Common Soybean Diseases

Alfalfa Mosaic Virus

Kyle Jensen, Wausau School District, Bugwood.org

Alfalfa Mosaic Virus

While not particularly common, alfalfa mosaic virus can be found in soybeans that are planted near alfalfa fields. The virus is transmitted by aphids and there are no effective chemical controls.

Bacterial Blight

Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org

Bacterial Leaf Blight

Most commonly found during cool, wet weather. Generally not considered to be a yield limiting disease although it be widespread in certain years.

Bean Pod Mottle Virus

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Bean Pod Mottle Virus

Bean pod mottle virus is transmitted by bean leaf beetles. This can be an issue with soybean seed production as soybean seed with BPMV can have significant yield reduction due to Phomopsis seed infection.

Brown Stem Rot

Matt Furlong, Seitec Genetics

Brown Stem Rot

Brown Stem Rot (BSR) is a fungal disease that survives in plant residue. Symptoms typically show up later in the season during reproductive stages. The first indication of infection is usually seen in the leaves where entire plants may die prematurely. Leaf symptoms may be confused with Sudden Death Syndrome (SDS). The easiest way to differentiate brown stem rot from SDS is to split the stem. In SDS stems will appear normal and healthy, whereas BSR stems will have a distinct, brown pith.

Frogeye Leaf Spot

Frogeye leaf spot is a disease of growing importance in the U.S. The fungal pathogen survives in soybean residue—and is most detrimental in fields where soybeans are grown continuously. Spores can also be windblown and carried from field to field. Genetic resistance is found in some varieties and fungicides can be an effective management tool when applied from R3-R5.

Frogeye Leaf Spot

Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org

Phytophthora Root & Stem Rot

Loren Giesler, University of Nebraska—Lincoln

Phytophthora Root & Stem Rot

Phytophthora is a soilborne fungal disease that is most often found in low spots or flooded areas of a field, as well as areas when end guns from center pivots can cause excessive splashing. The disease can occur at anytime from emergence, causing seedling damping off, to larger more mature plants causing wilting and premature death. Varietal resistance is found in numerous varieties and fungicide-containing seed treatments can also help reduce the severity of disease, although it can still be an issue in instances where disease pressure is extremely heavy and environmental conditions are optimal.

Rhizoctonia Root Rot

Another soilborne fungal disease, Rhizoctonia can cause both pre emergent and post emergent seedling damping off. Infected plants will often be stunted and nodulation can be significantly reduced. The most favorable conditions are sandy soils with good fertility and moisture. South facing hillsides tend to favor the disease. Other stresses such as herbicide injury, hail or insect damage can also exacerbate symptoms of Rhizoctonia Root Rot.

Rhizoctonia Root Rot

Carl Bradley, University of Kentucky, Bugwood.org

Soybean Mosaic Virus

Craig Grau, Bugwood.org

Soybean Mosaic Virus

Soybean Mosaic Virus (SMV) is a viral disease spread by aphids and seed. It can cause significant yield reduction and can affect seed quality. Hot temperatures tend to mitigate the spread of SMV and planting quality, virus-free seed is essential to reducing the proliferation and severity of SMV.

Soybean Mosaic Virus Infected Seed

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Sudden Death Syndrome

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Sudden Death Syndrome

Sudden Death Syndrome (SDS) is a soilborne fungal disease that typically doesn't exhibit symptoms until later in the growing season. Leaves will turn yellow with interveinal necrosis, followed by complete plant death in severe cases. Some varieties have good levels of resistance and rotating away from soybeans for 2 or more years can be beneficial.

White Mold

Nick Arneson, University of Nebraska—Lincoln

White Mold

Sclerotinia Stem Rot, more commonly referred to as White Mold in soybeans, is a widespread fungal disease. It overwinters in hard structures know as sclerotia, which appear inside the stem and resemble mouse droppings. Disease development is primarily from flowering through pod formation and is favored by wet, humid conditions and moderate temperatures. There is some genetic resistance but not enough to eliminate symptoms. Cultural controls such as wider rows (30" vs 15" or narrower) can help improve airflow and decrease humidity. Rotation out of soybeans for several years can help as well but still will not eliminate the disease. Some of the newer SDHI fungicides are labeled for White Mold but must be sprayed early enough—at the onset of flowering—to have any significant effect.