

Goss's Wilt by Don Rhoads

Goss's Wilt is being found in some corn fields. This disease is not prevalent every year, but areas that received hail, high winds and heavy rain fall have higher odds of Goss's Wilt.

Symptoms appear as large grey to tan lesions on the leaves with small dark spots resembling freckles. Some plants may wilt because the disease may attack the internal vascular system. Because Goss's wilt is a bacteria, foliar fungicides are not effective.

"The primary method of control is planting corn hybrids with high levels of Resistance." says Dr. Carl Bradley, University of Illinois Assistant Professor. The Power Plus® Brand of corn products have very good tolerances to Goss's Wilt.



*Photo from University of Illinois,
Dr. Carl Bradley*

Goss's Wilt

The Ears Have It by Don Rhoads

Diplodia ear rot is being found in some corn fields, also. Diplodia spores can be splashed onto silks or husk cover initiating the disease. Warm, rainy weather is a contributing factor, along with insect injury to the silks, allowing for an entrance wound for the fungi. Diplodia is a white to grayish brown mold that forms over the husks and kernels, often starting at the base of the ear and growing toward the tip. Commercial fungicides are not effective in controlling Diplodia. While there are no commercial hybrids completely resistant to Diplodia, there are differences. Diplodia ratings can be found in the brand new 2011 Product Selection Guide.



Diplodia Infected Ear



Diplodia Infected Husk

The Timing Window of Green snap

By Bryan D.Young

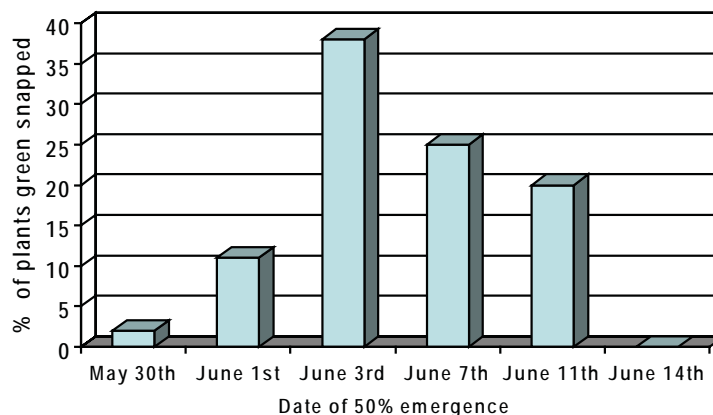
Several storms have passed through this growing season in west central Illinois. In some of these storms there have been strong enough winds to blow down trees and cause structural damage to buildings. These strong winds have also created some issues in corn fields. In our plots I have seen some experimental hybrids with summer root lodging while other experimental hybrids green snapped from these storms.

When these strong winds hit the corn crop the plants must give to take the blunt of the storm. If the hybrid has greater stalk strength than root strength, it is likely the plant will root lodge. If the hybrid has stronger roots than stalk strength we can see the stalk bend or break. When the corn plants are rapidly growing and there is stalk breakage from the wind it is called green snap. Green snap occurs when the plant is rapidly growing and the plant cells are elongating but not completely developing the cell wall. When the rapid growth stops or slows the plants will finish the formation of the cell walls by depositing lignin in the cell walls causing the cells to harden. The hardening of the cells reduces the chances of plants being subject to green snap. The stage of crop development when the corn plants are most susceptible to green snap begins at the V12 growth stage (shoulder high) up to tassel initiation.

All corn hybrids have some susceptibility to green snap. We have seen instances this year where hybrid A will have a high percentage of green snap in one field and then we go down the road and enter a second field and see the same hybrid A standing perfect. These differences in hybrid susceptibility are caused by the differences in the stage of crop development between the two fields. The first field with a high percentage of green snap was planted two weeks earlier than the second field. This two week difference in planting date caused the second field to escape damage. But this leads us to question how big or narrow is the window of susceptibility of a corn plant to green snap and will it always happen to a particular hybrid?

This last week several storms passed through Arenzville and we had green snap occur in one of our research trials. In this particular trial we are looking at a treatment to use on male inbred lines to delay plant emergence so timing of pollen shed can be timed with silk emergence of the female plants during pollination. In this trial we currently have over 100 man hours of recording data. We started planting this trial on April 15th and finished planting the last treatment on June 4th. Once we planted the first planting date we recorded the number of plants emerged every two days until the last planting date of the last plot was completely emerged. I am now currently in the trial on a daily basis recording pollen shed. After last week's storm I noticed a particular inbred line green snapped while others had some root lodging. What was interesting about the green snap was not all plots of the particular inbred were green snapped to the same degree and it varied by the amount of treatment we were using on the seed to delay emergence. I recorded the number of plants green snapped in each plot and then looked up the date when 50% emergence occurred on the treatments. This 50% emergence date would be similar to the plots having a different planting date. In figure 1, when the date of 50% emergence occurred on June 3rd, 38% of the plants were green snapped. When 50% emergence occurred four days earlier on May 30th, only 2% of the plants were green snapped. As the date of 50% emergence was pushed past the peak of June 3rd, the amount of green snap was reduced with no green snap occurring when the date of 50% emergence occurred on June 14th. From these data, it appears that this particular inbred was most susceptible for about a 9 day window during the growing season. These 9 days seem like a long time, but in relation to the entire growing season, it is a small window of opportunity for high winds to cause green snap to the growing crop. It is disappointing when corn plants green snap from summer storms, but it is important to remember that it was the timing of the storm in relation to crop development and all hybrids have some susceptibility.

Figure 1. Green snap susceptibility of a corn inbred line based upon date of 50% emergence.



*Greensnap from Storm on July 20th.

Soybean Disease & Fungicide Application

by Craig Kilby

At current soybean prices a yield increase of approx. 3 bu./acre is needed to pay for a foliar fungicide application. Ideal fungicide application timing is at R3 growth stage since it allows the maximum protection through the most critical stage for yield, R4. (This stage is identified by the formation of pods 3/16 inch long at one of the four uppermost nodes on the main stem with a fully developed leaf.) Today many early-planted soybeans should be either in or entering R3 stage. Soybeans remain in R3 up to two weeks until pods reach 3/4 inch in length at one of the uppermost nodes which signals R4 stage.

So far this season the majority of disease observed has been from minimally-economic diseases: septoria brown spot, bacterial blight, and downy mildew. However there have been scattered reports of Frogeye leaf spot across the Midwest which can cause severe yield loss. A summary of soybean foliar fungicide trials conducted over several years by University of Illinois and Southern Illinois University researchers indicate that when frogeye leaf spot pressure is moderate to high, the average yield response to foliar fungicides is 9 bushels per acre (compared to 3 in low-pressure environments).

So current scouting should focus on the presence of frogeye leaf spot. Symptoms are circular to oval tan spots with dark purple borders. If frogeye leaf spot is identified a strobilurin foliar fungicide may be warranted. Always read and follow fungicide product labels for control and application instructions.



Photo courtesy of University of Illinois

Frogeye Leaf Spot

Soybean Rust

Risk from soybean rust is low as it has remained limited to the rim of the gulf coast in Alabama with little or no significant expansion over the past two weeks.