K-STATE Research and Extension | Meadowlark District

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Forage Stand Soil Sampling

I'm an admitted advocate for soil sampling forage stands. I always think more information is better than less and I think soil fertility is a contributing factor to everything from yield to the ability of a stand to withstand pressures like drought stress and fall armyworm feeding. Even so, while I seldom discourage someone from taking a soil sample, we should also do what we can to maximize the value of our results.

For example: why are you sampling in the first place? If you are after a broad view to see if soil test levels are holding steady, you may sample differently than if trying to determine why part of the farm is performing well, and other areas are weedy. Limit sampling area to 40 acres when possible, keeping in mind additional value may be gained from more focused zone sampling as well. When trying to tease out an issue, more samples are likely going to be better.

Once you decide why you're sampling, focus on how. Sampling variability comes from a lot of places, but if we approach sampling horizontally and vertically, we can limit at least a few issues. Horizontally, make sure to take enough cores across the landscape. A minimum of 12-15 cores per sample are recommended to reduce the variability occurring with fewer subsamples. Vertically, maintain a consistent depth. There may be reasons to sample to a shallower depth just like there are reasons to sample deeper, but if you want to get consistent and comparable information, sample to a consistent depth. Nutrient stratification can drastically affect a soil test taken from a four-inch depth versus one taken from eight inches. Knowing what depth you should be pulling from (zero to six inches is most common) and be consistent.

Finally, get good interpretations of the results. The numbers soil test results provide are just numbers unless you understand the values we're trying to compare them to. Whether you're submitting samples through our K-State Soil Testing Lab or a private lab, analyze the results and where recommendations come from. Doing so can provide a greater degree of confidence in the decisions you make from the results and what you need to continue to do moving forward.

Want to dig deeper into designing a soil test program – or improving your current one? Drop me a line. I'd be happy to visit with you more about whether a soil test should be considered (yes…) and how to maximize the value from one should you decide to pull samples.