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Is that Common or Southern Rust Showing up in Iowa Fields?

By Alison Robertson, Department of Plant Pathology

Is that common or southern rust showing up in Iowa fields? Chances are it is common rust. It has probably been too cool and wet so far this growing season to see southern rust. Symptoms of the two rusts are very similar but there are subtle differences.

Location of pustules. Pustules of common rust (*Figure 1*) can be found on both the upper and lower leaf surfaces, compared with southern rust when pustules are usually only found on the upper leaf surface (*Figure 2 and 3*). Care should be taken though when using this characteristic for diagnosis since early symptoms of common rust may appear to be only sporulating on the upper leaf surface.

Color of pustules. Common rust pustules are brick red in color; southern rust pustules are more orange brown in color (*Figure 4*). Admittedly this can be difficult to distinguish unless you are familiar with the two color types.

Shape of pustules. Common rust pustules tend to be more elongated than the pustules of southern rust which are usually more round. In addition, common rust pustules are usually sparsely scattered over the leaf surface, while southern rust pustules tend to be more densely clustered.

Favorable conditions. Cool (61 to 77 degree Fahrenheit), wet conditions favor common rust. In Iowa we usually start to see common rust showing up on corn towards the end of June. Then as we really get into summer (hotter than 80 degrees Fahrenheit), disease development slows down. Southern rust is favored by warm (77 to 82 degree Fahrenheit), humid conditions and so it is usually mid- to late-August before we see southern rust in the state.

Management. Foliar fungicides are effective against both common and southern rust, however it is rare for common rust disease severity to be high enough and southern rust to occur early enough in the growing season in Iowa to warrant an application.

Additional information regarding rust diseases of corn is available in a publication from the University of Nebraska, [Rust Diseases of Corn in Nebraska](#).



Figure 1. Elongate, brick red pustules of common rust

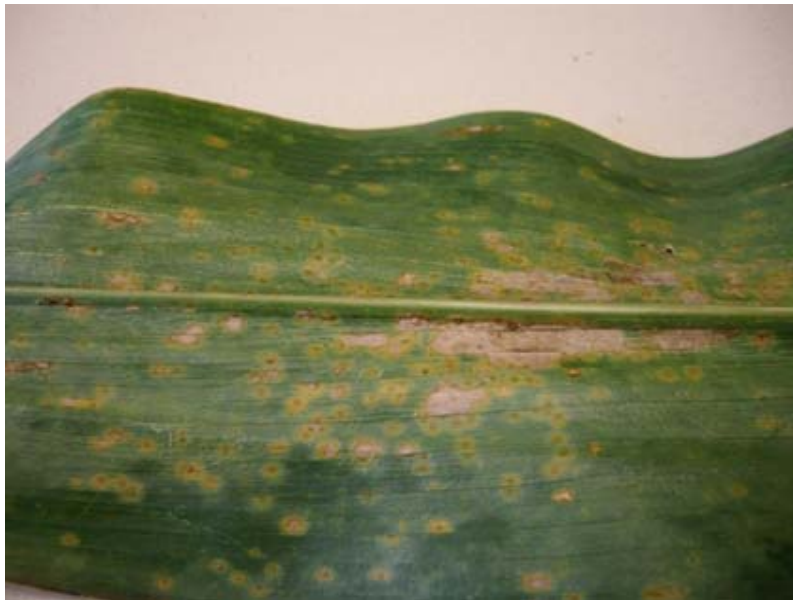


Figure 2. Under surface of a corn leaf infected with southern rust – note the absence of pustules.



Figure 3. Circular, orange-brown pustules of southern rust on the upper leaf surface.



Figure 4. Comparison of common rust (right) and southern rust pustules (left) on a corn leaf.

Alison Robertson is an assistant professor of plant pathology with research and extension responsibilities in field crop diseases.

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