

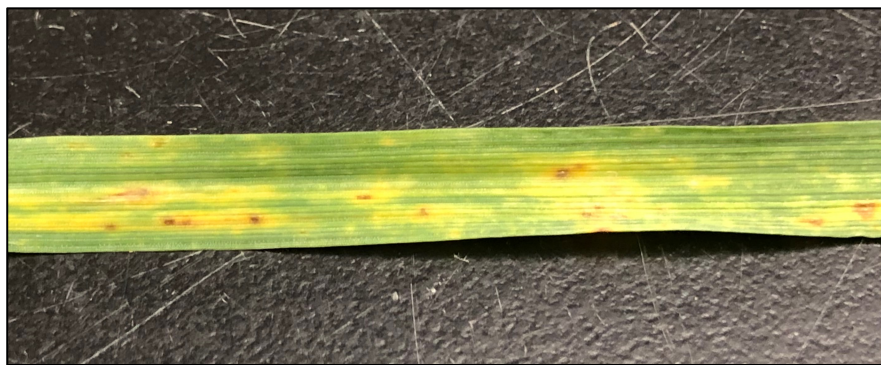
Wheat Disease Update - May 18, 2019
Dr. Tessa Albrecht, Research Scientist and Diagnostician
Department of Bioagricultural Sciences and Pest Management
Colorado State University

Most of eastern Colorado is enjoying average to above average precipitation and temperatures are a little cooler than normal. In northeastern Colorado much of the wheat is behind schedule and still jointing but in the southeast heading has begun.

There are still no reports of stripe rust in Colorado however; inoculum is building in our neighboring states to the east. Bob Hunger (Extension Wheat Pathologist at OSU) observed stripe rust and leaf rust in central Oklahoma. Erick De Wolf reports stripe rust moving closer to the western border of Kansas with severe infections in central Kansas. Leaf rust is also affecting wheat in Kansas. Rust is not a problem in Colorado yet but with continued precipitation and cool temperatures it can develop quickly so keep an eye out.

We have several reports of tan spot in the lower canopy, which is caused by the fungal pathogen *Pyrenophora tritici-repentis*. Tan spot survives in crop residue and thrives under continuous damp conditions. Leaf symptoms are small tan oval-shaped lesions often surrounded by a yellow halo. Centers of lesions darken with maturity. As the disease expands lesions coalesce causing large regions of diseased tissue. Spores are dispersed by wind affecting larger areas as the fungus is spread to new host tissue. Management of tan spot includes foliar fungicide applications, genetic resistance, rotation with broad-leaf plants and control of crop residue. Keep in mind this has only been reported on the lower leaves of plants suggesting low to moderate infection levels. However, if you are considering foliar fungicide application to infected fields Erick De Wolf has provided a good resource:

<https://wheat.agsci.colostate.edu/wp-content/uploads/sites/85/2019/04/EP130.pdf>.



Developing tan spot leaf symptoms

We have reports of cephalosporium stripe, caused by fungal pathogen *Cephalosporium gramineum*. Initial infections occur in the fall and winter in roots of germinating wheat. Disease symptoms are long yellow stripes along the veins of the leaves. Veins will turn brown as the disease progresses. As with other foliar fungal pathogens the spores survive in crop residue.

Cultural practices should be used to control *Cephalosporium* stripe such as late planting, control of wheat residue and rotation. There is no approved chemical control for this pathogen.



Cephalosporium stripe leaf symptoms

Wheat streak mosaic virus (WSMV) is present throughout eastern Colorado. We have had samples test positive for WSMV from Adams, Bent, Larimer, Kiowa, Kit Carson, Phillips, Prowers, Sedgwick and Yuma Counties. Samples from Bent County tested positive for both WSMV and *Triticum mosaic virus* (TriMV). There is also indication of *Wheat mosaic virus* (WMoV), formerly known as *High plains virus*. The wheat curl mite (WCM) transmits all three of these viruses. Surveys are still not complete but WCMs have been found on samples from Adams, Larimer and Phillips counties. Cultural practices such as genetic resistance and late planting are used to control for WCM-transmitted viruses.

There are also reports of *Barley yellow dwarf virus* (BYDV) on wheat. This virus is transmitted by several species of grain aphids, but not the Russian wheat aphid. Its symptoms are characterized by presence of aphids and yellow or purplish leaf tips. Foliar insecticides are usually not economically feasible because movements of aphid populations are sporadic and unpredictable.

For a guide to wheat disease symptoms please see: <https://wheat.agsci.colostate.edu/wp-content/uploads/sites/85/2019/04/EP130.pdf>

If you think you have disease in your wheat, samples can be diagnosed at the CSU Plant Diagnostic Clinic: <https://plantclinic.agsci.colostate.edu/>