectors. Since then, more than 700 individuals were trained as first detectors. One of the main responsibilities of the first detectors was to screen samples suspected of being infected with soybean rust that were clearly infected with other foliar diseases, not rust. However, because of the difficulty in identifying soybean rust in the field, the function of the Fast Track System was changed. First detectors no longer are asked to filter out samples with other soybean diseases. The new role of first detectors is to serve as a conduit to get samples submitted properly to Iowa State University Plant and Insect Diagnostic Clinic.

Update on fungicide labels
Only two Section 18 labeled foliar fungicides (PunchTM and TopguardTM) remain for soybean rust treatment in Iowa and full registration decisions are expected in 2009 for these products. Alto®, CarambaTM, Folicur®, OriusTM, Quadris® Xtra and UppercutTM had Section 18 labels for soybean rust and received a full label for soybean in 2008. ProlineTM did not have a Section 18, but was registered for use on soybean in 2008. In 2009, the active ingredient in ProlineTM is expected to be combined with trifloxystrobin and marketed as Stratego Pro.

Daren Mueller is an extension specialist with responsibilities in the Corn and Soybean Initiative.

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