



Sudden Death Syndrome

Dave Curry CCA

Sudden Death Syndrome is a soybean disease that seems to show up every year in spots across the soybean growing regions in Southwestern Ontario. When weather conditions are conducive to growth, it can be seen across a wider geography and affecting more than the usual “hotspots”. Over the last decade, it seems to be a disease that’s increasing. From what we have been seeing when scouting, the 2020 growing season is shaping up to be a sudden death year. Sudden Death Syndrome needs to be on the minds of soybean growers as it is impacting the bottom line and profitability of farming operations.

What is Sudden Death Syndrome and what are the symptoms of an infected plant?

Sudden Death Syndrome (SDS) a fungal disease that affects soybean plants to varying degrees. SDS is caused by an early season infection of the soybean root by the fungal pathogen *Fusarium virguliforme*. This disease overwinters in Ontario soils and under the right conditions (typically cool and wet springs) it will infect young soybean plants.



Infection will normally occur in May-June. In general, early planted soybeans are at slightly higher risk of SDS infection because of early spring weather patterns. Even though the infection occurs early in the spring, the symptoms of SDS will not show up until later in the growing season, normally seen in August. The fungus will produce a toxin that will move upwards through the plants xylem and spread throughout the plant. The symptoms of SDS are very visual; from a distance it looks like the plants are burning up in pockets across a soybean field. The toxin will cause interveinal chlorosis leading to necrosis. Late season effects of SDS can cause total defoliation of the soybean plant. Infected plants will typically have smaller seed at harvest or blank and deformed pods. This can result in a significant bushel loss (20-30%).



Figure 9. Seeds from a healthy soybean plant (left) compared to seed from a soybean plant affected with SDS.

Crop Protection Network – Soybeans disease management CPN-1011

Sudden Death Syndrome/Soybean Cyst Nematode Complex

Soybean cyst nematode (SCN) can be a vector to infect a soybean plant with SDS. The SDS/SCN complex can lead to large yield reductions to Ontario soybean growers. Fields exhibiting SDS symptoms most likely have higher levels of SCN than ideal. These fields should be sampled after harvest to check on egg counts. If possible, growers should be rotating away from soybeans for a few seasons; however, that will not cure the problem. In the future, when planting soybeans on infected fields, growers should select a highly resistant SCN/SDS variety, as well as, looking at some newer seed treatment options.

New seed treatment options for 2021

Syngenta is launching a new seed treatment option **SALTRO** which will be available for the 2021 soybean crop. Saltro contains the active ingredient Adepidyn, the same novel active found in the Miravis brand.

For 2021 soybean seed crop, Lakeside Grain and Feed will have this treatment available to add to our normal seed treatment blends.



New Varieties and Genetic Breeding efforts

New genetics and breeding are leading the charge when it comes to defending SDS in soybean production. Many of the newer soybean lines coming to market have an excellent foundation for SDS resistance being bred into their germ plasm. In many of the breeding programs the former “highest” rated resistant varieties are now being used as the susceptible checks. New genetics coming to market are leaps and bounds ahead in their resistance to SDS.

Dekalb, NK, and Croplan have many exciting new soybean varieties to choose from with top level SDS packages to suit. This fall when selecting your soybean varieties with your Lakeside Seed representative, make sure that SDS tolerance is part of the discussion.

