

Extension Responds: Soybean Rust

Recommendations for growers for the 2005 season

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Soybean rust was confirmed in the United States the week of November 8th. Spores of the soybean rust pathogen, the fungus *Phakopsora pachyrhizi*, were detected on late planted soybeans in Louisiana and confirmed by DNA based technology. Spores of the pathogen are believed to have been introduced with winds generated by hurricane Ivan. It is not absolutely known whether the soybean rust pathogen has infected the perennial hosts it will need to survive the winter months in the absence of a soybean crop. Kudzu, a likely host, is common in Louisiana and other southern states, thus conventional wisdom says it is here to stay. Also, prevalent wind patterns in the spring could potentially carry rust spores from southern to northern states in a couple of days. Consequently, if soybean rust is indeed entrenched in the southern states, it is prudent to assume the possibility of seeing the disease in WI within a season or two.

What to do next?

In the immediate future, growers might wonder about soybean variety options for 2005. Unfortunately, despite intensive screening by USDA in the last few years, none of the soybean varieties currently grown in the U.S. are completely resistant to soybean rust. Consequently, rust resistance should not be a criterion for selecting soybean varieties for 2005. Although all soybean varieties are believed to be susceptible, it seems that there are always pleasant surprises when new diseases emerge. Investigators in both the public and private sector should be prepared to evaluate as many soybean varieties as possible for response to soybean rust. Although complete resistance is likely present, partially resistant or tolerant varieties can be an important component of a management program.

Although discovered late in the year in 2004, some growers may be concerned that the rust pathogen was carried to Wisconsin and caused undetected infection. And if so, deep burial of soybean residue may be viewed as a prudent manage option. Current information indicates that the soybean rust pathogen will not survive on dead soybean debris, thus soybean residue does not serve as a source of inoculum in 2005. There is no known reason for growers to change their tillage system due to the soybean rust treat in 2005. Spores of the soybean rust pathogen will have to be reintroduced each year from southern sources in order for rust to develop. Thus, crop rotation will also not be a management option.

This winter, soybean rust will be a primary target for educational programs delivered by University of Wisconsin-Extension faculty and staff. Prior to the discovery of soybean rust, this topic was already on the agenda for several meetings. The Wisconsin Corn-Soy Expo and the Wisconsin Fertilizer, Aglime, and Pest Management Conference are scheduled for soybean rust topics, plus watch for special workshops and teleconferences as we develop an education plan.

Disease management options for 2005 might include anticipating planting date and using fungicides. Based on the track record of other rust diseases of annual crops, early planting of soybean may become an important component of a soybean rust management plan. It is

“speculated” that early planted soybean may escape high severity of soybean rust. Fungicides will be available for management of soybean rust in 2005. Several products are registered and at least one more is believed to be fully registered by the 2005 growing season. A section 18 emergency exemption request is being made for several other fungicide products that have shown promise in other countries. Monitoring of the regional spread of soybean rust is critical to trigger preventive fungicide applications. Early and accurate diagnosis of soybean rust is critical for the effective use of protective and curative fungicides. Also, the principles of applying fungicides can be very different from those for applying herbicides. Educational activities will spend a significant amount of time on diagnosis of soybean rust.

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