



PLANT DISEASE AND INSECT ADVISORY

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Oklahoma State University
127 Noble Research Center
Stillwater, OK 74078



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!!!!!!!!!!!!!! Soybean Rust Alert !!!!!!!!!!!!!!! **John Damicone, Extension Plant Pathologist**

Soybean rust was identified for the first time in Oklahoma on 20 July in a sentinel plot sample taken in Bryan Co. on 13 July. It was found on one leaf out of 100 sampled. Just a day or two earlier, Tom Isakeit, Texas A&M Extension Plant Pathologist, found rust to be widespread in commercial soybean fields around the Dallas, TX area. We have sent our sample in for conformation with APHIS. Following confirmation, we will be able to mark Bryan Co. as positive for rust on the soybean rust website (<http://www.sbrusa.net/>). The sample was from MG 3.9 soybeans planted in June, probably at or near the R3 growth stage. Based on the Texas situation, experimental rust forecasts from X.B. Yang at Iowa State University, the old age of the infection observed in the positive sample, and the prolonged favorable weather for rust we experienced in June and July, I suspect that rust is present in other areas of southern and central Oklahoma. I will be making a tour this week to get a better handle on the rust situation.



I recommend soybean growers south of I-40 and east state highway 81 consider spraying a fungicide for rust where appropriate. This recommendation may expand to other parts of the state as the season progresses. There are two main factors to consider in making a spray decision. The first is yield potential. This factor is especially important this year where heavy rains have damaged fields. I suspect that it is not economically feasible to

treat fields unless yield potential is at least 30 to 40 bushels per acre. The second factor is the growth stage of the soybeans. Fields should not be sprayed until R1 (first bloom) at the earliest and R5 (full pod) at the latest. Sprays made before R1 and after

R5 are not likely to provide a yield benefit. Fields sprayed before R3 (beginning pod) will likely require a second application.

Growth stages of soybeans are as follows:

<u>Stage</u>	<u>Name</u>	<u>Description</u>
V1	first node	first node with fully expanded leaves
V2	2 nd node	two nodes on main stem with fully expanded leaves
V5	5 th nodes	five nodes with fully expanded leaves
Vn	n nodes	n=total number of nodes with fully expanded leaves (note: vegetative stages continue until first flowering, some varieties may develop as many as 20 nodes)
R1	beginning flower	open flower at any node on the main stem
R2	full flower	open flower at one of the two uppermost nodes on the main stem with a fully expanded leaf
R3	beginning pod	pod 5 mm (3/16 inch) long at one of four uppermost nodes on the main stem with a fully expanded leaf
R4	full pod	pod 3/4 inch long at one of the four uppermost nodes on the main stem with a fully expanded leaf
R5	beginning seed	seed 1/8 inch long in a pod at one of the four uppermost nodes on the main stem with a fully expanded leaf
R6	full seed	pod containing a green seed that fills the pod cavity at one of the four uppermost nodes on the main stem with a fully expanded leaf
R7	beginning maturity	one normal pod on the main stem that has reached its mature pod color
R8	full maturity	95% of the pods have reached their mature pod color

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. Use the lowest labeled rate when making two applications or the higher rate when making a single application. The following are 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
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

Availability and price will be important factors in selecting fungicides for soybean rust. I do not recommend use of a spray adjuvant, particularly with some of the triazoles, because of the potential for increasing levels of leaf injury. I will learn more this week and may revise these recommendations as the need arises.

Dr. Richard Grantham
 Director, Plant Disease and Insect Diagnostic Laboratory

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