Technology Development & Agronomy by MONSANTO

Agronomic SPOTLIGHT

PHYTOPHTHORA ROOT ROT QUICK FACTS

IMPACT ON YOUR CROP

- Incidence of Phytophthora root rot has become more common with increased use of no-tillage and reduced tillage residue management systems.
- Caused by soilborne fungus *Phytophtora sojae* and has several specific races.

Phytophthora root rot is typically most severe in poorly drained soils with high clay content. Infection is favored by soil temperatures of 70°-80°F, and moist to saturated conditions.

TIPS TO MANAGE

- Seed treatments can help protect against early season infections of Phytophthora for 2 to 3 weeks after planting and reduce the risk of a replant situation.
- Resistance genes (Rps genes) can help protect against specific races of phytophthora throughout the entire season.
- Field tolerance is an important tool when there are multiple races of Phytophthora in a field. However, field tolerance does not become highly active until plants are approximately at the V1 to V3 growth stage. A seed treatment is needed to provide protection to the seedling stage.

WHAT TO SCOUT

- The disease can affect soybean from the seedling stage to near maturity.
- Stand reduction occurs when the disease infects plants at the seedling stage and causes seed rot and damping off.
- Infection of older plants causes wilting and browning of leaves and eventual death.
- Symptoms of Phytophthora in soybean include a chocolate brown discoloration of the stem from the soil line up.
- Later in the season, infected plants yellow and have wilting leaves that remain attached (Figure 1).

Figure 1. Phytophthora root rot.

For additional resources on this topic, contact your local seed representative or visit your seed brand website.

Sources:
Dorrance, A.E. and Mills, D. 2009. Phytophthora damping off and root rot of soybean. AC-17-09. The Ohio State University Extension. http//ohioline.osu.edu; Groves, C. and Smith, D. 2013. Phytophthora root and stem rot. XGT1014. University of Wisconsin Extension. http//fyi.uwex.edu; Robertson, A., and Yang, X.B. 2004. Phytophthora root and stem rot of soybean. PM914. Iowa State University Extension. Web sources verified 01/23/15