

News Column
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YELLOW WHEAT

When I received a call last week about yellow looking wheat, I approached the question with the confidence of a teenager arguing with a parent. I didn't need to see the field, and I didn't need any more information. I knew the answer, and I was absolutely certain I was right!

OK, the truth is that I quit thinking like a teenager long ago. However, I still thought I knew the answer – I was even pretty sure I knew the answer – and told the producer what I expected to find before I ever left my office.

I was confident I would find yellow patches that would be easily identified as sulfur deficient. I even copied a publication on sulfur deficiency and stashed it in my bag to hand to the producer once I confirmed the diagnosis.

Now, here is the hard part of this story,... and the part I'm sure you saw coming from the very beginning. I was wrong! Yes, it is painful to say – and I know I'm letting down every male who ever drove around lost, refusing to ask directions – but it was obvious my phone diagnosis was wrong.

What I actually found was freeze damage. Driving up to the field, my first thought was fertilizer burn,...and that is the first question I asked. Has this field been top-dressed, or sprayed with anything?

Cold temperatures about five days prior to my visit had damaged about the upper two inches of each plant, turning the field yellow, with a brownish tint. It was a better outcome than I

anticipated because the wheat wasn't far enough along at the time of the freeze for the growing point to be damaged. By the time you see this article, that field should be fully recovered.

Yellowing in our wheat fields during the first few weeks of April is often either nitrogen deficiency or sulfur deficiency. From a distance they look alike, except nitrogen deficiency may be more field-wide, whereas sulfur deficiency is often spotty.

Upon closer inspection, nitrogen deficiency will cause an overall yellowing of plants, with the lower leaves yellowing and dying from the tips inward. Yellowing caused by sulfur deficiency will still cause paleness and yellowing of entire plants, but the upper (younger) leaves will be even paler than the lower leaves.

Sulfur deficiency is more commonly seen in no-till fields because the soil doesn't warm up as quickly in the spring. Once soils start to warm, then sulfur often mineralizes from the organic matter in the soil, and sulfur deficiency symptoms decline.

Unlike nitrogen deficiency that may be field-wide, or may show up in a definite pattern where the fertilizer applicator missed a strip, sulfur deficiency symptoms will more likely follow soil type, or be in areas where soil has been disturbed.

Sandy soils are more prone to leaching, so sulfur deficiency may show up in sandy parts of a field. Areas where soil has been moved – often many years ago to build terraces – are also spots where sulfur deficiency shows up. Sometimes these spots are lower in organic matter, resulting in less sulfur available from mineralization in the soil.

A nitrogen deficient field could still be fertilized at this time of year with positive results. Conversely, trying to mitigate a sulfur deficiency at this stage probably won't be profitable. The better plan would be to soil test, and apply sulfur accordingly to the next crop.

Other causes of yellow wheat, that might appear in the next few weeks, include wheat

steak mosaic and barley yellow dwarf, both leaf diseases. Another cause of yellow wheat is iron chlorosis, but that is usually on high pH soils and isn't usually a problem in Riley County wheat fields.

Call me if you see a problem. I'd be happy to give you the wrong answer,....then come look at the field.

If you have questions, you can reach me at the Riley County Extension Office at 785/537-6350. Or, you can send e-mail to gmclure@ksu.edu.

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