More on Fungicide Application Questions

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Abstract
Near the end of July, a common time for fungicide applications, there are many questions about using fungicides to control soybean diseases. This article responds to questions producers are currently asking about soybean and corn fungicide use.

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More on Fungicide Application Questions

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Near the end of July, a common time for fungicide applications, there are many questions about using fungicides to control soybean diseases. This article responds to questions producers are currently asking about soybean and corn fungicide use.

**What diseases are prevalent in Iowa?** The most common soybean diseases are brown spot, bacterial blights, *Rhizoctonia* root rot, and a few cases of frog eye leaf spot. Soybean rust, which is light in the southern U.S., should not be a concern in Iowa this season.

Regarding corn, common corn rust is found throughout Iowa with one area reporting high incidence levels. Southern corn rust also has been found in southern Iowa but at a low level. There are also reported findings of grey leaf spot.

**When to spray?** If you determine that fungicide use is needed to control soybean diseases, now is the time to spray for many soybean fields. Over the years, we have found that sprays at R3-R4 growth stage provide the highest returns if one application is made.

Because fungicides only protect plants for 2-3 weeks, in a rainy season like this year, one spray will not protect the plants from disease attacks after 3 weeks. For these who mixed a fungicide with the Roundup application, the applications were likely too early to achieve the best control result.

For most growers, sprays after R4 should provide better coverage for the month of August, which should be the time later season foliar diseases develop. However, we do not encourage people to spray after R5 or later because the plants grow high and dense, which increases the damage done by the tractor. Tractor damage to plants may minimize the gains from disease protection.

It is important to note that fungicides have no effect on bacterial blight.

**How to differentiate bacterial blight from brown spot?** I have received more reports of bacterial blight this season than any other. Abundant rainfall promotes the development of this disease which is spread by splashing rain and favors cool temperatures. One of the common questions is how to tell the difference between bacterial blight and brown spot. This is an important question because symptoms of the two diseases are similar, and the fungicides have no effects on bacterial blight.

Brown spot starts in the bottom leaves. The lesions are numerous irregular, dark brown spots on both upper and lower leaf surfaces. Adjacent lesions frequently merge to form irregularly shaped blotches.

Bacterial blight is found in the upper portion of the plants, mostly in young and tender leaves. Lesions of bacterial blight have a yellow halo that is lacking in brown spot. Infected leaves often have ridged appearance, unique for
bacterial blight. When temperatures get hotter and leaves become old in early August, severity of bacterial blight should decrease. But the disease may reemerge later in the summer when the temperature gets cooler again.

Bacterial blight (left) and brown spot (right).

There is no measure to control bacterial blight except for selecting a better variety, one less susceptible to bacterial blight. If you find high levels of bacterial blight this season, you should not use the same variety for next soybean.

**Which fungicides to use?** It is natural that a company representative will promote his or her own products. Basically, almost all fungicides on the market can provide a good control to the foliar diseases found this season. Their protection periods are not greatly different. Therefore, you should select a fungicide based on the price and availability.

**Fungicides for hail injured corn?** There are discussions about applying fungicides to corn injured by hail. Keep in mind that fungicides cannot help plants recover from hail injury or cure the damaged plants. However, if the foliar disease risk is high for the rest of season, use of fungicides can protect undamaged or functional corn leaves from disease attacks. Such applications function as an insurance for yield production. In a situation or season when disease risk is low, such insurance is unnecessary. In this wet season, the potential benefit from disease protection seems greater than the cost in terms of dollars.

**XB Yang is a professor Plant Pathology with research and extension responsibilities on soybean diseases.**