

As I See It As I See It



The Chemical Company

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Mid-Season Disease Update

At this time, foliar fungicide applications are in full swing or about to start.

In the next 30 days, temperatures are expected to be near normal with increased temperatures over the Midwest. Rainfall is projected to be high in Iowa - unusual for mid-summer.

Corn Disease Notes

Gray Leaf Spot: The weather conditions in the coming month are highly likely to be good for gray leaf spot. Risk level increases in most of the Corn Belt. Highest risk is in no-till or corn-on-corn fields and river valleys.

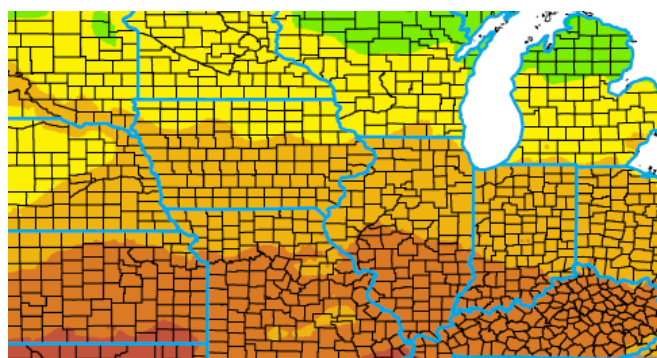
Eye spot: Weather now is not as favorable as before. Heaviest pressure is in areas north of Hwy 30, more in no-till or corn-on-corn fields. As high as 40% severity has been observed in C-C fields. Risk likely to be moderate for the northern Corn Belt.

Common corn rust: Disease development stays at low levels although can be found in most fields due to cooler temperatures in northern region.

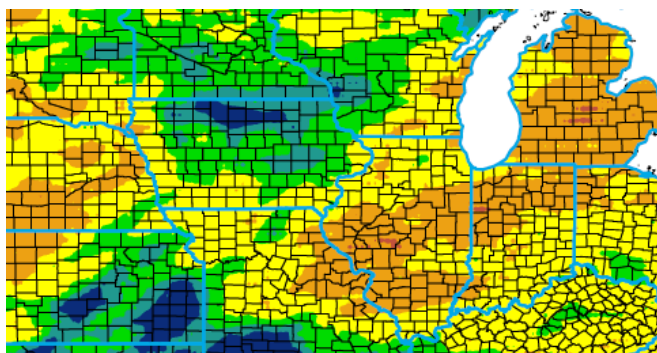
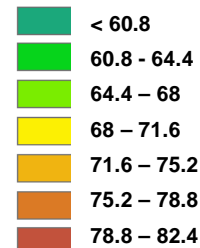
Soybean Disease Notes

Brown Spot: Outbreaks have been reported throughout region. High risk areas include southern and central Illinois, southern and central Indiana, Iowa, and southeastern Nebraska. Disease severity have been high enough to cause early defoliation even before R2 stage. For late planted soybean fields, brown spot may lead to premature defoliation if weather in late summer is cool and wet.

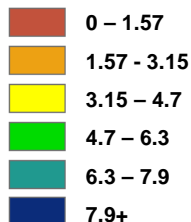
Temperature and Rainfall Estimates July 12 – August 7



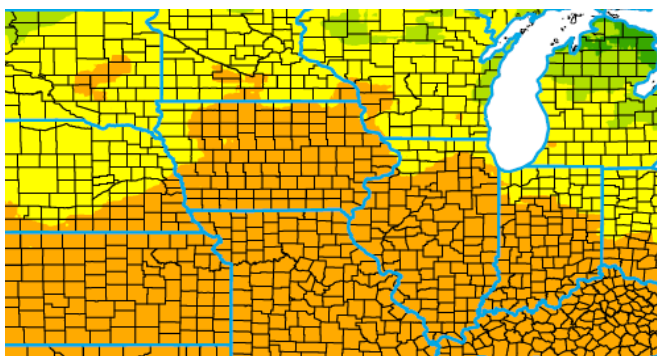
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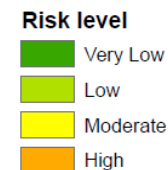
Inches



Risk Map for Brown Spot



Legend



Always read and follow label directions.

