

# SHELBY COUNTY CROP TALK

July 31, 2020

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## Crop Scout

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Crops around the county look to be very healthy. Diseases that are present appear to be mostly located in the lower canopies. Diseases seen locally in corn are gray leaf spot, northern corn leaf blight, Physoderma brown spot, and common rust. In soybeans, the lower leaves in many fields are turning yellow and brown due to Septoria brown spot. We have also seen isolated instances of brown stem rot, frogeye leaf spot, and Phytophthora root rot. Tar spot has still only been confirmed in the northern part of the state. Southern rust has been confirmed in Daviess and Randolph County. Be on the look out for these diseases and be sure to call if you have any questions.

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## Root and Stem Rots of Soybeans

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We are getting to the time of year where we start seeing symptoms of “rots” in soybeans. Three diseases that we tend to see are Brown Stem Rot (BSR), Phytophthora Root and Stem Rot, and Sudden Death Syndrome (SDS). How do we distinguish between these diseases and how can we treat them?

It can be difficult to distinguish all three diseases early on as they all show yellowing between the leaf veins. Phytophthora will have dead leaves still attached to the plant, a dying growing point, and a dark lesion moving up the from the base of the stem. Infected Phytophthora plants will often be next to healthy plants.

Brown Stem Rot and Sudden Death are most easily distinguished by splitting the stems of plants. An infected BSR plant will have a brown pith where it should normally be white. Infected SDS plants will show a healthy stem when cut open. The roots of SDS and Phytophthora plants will be dead and easily pull out of the ground.



*Phytophthora Root Rot*



*Brown Stem Rot*

How do we control these diseases? Unfortunately, once symptoms appear, it is too late for treatment. There are no fungicides that can be sprayed in season to control any of these rots. Seed treatment options exist to help control both Phytophthora and SDS. However, some treatments may be add-ons to a standard fungicide seed coating, with an active ingredient specific to that disease. Metalaxyl (Apron) is a common seed treatment that works well to lower incidence of Phytophthora and a handful of early season disease issues. Fluopyram (ILeVO) has been shown to help control of SDS.

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Non-chemical controls for these three diseases include genetic resistance and cultural practices. If a field has a history of one of these diseases, select a variety with resistance to that disease.

A cultural control for BSR would focus on residue. Infected residue contains the disease and may infect the next crop of soybeans. Control options include rotating away from soybeans, burying the residue, or shredding the soybean residue for quicker decay.

To best manage Phytophthora we need to improve soil aeration and crop rotation. Waterlogged soils promote Phytophthora in soybeans. Avoiding and removing compaction can help reduce the risk of the disease. Avoid planting wet or working wet soils as this can cause compaction and delay emergence.



Cultural management of SDS may include improving field drainage, setting a later planting date, or adding small grains into the rotation. Like with Phytophthora, areas prone to SDS are typically the wetter, compacted areas that would benefit from better aeration. Later planting into warmer soils reduces the amount of time the seed may be sitting in cool, wet soils. Some research points to rotating with small grains to help reduce SDS severity in soybeans.

If you have questions about these diseases, I am more than happy to answer them. Controlling these diseases can be difficult, but the best place to start is soybean genetics with good resistance. Be aware through scouting fields and avoid spreading these diseases by cleaning out the combine after harvesting severely infected fields.

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## Resources

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- Southern Rust Tracker
  - <https://corn.ipmpipe.org/southerncornrust/>
- Tar Spot Tracker
  - <https://corn.ipmpipe.org/tarspot-2/>
- Brown Stem Rot
  - [https://soybeanresearchinfo.com/wp-content/uploads/2019/03/BrownStemRot\\_BP41W.pdf](https://soybeanresearchinfo.com/wp-content/uploads/2019/03/BrownStemRot_BP41W.pdf)
  - <https://cropprotectionnetwork.org/resources/articles/diseases/brown-stem-rot-of-soybean>
- Phytophthora Root and Stem Rot
  - <https://extension.umn.edu/pest-management/phytophthora-root-and-stem-rot-soybean>
  - <https://crop-protection-network.s3.amazonaws.com/publications/cpn-1014b-scouting-for-phytophthora-root-and-stem-rot-in-soybean.pdf>
- Sudden Death Syndrome
  - <https://crop-protection-network.s3.amazonaws.com/publications/cpn-1012-scouting-for-sds.pdf>
  - <https://extension.umn.edu/pest-management/sudden-death-syndrome-soybean>