

Wheat Disease Update – April 15, 2019
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The 2019 wheat season is underway. Temperature and soil moisture conditions are good for winter wheat in eastern Colorado while parts of southern Colorado remain abnormally dry.

There is no indication that stripe rust overwintered in Colorado this year so the risk of early infection is low. There have been limited reports of stripe rust in Texas (Clark Neely, Extension specialist TAMU) and low incidence in Oklahoma (Bob Hunger, Extension wheat pathologist OSU) this spring. Texas and Oklahoma are the locations where the inoculum builds up and could affect eastern Colorado later in the season. Erick De Wolf 's outlook for stripe rust in Kansas, reports a moderate risk of severe stripe rust. (https://webapp.agron.ksu.edu/agr_social/article/outlook-for-stripe-rust-in-the-2019-kansas-wheat-crop-325-3). As the risk of stripe rust is low for Colorado at this point in the season, I do not recommend early fungicide application. The only exception would be for wheat grown under center pivot irrigation, or wheat planted into wheat fields where tan spot, stagonospora blotch or powdery mildew were observed last year as those pathogens can survive in the wheat residue. Fungicides in the strobilurin or triazole class are effective at controlling these three pathogens. I will continue to monitor any incidence of stripe rust and other fungal diseases in Colorado and neighboring states to give recommendations for control later in the season.

The most widespread wheat disease in Colorado last year was Wheat streak mosaic virus (WSMV), likely due to the extended warm fall of 2017 allowing the insect vector population to build up and viral loads to increase on winter wheat prior to vernalization. The vector for WSMV, Triticum mosaic virus (TriMV) and High plains mosaic virus (HPMoV) is the wheat curl mite (WCM). We observed and collected WCMs that over summered on volunteer wheat and weedy grasses in September of 2018 at ARDEC. Furthermore, the WCM has overwintered at ARDEC and I found live mites on wheat April 7th. This does not necessarily mean that the WCM overwintered further east under different management conditions. However, WCM eggs can survive temperatures of 5°F for eight days or more. Fall infestations of the WCM are more damaging than spring infestations because WCM populations and viral loads build up in the fall so the disease is already present on the wheat when it breaks dormancy in the spring. This makes WSMV prevalent even if the WCM did not overwinter. There are no chemical controls for the WCM or the viruses they transmit. If you think you have virus symptoms in your wheat, samples can be diagnosed at the CSU Plant Disease Diagnostic Clinic <https://plantclinic.agsci.colostate.edu/>.