DISEASE FOCUS White Mold (Sclerotinia stem rot)

White mold is a common disease caused by the fungus *Sclerotinia sclerotiorum*. The fungus has an extensive host range of more than 300 plant species and causes diseases on a wide variety of crops such as sunflower, dry bean, soybean, canola, potato, alfalfa, mustard, safflower, lentil, flax, field peas and many garden vegetables. The fungus that causes white mold on one crop is the same one that causes white mold or Sclerotinia disease on any of other crops listed above. *Sclerotinia sclerotiorum* overwinters principally as sclerotia in soil. The sclerotia germinate to form small tan to brown mushrooms called apothecia (about one-eighth to one-fourth inch in diameter). These produce spores termed ascospores which initiate the disease on soybean and other susceptible crops. (Nelson, Berlin. Plant Pathologist NDSU)

Importance of this disease

White mold was selected as a disease to keep an eye on because of the increased acres of host crops (i.e. soybeans) in the region. The WREC in collaboration with Dr. Michael Wunsch, plant pathologist from Carrington REC, have begun extensive work in managing white mold in some of these host crops. White mold is not a new disease but is relatively unknown in this region and its impacts, so the questions have started to be asked: How do we identify it and what are the important things to know about white mold? The picture to the right identifies white mold on the stem of a soybean. This will kill the plant and the sclerotia bodies will form inside the stem, creating sclerotia that persist in the soil for years to come.



Management

Understanding the disease and management are important first steps. Some of the most important controls for Sclerotinia stem rot of soybean are variety selection and cultural practices that lessen disease severity. Cultural practices that have been shown to reduce disease severity include: 1) wider row-spacing to help minimize/reduce prolonged wetness and the favorable conditions for sclerotia to germinate. 2) Manage irrigation to avoid over irrigating and prolonged wetness to the dense canopy which is favorable for disease development. 3) Fungicide application and timing can provide some protection to minimize disease severity, but will not completely control or prevent the disease. (NDSU Plant Disease management Guide PP-622) 4) Crop rotation that rotates between crops that are host to Sclerotinia if the disease becomes evident.

Recognition of the disease is an important first step. The picture (soybean field) to the right illustrates the disease symptoms in the top leaves. If you see this, open up the canopy and look at the stem below. It will look similar to the picture above. At this stage there are no effective measures to control the disease, but minimizing disease severity can be obtained using cultural practices 2 and 3. The previous two summers have been optimal conditions in early August for disease development. The picture below shows soybeans that were completely destroyed by Sclerotinia.





The purpose of this page was to create awareness of a disease that has been observed by a few of the producers adding soybeans to their rotation and not to discourage them. Like any other plant disease, managing it is very important and this is one I have received the most questions on this past year, so the WREC will continue to work towards providing answers to those questions. If you have questions please feel free to contact me, Tyler Tjelde, at the Williston Research Extension Center.