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Soil Testing Forage Stands

In last week's column, I mentioned soil sampling as part of forage stand evaluations this time of year. With the base of most of our forage systems rooted in cool season species that respond well to fertilizer, it's a topic deserving of greater attention.

As far as management practices go, soil testing should be done every three to four years. More frequent sampling can help when fertilizer prices dictate more finely tuned management, but sampling every four years can build a fertility history for management of fertilizer programs long term with the hope of avoiding the yield declines associated with lower fertility levels.

Sampling is not as easy as digging up soil and throwing it in a bucket. Start by collecting a nice even core to an appropriate depth. If nutrient stratification is a concern or you are sampling for pH only, shallower samples can be considered, but for most samples, a depth of six inches is best. A soil probe works well for managing depth as well as providing a sample that is the same dimension from top to bottom. If using spade, dig a hole first, then collect an even shovel slice from top to bottom, avoiding 'angled' slices with more volume at the surface than from lower depths. *Sampling in dry soils can significantly affect sampling depth variability.*

Collect plenty of cores (15-20 samples pulled at random preferred) from a predetermined sample area, combining them into a composite sample by mixing thoroughly to get a single representative sample for submission. Areas managed differently in the past should be sampled separately. A good rule of thumb is to limit sampling areas to 40 acres in size, using smaller areas when fields are more variable.

Samples can be submitted for testing through our K-State Soil Testing Lab or any other accredited lab. Most labs run similar tests, with differences in recommendations primarily due less to soil test result and more on the recommendation methodology used by the lab. The K-State Soil Testing Lab bases recommendations on a sufficiency basis (the last unit of fertilizer should result in an economical yield response) using research-based response curves.

If you're interested in setting up a more intense soil testing program – or starting with a program altogether, drop me a line (dhallaue@ksu.edu or any Meadowlark Extension District Office) to discuss options to determine which sampling process might be best for you.