

News Column
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SOIL TESTING

I learned last week that collecting soil samples is a lot more exciting when there is a mean ram in the field.

When a job becomes too easy, or boring, some people move on to a new job. Not me. I just add a new level of difficulty!

My ram and I collected soil samples from the fields by my house last week. I actually did all the work, and he just watched. Sometimes he watched too closely,...prompting me to watch HIM closely while I yelled and pointed my soil probe at him.

When it was time to leave the field I backpedaled all the way to the electric fence, talking to my friend as he followed along. I told him he was leaving his females behind, but he went with me anyway.

Once I was safely on the other side of the fence I turned my back, hoping my friendly ram would come after me and zap his nose on the hot wire. But,...no suck luck. He was too smart, and just turned away and calmly walked back to his flock.

Even though it is more than twice as much work, I collected both a surface sample and a profile sample from each field. The surface samples will be tested for pH, phosphorus, potassium, organic matter, and zinc. The profile samples – taken to a 24 inch depth – will be tested for nitrogen, sulfur, and chloride.

Nitrogen, sulfur, and chloride are all mobile nutrients that move down in the soil profile

relatively quickly, thus requiring the deeper sample to determine their levels in the soil. I am mostly interested in the sulfur and chloride results from my profile samples. With the good yields we had this year I don't expect there to be much residual nitrogen.

In recent years, sulfur deficiency has become relatively common in wheat fields, especially in no-till fields. The likely reasons are cooler soil temperatures in no-till fields that slow mineralization, and a reduction in atmospheric sulfur as a result of cleaner automobile emissions.

Thirty years ago we only expected to find sulfur deficiencies in sandy soils – soils that are low in organic matter and subject to leaching. However, in recent years, we have seen sulfur deficiency on finer textured soils too.

From a distance, sulfur deficiency could be mistaken for a nitrogen deficiency. Both deficiencies result in yellow, stunted plants. Unlike N deficiency, where older leaves show firing and yellowing, S deficiency will cause the younger, uppermost leaves to become yellow first.

Look for sulfur deficiency symptoms to show up in early spring, shortly after green-up, and while the soil is still cool, slowing mineralization of organic S from the soil. Crops lacking sulfur can be yellow and severely stunted, often resulting in severe yield reduction in the affected areas.

If sulfur deficiency was observed in a field during the previous growing season, then sulfur fertilization of the next crop is an easy decision. If you are in doubt, then soil testing is a logical step.

As mentioned earlier, we need a deep sample to test for sulfur. A 24-inch deep sample is our goal, but I have sampled fields where it is just 15 inches to limestone. If that is as deep as we can sample, we just need to record the depth so the lab can calculate the results accurately.

While six-inch deep samples can be taken with a shovel, you'll want a soil probe for collecting deeper samples. We have one we can loan to you. Give me a call and I might even might even deliver it to your house.

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 gmcclore@ksu.edu.

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