Wheat Disease Update May 4, 2020

Tessa Albrecht: tessa.albrecht@colostate.edu
Punya Nachappa: punya.nachappa@colostate.edu

AGRICULTURAL BIOLOGY
COLORADO STATE UNIVERSITY

Colorado Wheat Administrative Committee

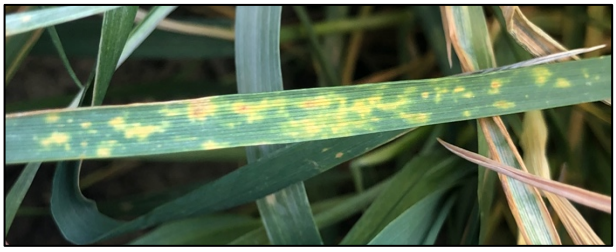
Frost damage

Overall, winter wheat is on schedule. There are some regions that are still behind schedule but much of the wheat has started jointing. Mild to moderate frost damage is present across eastern Colorado. Early season frost damage is common in our region and with a little moisture the wheat should be fine. Unfortunately, drought conditions are increasing across Colorado with 75% of the state abnormally dry, 56% in moderate drought and 32% in severe drought. These numbers do not account for the rain last weekend.

Stripe rust

There are no reports of **stripe rust** in Colorado yet this year. Erick DeWolf (Kansas State University) reports stripe rust on lower leaves in central and southern Kansas. Rust is moving west, and we should remain vigilant with scouting in Colorado. No stripe rust has been observed in counties in northwestern Kansas yet. Bob Hunger (Extension Wheat Pathologist, Oklahoma State University) reports "low to high incidence and severity" of stripe rust. He also reports that in south-central Oklahoma, stripe rust is transitioning from the urediniospore stage (infectious to wheat) to the teliospore stage (not infectious to wheat) due to increasing temperatures. Low incidence of leaf rust if present in south and central Oklahoma.

Tan spot



Tan spot was present on lower leaves at some locations in Kit Carson county and likely in some locations further north. Leaf symptoms are small tan oval-shaped lesions surrounded by a yellow halo that form dark centers with maturity. Lesions coalesce causing large regions of diseased tissue. Fungal spores survive in crop residue and can be blown by wind. Yield losses can be up to 50% under favorable conditions, which are continuous wet conditions. Tan spot can be common in our region early season but typically does not persist into the upper canopy unless under irrigation. Management includes control of wheat residue, non-host rotation and foliar fungicide application. If you are considering fungicide application please see Kansas State University's Foliar Fungicide Efficacy Ratings at, https://wheat.agsci.colostate.edu/wp-content/uploads/sites/85/2019/04/EP130.pdf

Wheat curl mite and mite-transmitted viruses

We have observed one instance of possible wheat curl mite (WCM)-transmitted virus symptoms in a susceptible wheat variety in Kit Carson county this season. Diagnostic confirmation is still needed. Thus far, **wheat curl mite-transmitted virus** incidence is low compared to this time last season. WCM-transmitted viruses include **Wheat streak mosaic virus** (WSMV), **Triticum mosaic virus** (TriMV) and **High Plains wheat mosaic virus** (HPWMoV), with WSMV being the most prevalent and damaging. Symptoms include small yellow streaks scattered across the leaf. Bob Hunger reports WCM-transmitted virus occurrence in northwestern Oklahoma. Thus, we may see WCM-transmitted virus activity in the southeastern corner of Colorado. Management for WCM-transmitted viruses includes genetic resistance, late planting and control of wheat residue.