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Soybean Sudden Death Syndrome – Management Practices

When trying to manage any disease, an integrated approach is the best approach. Soybean Sudden Death Syndrome (SDS) is no different and while management factors can be variable in their response, using them together might give you another leg up against this disease.

Variety selection is a great place to start. A multi-state (IA, MN, OH, WI) trial suggested almost a 10 bushel yield bump just by using a resistant variety over a susceptible one. Highly resistant varieties may not be a ready option, but they could be consideration on acres of concern.

Row spacing and population differences were part of work from K-State Extension Row Crops Pathologist Dr. Rodrigo Onofre. That work showed slight trends toward increasing foliar symptomology as populations increased while a comparison between 15- and 30-inch rows was less conclusive. More work is needed, but they might be something to consider in the future.

A Kansas Soybean Commission funded study by Dr. Onofre's team showed potential phosphorous fertility effects as well. Not only was a yield boost consistent as P rates increased from zero to 30 to 60 pounds per acre, but foliar SDS severity similarly declined as rates increased as well. While more research is also needed in this area, appropriate fertility levels are key to mitigating plant stress levels that in turn can help keep SDS levels in check.

You can't control the weather, but if high soil moisture levels occur within a few days of planting the risk of infection by the SDS pathogen increases. While worth noting, delaying planting is a practice likely most effective on our worst SDS acres due to the potential for yield declines if soybean planting is delayed too long. NOTE: rainfall or irrigation during the mid-late soybean reproductive growth stages (R3-R6) can also be a contributing factor to disease levels.

Soybean Cyst Nematode (SCN) is a completely different issue, but high populations of this nematode have been associated with increased severity of SDS. Any practice that reduces SCN (crop rotation, resistant varieties, etc...) might be a help for SDS levels as well.

Seed treatments including fluopyram and pydiflumetofen have demonstrated efficacy against SDS, consistently reducing severity and limiting yield losses as compared to many of our base seed treatments. For seed treatment ratings (for SDS and other seedling diseases), check out the Fungicide Efficacy for Control of Soybean Seedling Diseases reference available online (<https://cropprotectionnetwork.org/publications/fungicide-efficacy-for-control-of-soybean-seedling-diseases>) or upon request.

Continued work on SDS has included disease prediction tools as well. While too soon to know whether they have good accuracy, a knowledge of the most important SDS contributing factors can give you a pretty good idea. Drop me a line if you want to dig deeper into SDS management on your farm.