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INFORMATION

SOYBEAN DISEASE MANAGEMENT FACT SHEET

This is one in a series of fact sheets from the Mississippi Soybean Promotion Board and the soybean checkoff. Each sheet presents a brief overview of a topic important to Mississippi soybean production. More information on each topic can be accessed through the link at the bottom of the sheet. To see other fact sheets, click [here](#).

Diseases can and do cause economic losses in midsouthern US soybean systems. Until the early 2000's, many diseases could only be managed with resistant varieties or with cultural practices that were marginally effective. Fortunately, there are now preventive and/or curative treatment options available for most major diseases of soybeans.

Several important diseases (sudden death syndrome [SDS], stem canker, *Phytophthora* root rot, charcoal rot, seed and seedling diseases) of soybeans have no curative control; i.e., these diseases may be prevented but not cured once present. SDS and stem canker can be managed or avoided by using less-susceptible or resistant varieties, or rotation to a non-host crop.

Damage potential from seed and seedling diseases (caused by numerous fungi that likely comprise a “complex” of fungi that includes but is not limited to *Cercospora*, *Fusarium*, *Phomopsis*, *Pythium*, *Phytophthora*, and *Rhizoctonia*) can be effectively negated by using the proper fungicide seed treatment.

The general recommendation is that the first application of a foliar fungicide to control in-season diseases should be made at R3/R4 even if diseases are not present. Fungicide application during early reproductive development to prevent foliar diseases in soybeans has been proven over the past decade to be an economical management practice in the midsouthern US. However, resistance to some classes of fungicides that have been overused in this practice has developed in some fungal species, which renders their automatic application in the absence of diseases an untenable practice.

Foliar fungicide products should be evaluated for their effectiveness in controlling problematic soybean diseases. Where possible, resistant varieties should

be chosen based on their level of pest tolerance when grown on sites with a known history of a particular disease such as frogeye leaf spot.

Some portion of the losses to problem diseases can be prevented every year if available controls and management options are used. Check available resources for efficacy ratings of fungicides for control of major foliar soybean diseases.

Application of foliar fungicides will result in no or infrequent small yield enhancement when only low levels of foliar diseases are present. Since sound integrated pest management (IPM) practices dictate that pesticides only be applied when the targeted organism is present at a yield-limiting level, then it follows that they should only be applied to soybeans growing in a high-yield environment when diseases are present at perceived yield-limiting levels. The repeated use of currently available fungicides when not needed to control diseases increases the selection pressure on fungal pathogens, and this will hasten resistance development such as that now occurring in frogeye leaf spot.

In the Midsouth, foliar diseases frequently are present at assumed yield-limiting levels. Thus, applying foliar fungicides is a common practice for this region's soybean producers. This practice should entail using a thorough scouting protocol in place of an automatic fungicide application to ensure that the anticipated yield gain from controlling these diseases is worth the possible hastening of resistance development that may occur from their increased frequency of application. Overusing foliar fungicides for limited economic gain is not a prudent long-term strategy for soybean disease management.

Click [here](#) and [here](#) for a detailed discussion of this topic, and [here](#) for the Miss. Soybean Scouting Guide.

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