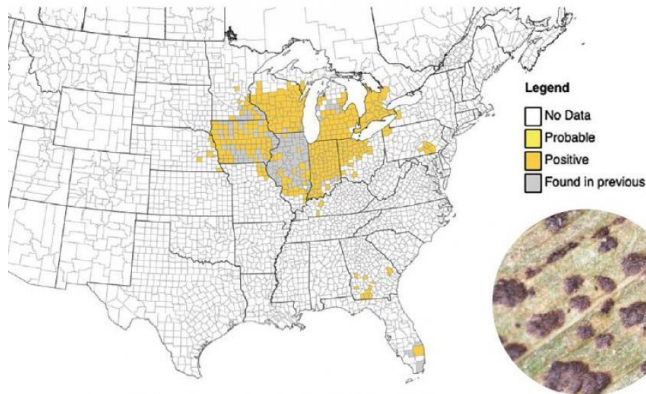


# Tar Spot Found In New States, Severe Infestation Slashes Yield



MAP: CORN ipmPIPE; PHOTO: ED ZAWORSKI

Since 2015, tar spot has expanded its footprint from Illinois, Indiana, and other midwestern states and notably Nebraska, Georgia, Kentucky, and Pennsylvania added confirmed fields this year. (Map: corn ipmPIPE)

By **MARGY ECKELKAMP** October 26, 2021

In 2021 tar spot expanded its footprint in every direction—north, south, east and west—and the disease brought severe yield loss in its most highly infected areas. Farm Journal Associate Field Agronomist Missy Bauer says her customers in Michigan saw 60 to 100 bu. yield decline thanks to premature plant death brought on by the disease.

Since 2015, tar spot has expanded its footprint from Illinois, Indiana, and other midwestern states and notably Nebraska, Georgia, Kentucky, and Pennsylvania added confirmed fields this year. “This is a disease you have to pay attention to,” says Dr. Nathan Kleczewski, plant pathologist with Growmark. “In Illinois over the last four years—two of those years had light outbreaks and two years with severe outbreaks. You have to be prepared, and right now using a fungicide at the appropriate timing and selecting a less susceptible hybrid are the best tools we have.”

**Here are five lessons learned with tar spot so far and tools to help manage the disease:**

**1. Kleczewski notes the seed industry’s ratings for hybrid susceptibility to this emerging disease vary and there is no standard.**

“Interpreting the ratings of hybrids can be a challenge. But I also expect universities to release ratings as well,” he says. “Understand that you are selecting a hybrid that is less susceptible, meaning that it won’t stop the plant from becoming infected with tar spot, but by using it disease may develop more slowly and protect you from disease better than another hybrid that is more susceptible.” For example, an assessment of most vs least susceptible hybrids in one lineup resulted in approximately a 36% reduction in tar spot when using the less susceptible hybrid.

**2. The timing of when tar spot builds to a level that warrants treatment with a fungicide is something that is coming into more focus for how to combat the disease effectively.**

“Tar spot is a disease in most years we see show up later in the season—toward the end when things start to cool down but those canopies are closed and maintaining high humidity. When we get

years when it's wet early in the season and a cold front pushes in during the middle of the season, like this year and in 2018, that'll get the disease rolling. Once it starts, it's hard to stop it," Kleczewski says.

Timing is important. In many areas this season a VT application was put on before the environment was conducive to disease, and the fungicide ran out of gas before the disease established itself in the canopy. In other cases, applications were made too late, and infections had already taken place. In general, a fungicide at VT-R2 with a product containing 2-3 modes of action if tar spot is building in the region or favorable weather is forecast. "With tar spot, the applications in the earlier vegetative stages won't likely have an impact unless you have a late planted field," he says. "Even then, you should focus on the ear leaf and above—VT to R3."

Growers this year may have assumed that their fungicide didn't work. "A lot of this is related to timing and the biology of the pathogen. The fungus that causes tar spot has a relatively long latent period, the period after infection but before symptoms and signs of disease are present. This means that you may make an application and not observe any signs or symptoms, then when you return in 2-3 weeks tissues have black tar spots. This is because the fungus was growing within foliage before the fungicide had been applied. Although the fungicide may slow down fungal growth somewhat, there simply isn't enough fungicide to completely kill the established fungus from growing and producing symptoms." Says Kleczewski.

Some growers also applied a fungicide, only to see the disease take off around R3-R4. "We still need the disease triangle. If you spray VT and it's hot and dry, and then a period of wet weather comes through around R3, R4----that fungicide has run out of gas. Remember: you roughly get 3 to 4 weeks of protection from a fungicide. They degrade and dilute in plant tissues over time, just like when we take antibiotics".

### **3. Kleczewski says scouting is key for tar spot management.**

It can help fine tune fungicide applications as well as keep growers informed of the situation in their fields. "Scouting programs should not ignore the more common diseases such as northern corn leaf blight or gray leaf spot—your scouting protocol should be thorough and work to include later visits to the field when conditions are right for tar spot."

### **4. One tool that can also help with fungicide decisions for tar spot, but should not replace field scouting, is the use of an application such as Tar Spotter.**

"Just remember that this should be used to complement your existing scouting and production practices. There is still a good deal of personal knowledge, common sense, and observation that need to be included to get the best use out of this application and similar ones. For example, if you plant on time and it's wet, but you are at V5 and the app says tar spot risk is high, you shouldn't be panicking and spraying at V6. This disease needs to build before it triggers an application. The pathogen also spreads at least 3/4 of a mile on air currents, so an early application is not likely to do much, and still likely will need to be followed by a later application. There's no silver bullet yet."

### **5. This emerging disease is going to be more known by more people.**

"It's like head blight or white mold were back in the day, it's expanding its range. Therefore, the likelihood of someone having a problem somewhere is likely to increase. Don't let it catch you off guard," Kleczewski says. "Once you have it, it becomes part of your management plan, just like GLS, NCLB, and ear molds (mycotoxin)."

“Even if you do everything correctly, it doesn’t mean that you won’t get tar spot in an epidemic year like 2018 or 2021. However, using currently available tools can significantly protect yields if implemented. We can reduce it effectively if we are careful with the tools we have. “

**Kleczewski’s 5 factors that increase your risk for tar spot related yield loss:**

1. History of disease in region
2. No-till
3. Corn after corn
4. Irrigation or field is located in areas of high probability for elevated humidity
5. Persistent wet weather from VT-early R5