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### ***Soil Testing Best Management Practices***

One of the ‘baselines’ of a productive food/forage production system is soil fertility. It’s difficult to raise plants without adequate nutrients – from applied fertilizer and the soil – and determining that right rate/right product/right place combination starts with a good soil sample.

Soil sampling isn’t simply collecting a little dirt in a bag and sending it off for analysis. It starts by asking: why am I sampling? If evaluating poor growth or a uniformity issue, sample normal and abnormal areas separately to determine if a nutrient is the issue or something else. If trying to get an ‘average’ for the area, collect samples from across the field. If fertilizing according to precision zones/grids, lay out sampling points in advance to help you obtain information to guide the precision application process. If you participate in cost share programs requiring soil sampling, check program requirements in advance of sampling/testing.

Collect an appropriate number of cores. Single core samples simply aren’t accurate. because the variability is so high. Collect a minimum of 12-15 cores per sample. More is better.

Keep sampling depth consistent since nutrient levels can vary significantly with depth. For pH, organic matter, phosphorous, potassium, and zinc, sample to a six-inch depth. Sampling from varying depths can skew results if nutrients are stratified for some reason. When sampling for mobile nutrients (nitrogen, sulfur, or chloride), a two-foot sample depth is recommended.

Avoid ‘patterns’ when sampling. Zig zag back and forth rather than following planting, tillage or fertilizer application equipment. Non-uniform fertilizer applications *can* and *do* occur. Sampling in a random pattern helps offset potential uniformity issues. If grid sampling, collect accurate GPS coordinates that will allow you to return to the same area when sampling next time – then sample in a five to ten-foot radius around the center point for best results.

Watch for trends over multiple sampling cycles to get an even better idea as to how your nutrient management program is performing. For best results, sample at the same time of year (fall is an excellent time...) and following the same crop each time.

A soil sample is an inexpensive way to get good information about what the soil can provide for the growing crop, lawn, hay field, or garden while allowing us to make sound economic and environmental supplemental fertilizer application decisions based upon accurate information. For more information on soil testing – for crop, forage, garden, or landscape – contact any Meadowlark Extension District Offices or e-mail me directly at [dhallaue@ksu.edu](mailto:dhallaue@ksu.edu) . Soil probes are available for checkout via any Meadowlark Extension District Office.