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Soybean Rust Update

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As reported earlier this week, soybean rust was found for the first time in Oklahoma on a sentinel plot sample taken on 13 July from Bryan Co. (south of Bennington) on 1 of 100 leaves sampled, an incidence of 1%. This is the first find in Oklahoma and it was confirmed by USDA/APHIS. We will now be able to report new rust finds on the soybean rust website (<http://www.sbrusa.net/>) on a timelier basis. I visited soybean fields and sentinel plots in central and southern Oklahoma this week. By 23 July, rust increased to an incidence of about 20% of sampled leaves in the Bryan Co. sentinel plot. On 23 July, rust was also found in a nearby commercial field at an incidence level of 10%. In adjacent Choctaw Co. rust was found in a commercial field (near Frogville) at an incidence of 1% on 24 July. Rust has not been found in the sentinel plot, kudzu, and in other commercial fields in Choctaw Co. Positive finds thus far have been in soybeans at the R4 to R5 growth stages. Sentinel plots in Atoka, Ottawa, Payne, Sequoyah, Tulsa, and Washington Counties remain negative for rust this week. Rust also was not found in observational samples taken from commercial fields in Garvin, Pottawatomie, and Le Flore Counties. While rains have subsided, conditions remain favorable for rust development this week with moderate daytime temperatures, high humidity, and nighttime dews.

I have learned a lot in my recent visits. One thing I have definitely learned is that rust is very difficult to identify in the field. Other diseases such as downy mildew, brown spot, bacterial blight, frog-eye leaf spot, and possibly ozone injury are widespread and make rust recognition in the field difficult to impossible. Rust is relatively easy to recognize with a dissecting microscope at 100X. Leaves that appear healthy can have rust while others that surely appear to have rust do not. Scouting to detect rust in the early stages of an epidemic when levels are low will be of little value. When rust can be readily found in the field, it's probably too late to treat. Growers well north of affected areas should wait to learn about how the rust develops in sentinel plots as the season progresses.

My current recommendations are that fungicide sprays are recommended to protect soybeans from rust in affected counties and nearby counties to the north when soybeans are in the R1 to R5 growth stages. The decision to spray at late R5 is a judgment call. In my opinion, June and July planted soybeans will be the most vulnerable to rust as it builds up in the area. However these should not be sprayed until they reach appropriate growth stages. Hopefully growers will be able to wait until R3 to R4 and get by with a single application. I still suspect that it will not be economically feasible to treat fields unless yield potential is at least 30 to 40 bushels per acre.

There are numerous fungicides registered in Oklahoma for use on soybeans to control rust either with a full label or through emergency exemption registration (Section 18). The most effective are either strobilurins or triazoles, or combinations of these two fungicide classes. The following is an updated list of suggested fungicides for soybean rust control:

<u>Chemical names</u>	<u>Trade names</u>
<u>Strobilurins</u>	
pyraclostrobin	Headline
<u>Triazoles*</u>	
cyproconazole	Alto
flusilazole	Punch
flutriafol	Topguard
metconazole	Caramba
myclobutanil	Laredo
propiconazole	Tilt, Bumper, PropiMax
tebuconazole	Folicur, Orius, UpperCut
tetraconazole	Domark
<u>Combinations*</u>	
azoxystrobin + cyproconazole	Quadris Xtra
azoxystrobin + propiconazole	Quilt
trifloxystrobin + propiconazole	Stratego
pyraclostrobin + propiconazole	Headline SBR

* A surfactant, spreader/sticker, or other adjuvant is not recommended because excessive leaf injury may result.



Fig. 1. Rust positive sentinel plot in Bryan Co.

