

CONDITIONS FAVOR DISEASE DEVELOPMENT IN CORN FOR SOUTHEAST NEBRASKA



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With recent rainfall events and humid conditions in southeast Nebraska, conditions will become favorable for disease development in corn. Corn has tasseled and generally looks good, due to recent rainfall and good growing conditions. Gray leaf spot is a disease to continually be on the watch for, but also the relatively newer disease, bacteria leaf streak has been found in southeast Nebraska and across eastern Nebraska. It is important to distinguish between bacteria leaf streak and gray leaf spot because bacteria leaf streak is a bacteria and fungicides will not control it. Bacteria leaf streak usually affects corn earlier in the growth season than gray leaf spot, but corn can be affected by both diseases. Another disease which blows up from the south is southern rust. In 2020 it was widespread in eastern Nebraska. Therefore, it is key to check corn fields for disease development and keep abreast of reports of southern rust spreading into the state. With northern Kansas having received some heavy rainfall this summer, conditions could be favorable for southern rust development.

Before applying a fungicide on your cornfields, it is important to know the level of resistance your corn has to southern rust and also scout your fields to determine if your fields are infested, and if so at what level. You do not want to treat your fields too early so you require a second fungicide application. A fungicide application can usually last for 21 to 28 days. Under the most severe cases, with very susceptible hybrids, yield loss has been as great as 45%. A well-timed fungicide application of corn infested with southern rust has increased crop yields 20 bu/ac compared to infested fields that were not treated with fungicides.

Another disease that was identified in Nebraska in 2021 was Tar Spot. It was discovered in Richardson County last fall. There are still unanswered questions about the biology and life cycle of the fungus causing tar spot. Cooler temperatures (optimally 60-70°F) and seven or more hours of damp conditions seem to be most favorable for disease development and spread. The fungus overwinters in infested crop debris so disease will redevelop in the same areas once the fungus is established there and weather conditions are favorable again for the fungus to reproduce and infect. With the strong winds we have encountered this past year, the fungus could have spread to other areas as well.

Foliar fungicides have been effective at managing tar spot during the growing season but must be applied near disease onset for best results. You can see efficacy ratings for tar spot (and other diseases) for specific products in the Crop Protection Network's publication Fungicide Efficacy for Control of Corn Diseases. Routine scouting for diseases is important when making fungicide application timing decisions. Disease development and severity depend on hybrid susceptibility, weather/field conditions, disease history, and several other factors that will impact whether a fungicide will be necessary or economical.

In fields that were replanted due to the hail storm that went through the area in June, it is really important to check these fields for disease and pest issues throughout the remainder of the summer as they will be behind other fields and may be more susceptible.

If you have a sample and you want it confirmed for a specific corn disease, (i.e. bacteria leaf streak, gray leaf spot, southern rust or tar spot) feel free to send it into the UNL Crop Diagnostic Clinic. For instructions go to: <https://cropwatch.unl.edu/plantdisease/pest-samples>. You can also bring the sample to your local Extension office or my office in Auburn, NE at Suite 102, 1824 'N' St. and I will make sure it gets delivered.

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