

David G. Hallauer
District Extension Agent
Crops & Soils/Horticulture

Foliar Fungicide Use in Soybeans

As the corn crop heads towards growth stages where fungicides no longer do much good, attention may switch to soybean fungicide use. We're not quite to the optimal application window yet (R3, or beginning pod stage where pods are three sixteenths of an inch long on one of the four uppermost nodes on the main stem with a fully developed leaf), but we soon will be.

The soybean diseases that might warrant fungicides in Kansas include frogeye leaf spot, brown spot (common in Kansas – often at low levels), *Cercospora* leaf blight and pod and stem blight (in excessively wet years). Knowing what we know about this year: weather plus yield potential plus crop value has to equal a good return to a fungicide correct? Maybe. Maybe not.

To best make a decision on a fungicide application, evaluate potential return. Work by NE Area Agronomist Stu Duncan (2013-2019) showed an average yield response across five dryland site years to be 2.8 bushels per acre. The yield response across nine irrigated site years was less than half a bushel. Iowa State University evaluations in 2020 suggested much the same, with yield responses of one and a half to just over three bushels per acre in a year with very low disease pressure. If disease *is* present, this could change significantly, but only scouting can help you determine that (make sure to differentiate between bacterial diseases not controlled by a fungicide and fungal diseases that may warrant control). Once you know potential returns vs. application costs, etc..., a good decision can be made.

In addition to economics, fungicide resistance should also be considered. Blanket applications in the absence of disease with little potential for disease pressure may not seem to cause much harm, but have the potential to increase resistance, with frogeye leaf spot already confirmed resistant to some fungicide classes.

Fungicide applications have the best opportunity for economic gain if frequent rainfall occurs through R5 (seed an eighth inch long in one of the four uppermost nodes on the main stem) with disease present. Scout now to give fungicide applications the best chance for success. For information on fungicide efficacy based on disease, check out this Purdue publication at: <https://www.extension.purdue.edu/extmedia/BP/BP-161-W.pdf>.

Peony Disease Battle

It's not like we don't see it every year, but every year it seems to surprise us a little – peony diseases. Right now, Red Spot and Powdery Mildew are rearing their ugly head.

Red spot (Measles) causes distinct, reddish-purple spots on the upper leaf surfaces that often coalesce and become large, reddish purple blotches on the upper leaf surfaces (light brown when viewed from the underside). Spots on stems will merge to form reddish brown streaks.

Plants with powdery mildew appear to have been dusted with flour and can lead to death of the leaves. It's not as common as Red Spot, but does show up this time of year as well.

The control solution? Sanitation. Remove all diseased tissue, including stems, at the end of the growing season. In fact, *all* foliage can be removed in mid-August with no harm to the plants (plants will be essentially dormant). Remove dead foliage now. If you have any mulch with plant debris in it, replace it with clean mulch. This can help reduce the source of disease inoculum to keep disease severity at lower levels next year.