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Soybean rust update and outlook

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Abstract

During the last two seasons, we projected that the risk of soybean rust (SBR) was no longer a concern when June ended. This season is different from last year because we received more rain early in the growing season, and the disease progressed much faster in the South than during the last two years. Below is an update on the movement of SBR in the two northward pathways and an outlook for the rest of the growing season.

Keywords

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Soybean rust update and outlook

by X. B. Yang, Department of Plant Pathology, and Zaitao Pan

During the last two seasons, we projected that the risk of soybean rust (SBR) was no longer a concern when June ended. This season is different from last year because we received more rain early in the growing season, and the disease progressed much faster in the South than during the last two years. Below is an update on the movement of SBR in the two northward pathways and an outlook for the rest of the growing season.

Eastern region and Mississippi River pathway

For the southeastern region, SBR is progressing slowly due to the dry conditions from spring into early summer. The spores from that region will no longer be a threat to soybean production areas west of the Appalachian Mountains because of prevailing winds this summer.

In Louisiana, since the detection of soybean rust in the central part of the state (a month earlier than last year), no new northward development has been reported. Into July, SBR in Louisiana will not be a concern as a source of spore production because the weather will be too hot for soybean rust development. However, there is a good possibility that spores were blown to regions north of Louisiana before July as suggested by our computer models.

Western pathway

As you may have heard, SBR was found in northern Texas in several counties last week. It was said to be widespread in northern Texas, based on their Web reports, and fungicide application has been recommended in that area. During Monday's national teleconference, more SBR was reported in northern Texas, and the disease also was found in southwestern Arkansas in the area next to northeastern Texas. The possibility of SBR occurrence in northern Texas had been predicted by computer models for the week after May 19. If the spores landed in that timeframe, it took a month for the disease to develop to detectable levels and a few more weeks to achieve a widespread level.

Computer prediction maps also suggested that spore clouds had spread to Oklahoma in early June, and there were plenty of rains from spring to early summer, setting the stage for soybean rust development.

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The occurrence of soybean rust in northern Texas increases the possibility for viable spores to spread to northern production regions. Computer models suggest that soybean rust spores could be blown as far north as central Illinois in August in an effective concentration. It is likely that more soybean rust will be found north of Texas in the western pathway of soybean rust during the remainder of the season. An increase in disease intensity in this pathway should increase the possibility of spore movement to Iowa, especially to southeastern Iowa. We need to watch the situation closely because favorable conditions are predicted in that region for the next 30 days.

With the current information, the risk of having an SBR outbreak in Iowa severe enough to reduce soybean yield is low to moderate for the rest of the growing season, as suggested by our latest computer predictions. Average precipitation has been predicted for Iowa and surrounding states for the next 30 days by the National Oceanic and Atmospheric Administration Climate Center. Our computer model also predicts that there is less than 40 percent favorability for the occurrence of soybean rust in the next 30 days.

We will continue to monitor the occurrence of SBR in the South and in the western pathway and update our outlook as new developments arise.

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