

Pest&Crop newsletter

Purdue Cooperative Extension Service and USDA-NIFA Extension IPM Grant

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Editor: Tammy Luck | Department of Entomology, Purdue University, 901 W. State St., West Lafayette, IN 47907

Green Cloverworm, Natural Enemies to the Rescue

Author: John Obermeyer

Green cloverworm is considered an occasional defoliating pest of soybean, typically later in the growing season. In the last couple of weeks, the Diagnostic Training Center's soybean plots seemed to be getting more green cloverworm damage than normal. In talking with some pest managers in other areas of the state, they have noted the same thing. Still, it is important to keep in mind, it takes over 15% defoliation to justify treating soybean in the pod filling stages. But wait...there's more.

Interestingly, about a week after noticing the increase in larval damage, caterpillars were beginning to show signs of becoming diseased, white and chalky. Insect fungal diseases are generally favored by warm, moist (i.e., rain, dew, high humidity) conditions. Within a few days, it was becoming very difficult for me to find a healthy caterpillar, this is known as an epizootic. I am certain this is happening/already happened in other areas of the state as well. Though, I have many times "preached" the attributes of "good guys" that work behind the scenes, it is still impressive to experience it, especially so quickly as in this case.

In the end, scouting the field, getting the pest correctly identified, understand/implementing economic thresholds AND considering beneficial organisms is not only Integrated Pest Management, but smart farming. Happy Scouting!



Green cloverworm larvae showing different stages of a fungal pathogen.



Typical green cloverworm leaf feeding.



Green cloverworm moths have been a common sight around farmsteads lately.

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Grey Leaf Spot Samples Needed from Indiana

Authors: Darcy Telenko and Christian Cruz

Dr. Christian Cruz is a new research professor with the Department of Botany and Plant Pathology. He is studying the dynamics of plant disease and epidemiology of crop diseases and in particular **grey leaf spot and northern corn leaf blight in corn**. His lab is looking to establish a collection of isolates of these two diseases from across the state for epidemiological work that could be the basis for developing strategies to manage GLS in the future.

If you have one or both of these diseases in your field and would like to assist Dr. Cruz, please send samples to the address below or contact him to have his technician or student to help collect and pick up the samples. When sending samples please send 4-5 leaves in dry paper bags or newspaper and include the following information.

Sampling information

Date of collection:

Location:

County:

Cultivar:

Handling and shipping: Please wrap the sample in dry paper bags or newspaper. Ship to Dr. Christian Cruz, Dept. of Botany and Plant Pathology, 915 W State St, West Lafayette, IN 47907

Please contact Dr. Cruz (765.494.1515 cd-cruz@purdue.edu) or Dr. Darcy Telenko (765.496.5168 dtelenko@purdue.edu) if you have any further questions.



Figure 1. Grey leaf spot lesions on corn. (Photo Credit: Darcy Telenko)



Figure 2. Northern corn leaf blight – cigar shaped lesion on corn. (Photo Credit: Darcy Telenko)

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Southern Rust of Corn is Officially Here in Indiana

Authors: Darcy Telenko, Gail Ruhl and Tom Creswell

Southern rust of corn was officially confirmed this week in both Knox and Jackson counties Indiana. We are documenting the movement of this disease in Indiana, but so far this season we have received only a few samples. Southern rust has is also confirmed on corn in Arkansas, Georgia, Illinois, Kansas, Kentucky, Mississippi, Missouri, Nebraska, Oklahoma, Tennessee, and Texas. If you suspect southern rust please send the samples to the Purdue Plant and Pest Diagnostic Laboratory (PPDL) for confirmation. Spore identification is the only official way we can confirm if southern rust is present. The spores of southern rust have an oval shape verses spores of common rust which are circular (see microscope images below).

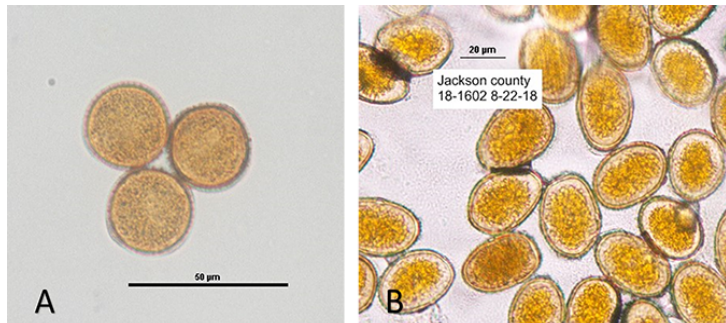


Figure 1. A - Common rust spores. B - Southern rust spores from sample taken in Jackson County. (Source: PPDL)

Confirmation of the spores is critical - we have seen samples where it could easily be confused with Physoderma brown spot. Close observation of the leaf with a 10x hand lens or stereoscope is recommended to find the pustules with the spores. See figure 2 below comparing Physoderma brown spots to the southern corn rust pustules on a leaf surface.

Orange spore pustules of Southern rust on corn develop predominantly on the top of the leaf—as opposed to the brownish - red spore pustules of common rust that develop on both upper and lower surfaces of the corn leaf. For more information and images please refer to Purdue publication BP-82 : Common and Southern Corn Rusts <https://www.extension.purdue.edu/extmedia/BP/BP-82-W.pdf>.

Although the location, color, and shape of the pustules can assist in the identification of the type of rust infection on corn leaves, **if you suspect you have Southern rust in your field, submit samples to the Purdue Plant and Pest Diagnostic Lab (PPDL) for accurate microscopic identification.** We provide rapid, definitive, confirmation of Southern Rust by microscopic examination of the shape

and size of the rust spores. The sample handling fee for a sample is \$11.00.

