Soybean Plant Health and Foliar Fungicides

- Applications of foliar fungicides on soybeans can help reduce disease pressure and protect yield potential, especially in wet and humid environmental conditions.
- Fungicide applications may also improve overall health benefits, including longer green leaf retention, increased water efficiency, and increased stress tolerance during flowering and pod fill growth stages.

Protecting Plant Health

Pod set and pod fill are critical periods of development and yield potential in soybeans. Reducing plant stress during these stages is beneficial. While nothing can be done to control the weather, foliar fungicide applications are an option for disease management.

Fungal diseases that may affect soybean include cercospora leaf blight (Cercospora kikuchii), frogeye leaf spot (Cercospora sojina), pod and stem blight (Diaporthe phaseolorum), and anthracnose (Colletotrichum truncatum). All of these diseases are favored by warm and humid or wet conditions.

Disease Identification

Symptoms of cercospora leaf blight and frogeye leaf spot may appear on leaves (Figure 1). Leaf defoliation is of concern with these diseases. Healthy, green plant material is necessary for photosynthesis and converting sugars for pod fill; therefore, it is important to protect leaf tissue.

Disease symptoms are similar for pod and stem blight and anthracnose. Both diseases can be found on stems, petioles, and pods in the early reproductive stages as irregularly-shaped brown blotsches. While neither disease usually causes severe yield loss, it is important to scout and assess overall plant health throughout the reproductive stages.

Fungicides and Diseases

Cercospora leaf blight, frogeye leaf spot, pod and stem blight, and anthracnose are all labeled targets on various commercial fungicides. Deciding whether to spray can be a tough decision and should be based on disease severity and soybean growth stage.

Fungicide applications in soybeans are generally not needed in the early vegetative growth stages (VE through V6). Fungicide applications for late-season diseases are generally made between R3 and R5 (pod development stages). As previously mentioned, the pod set through seed fill stages (R3 through R6) are the most critical period for yield potential. Leaf loss can significantly reduce yield if diseases attack during early seed filling. Spraying fungicides after R6 is generally no longer necessary and not recommended. The length of time foliar fungicides are active ranges from 14 to 21 days.

Fungicide Application Considerations

Spraying fungicides is different than applying herbicides and insecticides. Soybean diseases usually start in the lower canopy and move into the middle, then upper canopy as the crop matures. Therefore, fungicide spray needs to be placed as deep into the canopy as possible. Sprayer reconfiguration may be necessary to obtain good coverage and canopy penetration. Using a spray volume of no less than 15 GPA is important to provide adequate coverage.

Nozzle type, spray pressure, application volume and speed will determine the uniformity of spray deposition and penetration into the canopy. Proper nozzle orientation and overlap is also critical to achieve good spray deposition.

Please contact your local agronomist for more information on soybean plant health and foliar fungicides.

Sources

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For additional agronomic information, please contact your local seed representative.

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