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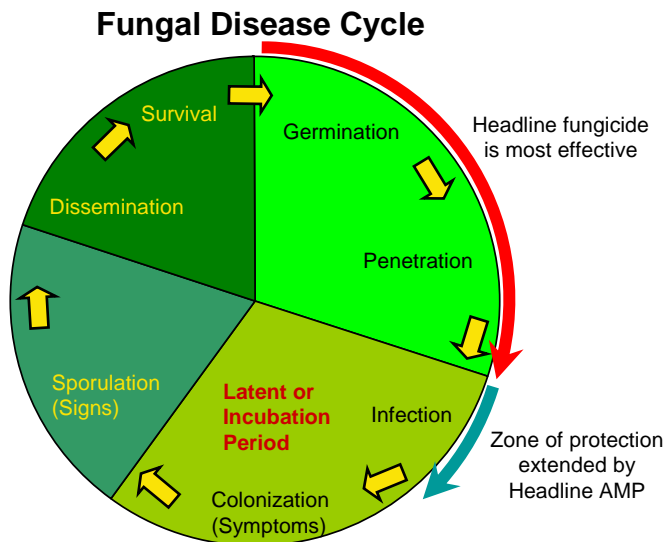
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Preventative or Curative?

When it comes to fungicides, the terms “preventative” and “curative” are often used to describe them. While this is not necessarily a bad thing, it is important to know that these terms do not accurately match up with most people’s definition.

Most people think of their own well-being when defining these terms. Take for instance a vaccine; (a preventative) that when administered, one does not contract a disease. On the other hand, when we get sick, we may be prescribed an antibiotic to (a curative) to help us overcome an infection. While this analogy is okay for human health, it does apply to disease management and the use of fungicides.

Keys to understanding the principles of plant disease are knowing the disease life cycle, a few terms and a little of how fungicides work.



Symptoms/Signs?

Knowing when plants are infected with disease is a challenge. The first clue is when we see symptoms.

Symptoms are physical expression of a change in the appearance and function of the plant. Examples include: blight (sudden death of foliage or flowers), necrosis (death of tissue), spots (circular or irregular lesions) or rots (general decomposition or destruction of tissue). Many abnormalities to the plant could be confused with a disease symptom, e.g. environmental injury, insect damage, nutrient deficiency, etc.

Signs appear later and is the visible presence of the pathogen, such as a fruiting body or discharge associated with the disease – rust pustules, mycelia growth, are examples of signs.

Preventing Infection/Colonization

Although signs and symptoms are important to positively identify diseases and should be a part of a scouting program, it should be noted that when either appears, a plant is already infected with disease and neither a “preventative” nor “curative” foliar fungicide application can fix or “cure” the damage already done.

The most commonly used fungicides in corn and soybeans today are either strobilurins or triazoles. In spite of what you have probably heard, both are really “preventative”. Strobilurins (like Headline® fungicide) prevent fungal spores from penetrating plant tissue. No penetration, no infection, no disease – yes, I guess you could call this preventative activity.

Triazoles, like metconazole, (the second active ingredient) in Headline AMP™ fungicide, prevent colonization of the fungal pathogen. A triazole cannot stop a spore from germinating and penetrating plant tissue but it *can* prevent early growth of the mycelia...if applied between 24 and 72 hours of the infection. No colonization, infection stopped, no disease. In this case, technically, an infection occurred and has been stopped – so you see why some call this “curative” activity?

In an ideal world, we would prevent *infection* from occurring, keeping plants healthy throughout the growing season; you’d never see a *symptom* or *sign*. While that may not be a realistic goal, if applied at the right time, foliar fungicides can give plants a leg up on disease.

Fortunately, disease usually starts low in the crop canopy and spreads upward over time as the disease cycle progresses and re-infection occurs. Further disease progression in the upper canopy can be prevented/stopped by applying either preventative or curative fungicides (or combination products) to healthy tissue above the infected areas. This is why we recommend applications to corn after tassel, all the foliage is out and can be protected. Soybeans are a little different, they are only about half-grown vegetatively at R2 so we usually don’t recommend applying Headline before then. Most probably get treated at R3-R4 when most of the foliage is developed. The key to successful disease management is to stay ahead of it. Those who find themselves trying to play catch-up to disease are likely in for disappointment.