

Planning for School ...and Next Year's Soybean Crop

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The Fourth of July has come and gone. School supplies are being stocked in local supermarkets. It's hard to believe that summer is almost over, and we need to start getting ready for next year. Now what in the world does that all have to do with soybean disease management! In another month the soybean-growing season will be almost over, and we should be looking ahead to next year.



Figure 1

When it comes to disease management, planting a variety that has resistance or tolerance to disease is one of the most effective tools we can use to reduce disease risk and protect yield. But, among the hundreds of available varieties, how do you choose the right one, or at least narrow down the choice? You must know the disease history of each field.

Some of the most yield-limiting diseases in Iowa start to show up about now. Sudden death syndrome (SDS) has become more and more prevalent in Iowa. This disease is caused by a root pathogen. The characteristic leaf symptoms (Figure 1) are caused by a toxin produced by the fungus in the roots. The risk of SDS is greater in early plantings, no-till fields and compacted areas, since cool, wet conditions associated with these factors increase

the risk of infection soon after planting. The same foliar symptoms, however, can also be an indication of brown stem rot – another disease caused by a root pathogen, that may also reduce yield. It is important to distinguish between SDS and brown stem rot, to ensure you select the appropriate resistant variety. To tell the difference, split the stem of disease plants. If the pith of the diseased plant is brown (Figure 2), brown stem rot is the correct diagnosis. Early on in disease development, browning may only occur at the nodes.



Figure 2

Expect to see some other leaf spots showing up in your fields as well. Some varieties are particularly susceptible to frogeye leaf spot (Figure 3), and yield losses can result. Cercospora leaf blight (Figure 4) is another disease we see each growing season in Iowa. Instead of a distinct spot, Cercospora causes a general bronze-to-red discoloration of the leaves at the top of the canopy. Towards the end of grain fill, particularly if we have a cool period, we may also see powdery mildew on beans (Figure 5). This disease does not usually affect yield since it occurs so late during grain fill.



Figure 3



Figure 4



Figure 5