Sample submission forms are available at: www.ppdl.purdue.edu.

Please feel free to contact us if you have questions.

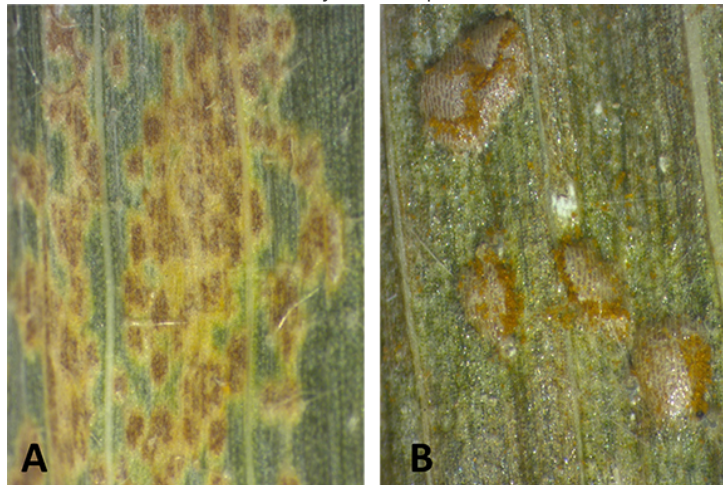


Figure 2. A - Physoderma brown spot are smooth and flat on leaf surface vs. B - southern corn rust pustules rupturing on leaf surface. (Source: PPDL)

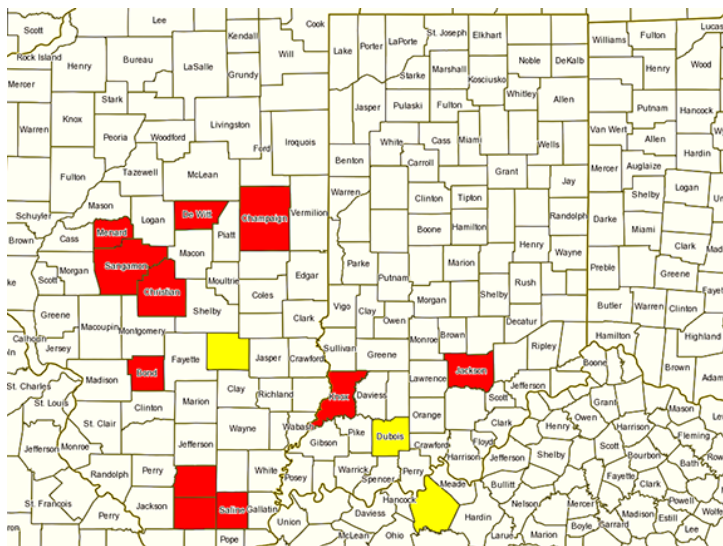
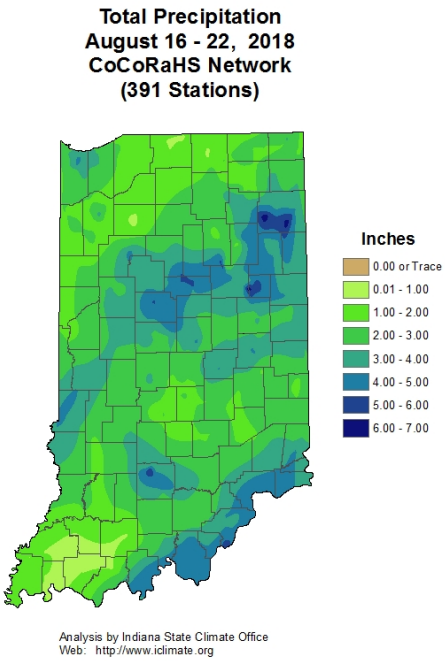


Figure 3. iPIPE map of Indiana, Illinois and Kentucky counties where southern rust has been reported, updated August 22, 2018. Red = confirmed county and yellow = suspect county. (Photo Credit: Carl Bradley, ipipe.org)

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Total Precipitation August 16-22, 2018

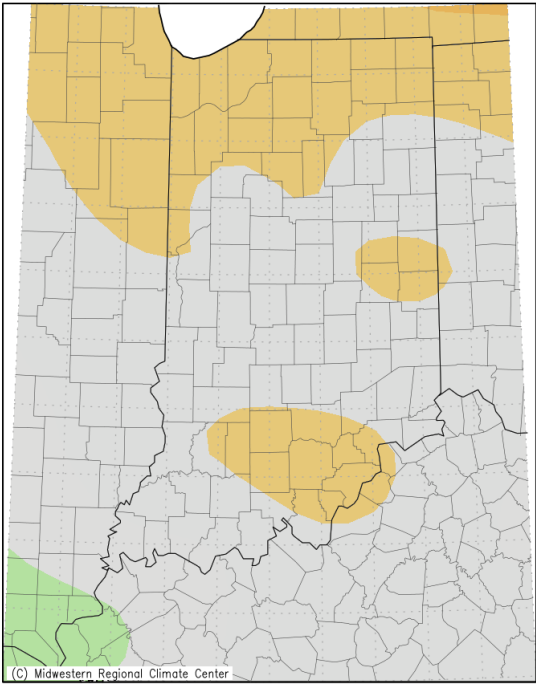


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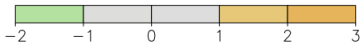
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Average Temperature Departure from Mean August 16-22, 2018

Average Temperature (°F): Departure from Mean
August 16, 2018 to August 22, 2018



Mean period is 1981–2010.



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