Pest e-alerts

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Fall Infection of Black Leg on Winter Canola

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Black leg disease of winter canola is caused by the fungus *Leptosphaeria maculans*. The fungus survives in between canola crops on old-crop stubble, where it undergoes sexual recombination and produces airborne spores that infect canola leaves causing leaf spot (Fig 1). The fungus then progresses (somehow) through the leaf petiole to the base of the plant where it causes a stem canker that girdles stems as the canola matures in the spring. The degree of stem girdling is related to yield loss. Early infections in the fall are thought to lead to more severe cankers and disease development compared to when leaf spot does not develop until spring.

Fig 1. Leaf spot phase of black leg disease on canola. The black specks are fruiting bodies of the fungus.

I observed leaf spot this week in one of two fields planted as part of a canola research trial (Fig. 2). The field with leaf spot was large (knee high) while the field without leaf spot had smaller plants. Both fields were planted within a week and were inoculated with stubble collected in June from canola fields with black leg. This is the second consecutive year in which we have observed fall infections of black leg. Hot and dry conditions during the summers of 2011 and 2012 probably retarded development of the fungus on the stubble and delayed the appearance of leaf spot until the spring. In fungicide trials conducted during these years, statistically significant yield responses only occurred in the 2014 trial that had fall infection in 2013. It will be interesting to see if the same trend occurs and allows us to make more definitive fungicide recommendations on canola.

Fig 2. Leaf spot on winter canola in Fall 2014.

Soybean Rust Found in Oklahoma for the First Time in 5 Years

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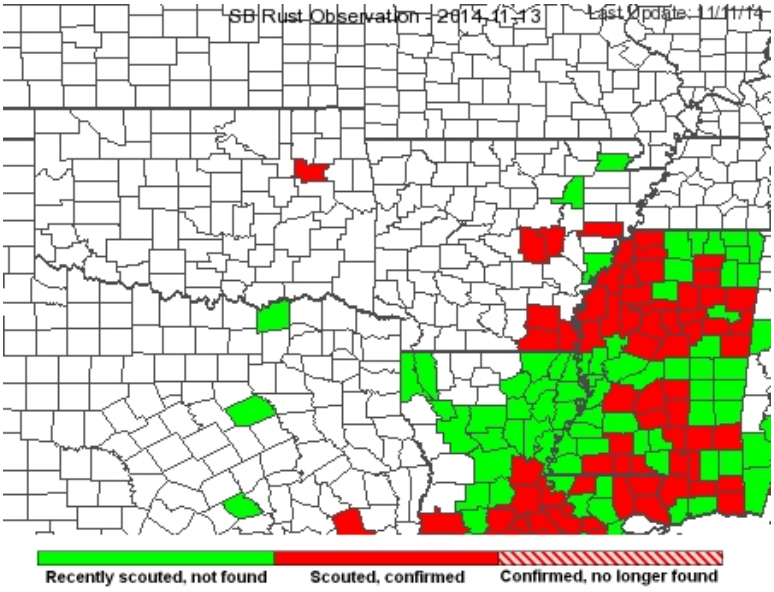
Soybean rust is an invasive plant disease that caused considerable concern in the soybean industry when it was first discovered in the US in 2004. The fungus is an obligate parasite that can only survive on living plants. As a result, it does not survive where freezing temperatures kill vegetation and it must move from south to north from tropical and sub-tropical areas each year on successively planted crops to reach Oklahoma. Because the disease is difficult to identify, there has been a coordinated effort to monitor the progress of soybean rust so that

growers can be warned about the need for fungicide application to control the disease. We have been monitoring for soybean rust in Oklahoma at some level each year since 2005, generally from June through Oct. This year we did not find rust at two monitoring sites in southeastern Oklahoma, but instead found it on samples collected in Wagoner Co. and sent to the Oklahoma Plant Disease and Insect Diagnostic Laboratory last week. The plants were from the perimeter of fields with delayed maturity. Obviously the late appearance of soybean rust has little economic importance, but it is of biological interest because there are no other reports of rust within hundreds of miles (http://sbr.ipmpipe.org). This is the first identification of soybean rust in Oklahoma since 2009. The prolonged drought in Texas and Oklahoma has contributed to the lack of rust pressure in recent years.



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

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