

## Late Season Soybean Pests – Ed Lentz, Hancock County Extension

Soybeans in the area have responded quite well to recent rains and moderate temperatures. Another timely rain in the latter part of August and a continuation of moderate temperatures should provide conditions for above average yields in many soybean fields.

However, Insects and diseases still have the potential to lower these yields. Bean leaf beetles and stinkbugs are the insects of concern and for diseases, soil-borne stem rots.

Bean leaf beetles feed on foliage until late in the season when pods become a more desirable food source than leaves. Yield losses occur from mold that enters the feeding sites rather than the tissue loss from beetle feeding.

The stinkbug will puncture pods and developing beans with their piercing and sucking mouthparts, and remove plant fluids. Yield loss will occur from loss of plant fluids, injection of digestive enzymes, deformation and abortion of seeds, and molds that develop at the puncture sites.

Farmers will inspect their fields for both of these insects until about 30 days prior to harvest. They will spray their fields with insecticides if the insect population or pod damage has reached a level that justifies control based on university research

Farmers often notice stem rot diseases when pockets in a healthy field suddenly appear to die during the seed filling time (beans in the pod are getting bigger). There are five diseases that may cause what appears to be a wilting or sudden death of plants. The following is a brief discussion of these diseases:

- Phytophthora stem rot is the most common of the soil borne diseases but generally farmers have selected plants with good resistance and only highly susceptible lines will be affected late in the season. Generally susceptible plants succumb during periods of wet conditions in poorly drained fields.

The identifying symptom of this disease is the chocolate brown lesion or canker that develops from the soil line up the stem. The roots are rotted and tissue discoloration will be visible from the base of the plant moving up the stem.

- Diaporthe stem canker is a disease that can survive on soybean residue and on seed. Its identifying feature is the lesion or canker that occurs at the 3rd or 4th node on the plant.

The canker will girdle and kill the plant. Often the branches at the bottom of the plant will be alive (below the canker) but the top will be dead.

- Sclerotinia stem rot is a disease that will often give dying plants a grayish cast. A white “fluffy” growth will form in the stems during the pod development period.

As the disease progresses, plants will be upright with a grayish color and girdled – again most often at the lower nodes. The inside of the stems will be soft and may have hard black structures that resemble mice droppings called sclerotia.

- Sudden death syndrome is a soil-borne disease that the foliage will show more symptoms than the stems. Leaf tissue between the veins will turn brown with the veins still green. Eventually the leaves will prematurely drop from the plant.

The base of the plant and the roots will be discolored and decayed. For reasons not fully understood, soybean cyst nematodes are often present in the soil of plants affected by sudden death syndrome.

- Brown stem rot is the last of the stem rots that may affect soybeans. It is seldom seen in northwestern Ohio since the disease favors soils with a pH below 5.5.

It has leaf symptoms similar to sudden death syndrome; however the stem pith will be brown for brown stem rot and white for sudden death syndrome. In many cases only the nodal area (branch and leaf attachment section) will have brown pith.

There is no fungicide or curative step a farmer can take for these diseases at this stage of crop development. Fortunately they generally do not affect the whole field.

Selecting varieties with good resistance is best management practice a farmer can use against soil-borne stem rots. A farmer knows that if they see these diseases in their fields this year, they will need to select resistant varieties in future years.

Weather will still determine the yield potential for this year’s soybean crop; however, farmers will need to check for insects and have selected the right soybean varieties to insure a high yielding crop.