

Post Rock Extension District Column
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Is there some yellowing showing up in your wheat fields?

WOW.....the wheat around northcentral Kansas is definitely 100% better than the last couple of years. Some places have been fortunate to receive the needed moisture at the right time, while others still continue to have limited moisture and the wheat is showing some concerning conditions.

So, if your wheat fields are turning yellow, just want are some of the causes?

Cold weather injury at the tillering stage. A sudden drop in temperatures after the wheat has greened up, but before it reaches the jointing stage, will burn back the top-growth, often giving the field a yellowish cast but not necessarily reducing yield potential. This injury is likely cosmetic, provided the growing point is still healthy. I have dug up wheat around northcentral Kansas and split the stems to find the developing head and haven't found any damage yet. Variety release from winter dormancy can also affect the extent of the symptoms, as early varieties would have been less cold-hardy and thus likely sustain more injury.

According to our Mesonet Weather Data Library stations in Jewell, Mitchell and Osborne counties, the average minimum temperatures ranged from 15° to 23° from March 25-27, 2024. So, depending on your wheat growth stage, there could have been some damage.

A disease that can also start showing up is the **Wheat streak mosaic complex**. This viral disease is vectored by the wheat curl mite. Yellow areas in the field will appear in the spring around the jointing stages of growth; usually on field edges adjacent to **volunteer wheat** either last fall or this spring. Leaves will have a mosaic of yellow streaks, stripes, or mottling. Plants infected with wheat streak mosaic are often smaller than healthy plants. There are two additional viruses, Triticum mosaic virus and high plains mosaic virus, that also result in similar symptoms.

Drought conditions can also be showing a yellowing of the lowering leaves which is just mother nature's way of survivability of the plant. Some areas may also be showing these conditions.

What about fertility concerns in the wheat crop? Nitrogen deficiency could also be a problem out in the wheat. As the crop starts to grow in the spring, its nitrogen (N) demand increases and it is common to see N deficiency, especially while the temperatures are lower and not much N is mineralized from the soil organic matter. Nitrogen deficiency causes an overall yellowing of the plant, with the **lower leaves yellowing** and dying from the leaf tips inward. Nitrogen deficiency also results in reduced tillering, top growth, and root growth. The

primary causes of N deficiency are limited root growth to uptake nutrients, insufficient fertilizer rates, application problems, applying the nitrogen too late, and the presence of heavy amounts of crop residue, which immobilizes nitrogen.

Similar to nitrogen, the crop's **sulfur** requirement increases in the spring as it takes off on reproductive growth. Due to a decrease in sulfur deposition in the rainfall, there has been an increasing number of fields with sulfur deficiency symptoms in Kansas in recent years. Sulfur deficiency can also occur where soils are cold in the spring due to a reduced rate of release of sulfur from organic matter. The symptoms of sulfur deficiency are very similar to nitrogen deficiency. However, **sulfur deficiency** differs from N deficiency in that the whole plant is pale, with a greater degree of chlorosis (yellowing of plant tissue) in the **young/upper** leaves.

Please contact me if you have any questions on your wheat crop and I would be glad to visit with you and come and take a look at your wheat fields.

Post Rock Extension District of K-State Research and Extension serves Jewell, Lincoln, Mitchell, Osborne, and Smith counties. Sandra may be contacted at swick@ksu.edu or by calling Smith Center, 282-6823, Beloit 738-3597, Lincoln 524-4432, Mankato 378-3174, or Osborne 346-2521. Join us on Facebook at "Post Rock Extension" along with our "Ag News Roundup" every Friday. Also remember our website is www.postrock.ksu.edu and my twitter account is @PRDcrops.