

2014 Soybean Update

Soybean Diseases

As the soybean crop gets close to harvest, this is a great time to evaluate your soybean varieties and their susceptibility to diseases that can only be prevented with resistant varieties. Variety selection for resistance is the main tool to limit yield reduction from certain diseases. There are five notable diseases that have been found in Virginia fields this summer/fall:

- Stem canker
- Brown stem rot
- Sudden Death Syndrome
- Fusarium root rot
- Soybean Cyst Nematode

Stem canker can infect soybeans any time from mid-season to maturity. Yield losses range from 25% to 100% in susceptible varieties. **In 2011, there were several fields in VA and NC with stem canker.** The infection occurs during the early flowering stage. Reddish brown lesions form at the base of the petiole. **Plants with leaves still attached at maturity is an indicator of this disease.** Stem canker can cover large field areas when weather conditions are ideal for infection. Stem canker has been found mainly on heavier soil types, in fields along rivers and/or under good moisture conditions.

Brown stem rot is unusual for us to find in the Mid-Atlantic but was common in 2014 mainly due to cooler temperatures. Leaf symptoms may or may not look very much like SDS (below) but have the internal browning in the lower stem as shown in the photo. SDS does not have this browning.

Sudden Death Syndrome (SDS) is a mid to late season disease that usually occurs in well-managed fields with high yield potential. The exact cause of SDS is unknown, but a *Fusarium* species has been implicated. SDS appears to be favored by the presence of even light populations of **soybean cyst nematodes**, irrigation and/or wet weather. With SDS, **the leaves drop but the petioles (leaf stems) remain.** Stem canker can look similar but the leaves stay attached to the stems even after the beans are ready for harvest.



Lesions from stem canker



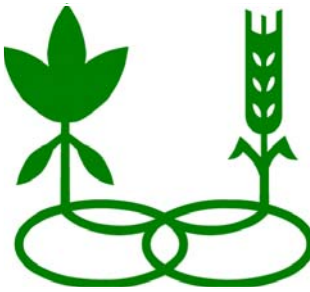
Brown stem rot symptoms



Uneven ripening from Brown stem rot



Sudden Death Syndrome



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For more information about Renwood Farms,
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Soybean Diseases: Evaluating Varieties

The periods of dry weather gave way to incidences of Fusarium root rot (shown below). “Fuzzy roots” with no nodules are another symptom of this destructive disease. We know there are varieties that have some resistance but this trait/characteristic is not listed in any seed catalogue.

Renwood Farms began adding a fourth seed treatment in 2012 to the **RenPro™** seed treatment for this and other fusarium species which are very difficult to control.

Soybean Cyst Nematode continues to plague our soybean fields. The white cysts shown in the bottom right photo were easy to find in many fields. There are varieties with cyst nematode resistance, mostly to Races 3 and 14, but other races are infecting our crop.

Renwood Farms offers Poncho/Votivo® as a seed treatment for varieties with limited resistance to soybean cyst nematode. This treatment is reducing populations although it is not a one year wonder. Cyst nematodes did not build to high levels in one year and will not go away in one year but treating your seed does offer an alternative to doing nothing.



Even ripening from healthy soybean field: USG 75J90R



White dots on roots are soybean cyst nematodes



Fusarium root rot