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Fungicide Resistance

While yield losses from diseases like Gray Leaf Spot, Southern Rust, and Tar Spot underscore the value of an appropriately timed fungicide application in corn (response potential in lower disease pressure soybeans is much less...), there's still work to be done to avoid one of the big issues seen with weed control products: resistance.

Herbicide resistance *is* a concern, but fungicide resistance is on the rise as well. A 2022 survey of fields with Frogeye Leaf Spot in six counties confirmed resistance to the QoI class of fungicides across all six counties with 85 percent of the samples exhibiting resistance. It's not 100 percent and it's only with one fungicide class, but it *is* enough to warrant consideration of resistance management if a soybean fungicide application is in the back of your mind.

Delaying resistance starts (and ends) with scouting. The main disease warranting a fungicide in our soybean fields is Frogeye Leaf Spot. Finding frogeye for the 2022 survey was difficult and is a good reminder that scouting for *fungus* disease presence (bacterial diseases are not affected by a fungicide...) should be the first step in making an application decision.

If applying a fungicide, avoid single fungicide class products. According to UNL Plant Pathologist Dr. Loren Geisler, the genetic diversity of frogeye leaf spot allows it to develop resistance more rapidly when single mode of action products are used. Whether using a premix product or tank mixes, use multiple fungicide classes to combat resistance.

Apply labeled rates. As with weed control products, applying a sub-lethal product dose only increases resistance risk. Labeled rates applies to the rate of active ingredient *and* carrier.

Finish with a post application field scouting to evaluate how well the fungicide managed disease. If diseases aren't adequately controlled, find out why. It may not be resistance, but the prevalence of confirmed resistance means it deserves a second look.

Geisler summarizes his resistance thoughts in a 2017 publication this way: *If we are not diligent in managing resistance, we could soon be faced with the same situation challenging us in weed control. Many herbicides are available, but we currently only have three fungicide modes of action that are commonly used commercially. Because the tools in our disease management toolbox for fungal diseases are more limited than those for weed management, it is imperative that we all be good stewards of fungicide use in our row crops. Good advice...*

For fungicide efficacy ratings in soybeans, see the Crop Protection Network's soybean fungicide efficacy rating chart at: <https://cropprotectionnetwork.org/publications/fungicide-efficacy-for-control-of-soybean-foliar-diseases> or request a copy from any District Office.