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Minimize SDS and White Mold Risk to Same Field

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Abstract
Both soybean sudden death syndrome (SDS) and white mold (WM) were wide spread in Iowa during the 2009 season. The simultaneous outbreak of soybean sudden death syndrome and white mold (SDS-WM) had only occurred once previously – in east central Iowa during the 2007 growing season. This season was the first time that the two diseases were wide spread in Iowa. Many growers experienced the occurrence of SDS-WM on the same farm, some in the same field. In one session at the Iowa State University Integrated Crop Management Conference on Dec. 3 in Ames, I polled the group to learn how many people had seen SDS and white mold in the same field in one season. Twenty percent of the people raised their hands. To me this number is alarming. SDS-WM can be used to describe the occurrence of multiple diseases in one season in one field.

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Minimize SDS and White Mold Risk to Same Field

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Both soybean sudden death syndrome (SDS) and white mold (WM) were wide spread in Iowa during the 2009 season. The simultaneous outbreak of soybean sudden death syndrome and white mold (SDS-WM) had only occurred once previously – in east central Iowa during the 2007 growing season. This season was the first time that the two diseases were wide spread in Iowa. Many growers experienced the occurrence of SDS-WM on the same farm, some in the same field. In one session at the Iowa State University Integrated Crop Management Conference on Dec. 3 in Ames, I polled the group to learn how many people had seen SDS and white mold in the same field in one season. Twenty percent of the people raised their hands. To me this number is alarming. SDS-WM can be used to describe the occurrence of multiple diseases in one season in one field.

Why it is a concern? A field infested with both diseases is difficult to manage because 1) few soybean varieties are resistant to both diseases; 2) it makes current cultural practices used to manage the two diseases ineffective (see below); 3) management decisions will be difficult to make because you would not know which disease will occur in the next soybean crop.

When only one disease is a threat in a field, the management of the next soybean crop is doable with current management tools such as tillage, rotation or resistance. When both diseases occur in the same field, it is difficult to use cultural measures. A measurement effective at reducing SDS sometimes enhances WM risk or visa versa. For example: no-tillage practices reduce WM risk but it increase SDS risk; tillage reduces SDS risk but increases white mold risk; a corn-soybean rotation which lowers WM risk would increase the survival of SDS, especially for corn-corn-soybean rotation. (See my recent article in ICM Proceedings).

As the SDS continues to spread across Iowa, the chance that more growers will face the simultaneous occurrence of the two diseases in their farms is likely to increase, especially in northeastern Iowa. The two diseases have similar environmental condition requirements and cultural practices. Outbreaks for each of the two diseases need cool, wet weather conditions. Early planting increases the risk of both diseases. Both diseases are known more prevalent in high fertility soils.

What to do? I have found no clear solutions for this new problem. To manage one of the diseases is not an easy task in and of itself. To manage prevalent outbreaks of two diseases in the same field would be complicated and costly.

If the two diseases already are a problem in your fields/farms, prioritize them according to your farm conditions, although both diseases can badly cut yield. Ability to assess which disease has greater risk in a coming season helps manage immediate risk of the disease with a resistance variety.

If only one disease has been a production problem to you, which should be the case for majority of soybean producers, prevention should be a way to go.

We need to stop the build-up of inoculums levels of these two diseases to prevent the same field outbreaks. Good scouting also helps.

XB Yang is a professor of plant pathology with research and extension responsibilities in soybean diseases. Yang can be reached at (515) 294-8826 or by emailing xbyang@iastate.edu.

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