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COLORADO WHEAT DISEASE NEWSLETTER

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DISEASE OBSERVATIONS

Common root rot

A few fields have reported a small amount of common root rot. This disease is caused by a complex of several soil-borne fungi. Prolonged drought stress coupled with high soil temperature in the fall promotes early disease development, so conditions last fall were favorable for disease. Soil compaction and over-fertilization are also major factors, so common root rot will vary from site to site depending on those conditions.

Tan Spot

We have a few reports of limited tan spot in some fields. Tan spot is caused by a fungal pathogen that needs cool, moist conditions to cause disease. Tan spot observations have been limited and hard to find, but it can appear this time of the year. It should not cause major problems due to the dry weather.

DISEASE WATCH AND MANAGEMENT

Stripe Rust

There are currently no reports of stripe rust in Colorado or the surrounding states. Stripe rust disease is dependent upon cool, wet weather, and the dry conditions across these states will likely inhibit and/or limit rust diseases in the near future.

Soil moisture levels are often correlated with stripe rust incidence and can be used as a predictive tool in determining if stripe rust will emerge. This time of year, we look at the soil moisture levels in the south, particularly Texas and Oklahoma (**Figure 1**). Most of Texas and Oklahoma has been very dry since last fall, and is currently experiencing low soil moisture. At this time, it seems that stripe rust spore levels will remain low, suggesting a low risk for an epidemic in Colorado during the critical growth stages of wheat. However, soil moisture is only one predictive indicator of risk, and the disease is complicated. Once the disease is detected in Colorado, local weather conditions, varieties/resistance, and management practices will all drive disease development. We will continue to monitor for rust and provide recommendations as we reach critical growth stages. Please help us protect our fungicides and prevent fungicide resistance by carefully timing applications, following the label, and only when the disease pressure is appropriate. If you think you see symptoms, please feel free to send photos.

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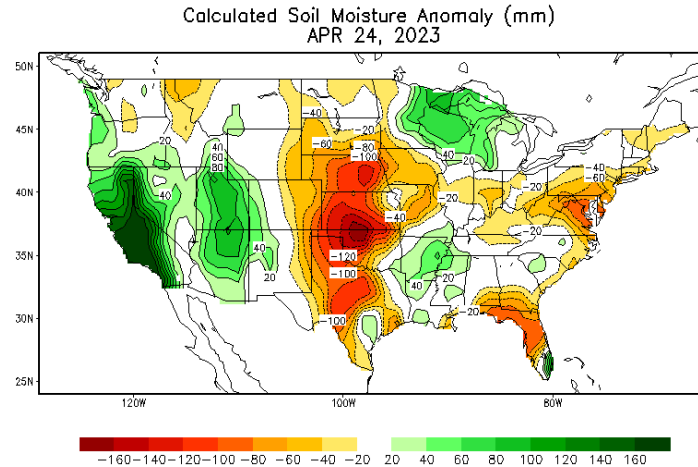


Figure 1. Soil moisture levels as a predictive tool for stripe rust risk. Higher soil moisture levels are typically associated with higher risk. We closely watch the southern states (Texas, Oklahoma) for soil moisture levels and the emergence of stripe rust as one tool to predict risk in Colorado. Overwintering spores are not thought to be a major source of disease inoculum in Colorado, and the majority of the spores likely blow up in air currents from the south. Data from the National Weather Service Climate Prediction Center, <https://www.cpc.ncep.noaa.gov/soilmst/w.shtml>.

Viruses

We haven't found any viruses yet this year, but stay on the lookout as things start to green up.

Growers are strongly encouraged to regularly scout wheat fields for diseases. Particularly, scout for stripe rust and viruses in the coming weeks.

The **Colorado Wheat Entomology Newsletter**, written by Dr. Punya Nachappa, covers insect/mite pests and management tips. The newsletters are published bi-weekly during the growing season and are available here: <https://coloradowheat.org/category/news-events/wheat-pest-and-disease-update/>

Do you have a disease that you would like diagnosed? Contact the **Plant Diagnostic Clinic** for sample submission: <https://plantclinic.agsci.colostate.edu/> or plantlab@colostate.edu.

Additional resources

1. The North Central Regional Committee on Management of Small Grain Diseases (NCERA-184) Fungicide Efficacy for Control of Wheat Diseases Table: <https://crop-protection-network.s3.amazonaws.com/publications/fungicide-efficacy-for-control-of-wheat-diseases-filename-2021-04-21-154024.pdf>
2. Wheat variety database with stripe rust resistance ratings from field trials: <https://wheat.agsci.colostate.edu/database/>

CONTRIBUTORS

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