



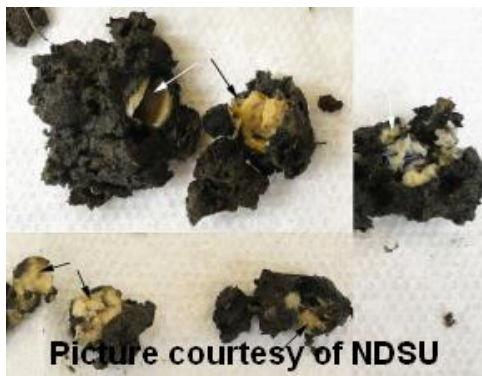
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Pythium Root Rot of Soybeans

Jake Salentine, Technical Team Agronomist – LG Seeds

Pythium Root Rot can be found in numerous plants, but for the northern region I want to provide a deeper explanation for this disease in soybeans, both pre-emergence and postemergence. First, Pythium is defined as a genus of destructive root parasitic fungi that cause damping-off. Pythium root rot is an ongoing problem for areas that are over-irrigated, poorly drained, or recently got hit with heavy rainfall. For all the Pythium species, saturated soil is critical for infection, in fact this disease can occur at any time if the soil remains saturated for an extended period of time. In the northern parts of the United States, Pythium species infect plants at a lower temperature of about 50-60 degrees Fahrenheit along with wet soils.

Pythium root rot mainly affects soybeans prior to the germination stage and carries throughout the seedling stage. According to North Dakota State University, pre and post-emergence damping-off are usually the first symptoms of infection by Pythium observed in the field. For pre-emergence, failing to germinate and the total collapse and breakdown of the seed, and post-emergence damping-off is visible first as lesions and discoloration on the roots. Once infected, the roots will begin to disintegrate and rot. The rotting root system eventually will lead to the collapse of the seedling.



Young, small plants will be more susceptible to Pythium root rot as opposed to the adult, larger plants. This is because of the difference in thickness of the root tissue that each have. Significant stand reduction and overall yield loss is a result of this disease.

As for management practices, things to consider include fungicide seed treatment, crop rotation, and maintaining good drainage.

AgriShield[®], from LG Seeds, has a combination of three fungicide chemistries that protects the seed from major seedborne and soilborne diseases such as early-season Phytophthora, Pythium, Rhizoctonia, Fusarium, and White Mold. AgriShield[®] soybean seed treatments protect your most valuable investment for maximum genetic potential. We offer a variety of treatment options, applied at our state-of-the-art facility and delivered to you, ready to grow. All four options within the AgriShield[®] lineup include this protection against diseases.

Before the seed enters the ground is when it's at its greatest yield potential. When it enters the ground, many factors can play a large role in the seed's survival. Utilizing a seed treatment such as AgriShield[®] can help mitigate some of these stand reducing and yield robbing factors.

Sources and additional information:

1. <https://www.ag.ndsu.edu/publications/crops/pythium-damping-off-of-soybean>

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