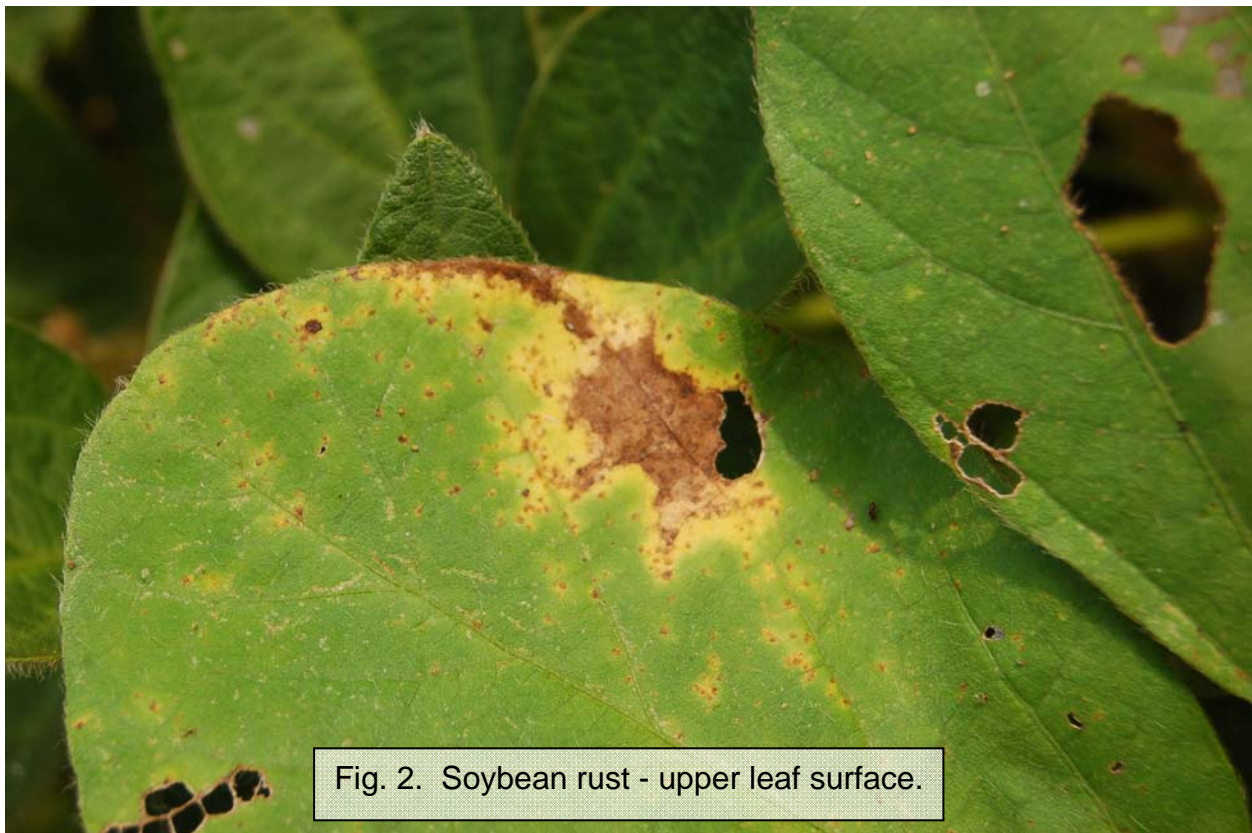
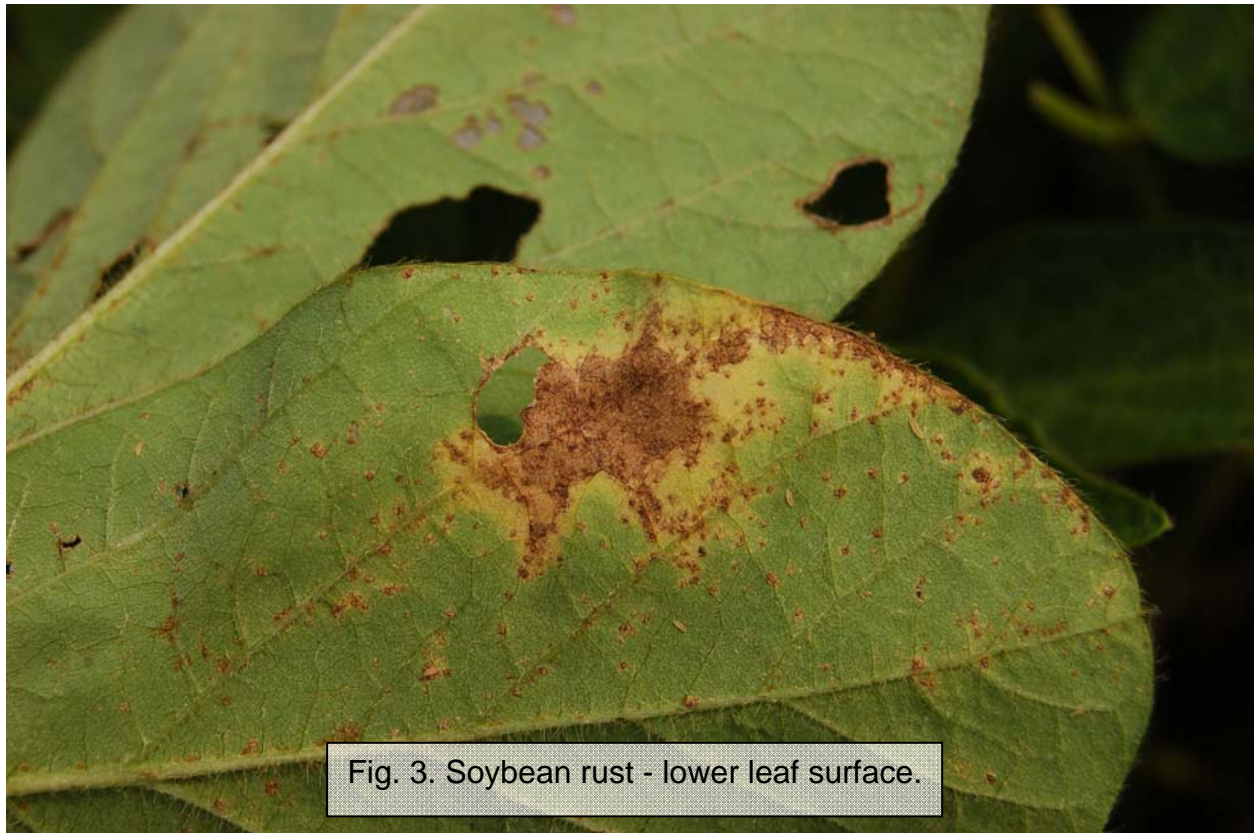


Fig. 2. Soybean rust - upper leaf surface.



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