Common, Weird and Unusual Spots Showing up on Corn

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Abstract
There have been several recent reports of leaf spots showing up on corn in addition to the eyespot and Goss’s wilt reported earlier this growing season. Some of these are expected – Northern corn leaf blight and gray leaf spot, but some such as southern rust are a little less common, and others are just weird.

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Common, Weird and Unusual Spots Showing up on Corn

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There have been several recent reports of leaf spots showing up on corn in addition to the eyespot and Goss’s wilt reported earlier this growing season. Some of these are expected – Northern corn leaf blight and gray leaf spot, but some such as southern rust are a little less common, and others are just weird.

**Gray leaf spot**
Identifying characteristics of gray leaf spot are rectangular lesions that start on the bottom leaves of the plant (Figure 1). Gray leaf spot can severely impact yield. Susceptibility varies among hybrids. Infection is favored by warm, muggy conditions.

![Gray leaf spot](image.png)

Figure 1. Rectangular lesions of gray leaf spot

**Northern corn leaf blight**
Large, cigar-shaped lesions are characteristic of northern corn leaf blight (Figure 2). Usually this disease also starts on the lower leaves of the plant, but in 2009, disease started high in the plant canopy. Northern leaf blight is favored by wet weather; over 30 percent yield loss has been reported if leaves in the upper canopy are infected during silking. Susceptibility varies by hybrid.
Southern rust
Southern rust was reported by Pioneer Hi-Bred in southeast Iowa last week. Southern rust can develop rapidly, so it is always a good idea to keep a watchful eye on this disease. This rust is favored by high temperatures and humidity, unlike the more familiar common rust that prefers cooler conditions. Southern rust causes bright orange, small round pustules that generally only occur on the upper leaf surface. Carl Bradley recently discussed southern rust in Illinois and has some good photos.

The above diseases can be managed with a foliar fungicide. Unfortunately we do not have defined thresholds for these diseases. We recommend scouting fields to see if there is disease pressure in the lower canopy and applying a fungicide if this is a susceptible hybrid and forecasted weather conditions are favorable for disease development. There are fields in Iowa where little to no disease has developed. Previous work has shown that the chances of recovering the costs associated with a fungicide application in the absence of disease are low.

Corn blotch leafminer
Other spots seen in corn include pinhole punctures caused by the adult corn blotch leafminer (CBL) (Figure 3). These flies deposit eggs in the leaves and the larvae create transparent "window-pane" strips that can be confused with disease lesions. While it is not too unusual to see some of this every year, it seems that this year there is a feeding frenzy going on in northwest and central Iowa. Reports of CBL have also occurred in Wisconsin and Nebraska. Foliar insecticides are not recommended because they will not control protected larvae.

Lesion mimic
A weird spot showing up in corn fields is lesion mimic (Figure 4). This is not a
disease but is genetic. Although I heard of no reports in 2009, this spot was around in 2007 and 2008. It appears that some sort of stress may trigger the symptoms. It usually occurs in patches and is more common in corn following corn fields.

Figure 4. Lesion mimic

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