

SPECIAL FEATURE

Wheat condition update

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What are some potential “cold snap” effects on the 2023 winter wheat crop?

Well, Mother Nature brought a winter “artic blast” for a few days last week and producers may be wondering how that may have affected the 2023 winter wheat crop? That is a very good question! Fortunately, the cold snap of temperatures was pretty short-lived.

As we all know, there are extremely **dry soil conditions** around the state which puts the wheat more susceptible to winter damage or winter kill. Dry soils will get colder easier than wet soils. With the recent cold snap, there was some moisture that was received, but it would take a lot to catch us up on the current deficient around the state. The **moisture level** is a very important component when it comes to winter hardiness, which can help buffer some of the negative effects of cold air temperatures. The cold temperatures will be more likely to cause injury to wheat if the plants were emerged and showing some drought stress symptoms. The wheat that hasn’t emerged yet, is protected from winter damage.

The most noticeable symptoms will be a lot of burn-down (brownish) or discoloration (purplish) of the wheat from these cold temperatures. If the wheat was bigger than normal, probably not much around here in NC KS, the plants may look just a little “rough” with a lot of brown dead-looking foliage on the soil surface. However, that doesn’t necessarily mean the plants are dead.

The **plant development** (top and root system) is also another factor as obviously, the more developed the wheat plants are, the less susceptible to the cold, especially in the root system.

Soil temperatures are also very important for potential of winter damage. More specifically, the soil temperatures at the crown level of the plant where the growing point of the wheat plant is located. Winter damage or winterkill is possible if soil temperatures at the crown level fall into the single digits. If there is at least an inch of snow on the ground and

adequate moisture, the wheat will be insulated and protected, and soil temperatures will usually remain above the critical level. Dry soils and loose seedbeds warm up and cool down much faster than moist or firm soils, contributing to winter injury. If we do receive some snow accumulation, if the wind also is present, the snow may not stay where it is needed.

According to the KSU Mesonet weather data library in our three Post Rock Extension District weather stations in Jewell, Mitchell and Osborne counties, the average 2-inch soil temperature has been between 29-31 degrees F. So that is great news for now! But we will continue to monitor the soil temperatures and see how it fluctuates once the cold snap subsides. If producers would like to monitor the soil temperatures, the KSU Mesonet weather data library website is <http://mesonet.k-state.edu/agriculture/soiltemp/>.

It may take a while to determine the extent of winter damage or winterkill on the wheat crop, so simply a “wait and see” game!

If you have further questions on **wheat production**, give me a call or stop by any of our Post Rock Extension District Offices in Beloit, Lincoln, Mankato, Osborne or Smith Center.