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The 'Basic' Soil Test: P & K

Phosphorous and Potassium are standard results included in even the most basic soil samples and have been forever. We get a number. We know what that number means based on what we know of crop needs. We apply accordingly – but what do they do?

Phosphorous is probably the nutrient of the two we really focus on, and for good reason. For starters, it's traditionally been the nutrient of the two we find to be deficient more often in our northeast Kansas soils. It's also vitally important to a lot of the plant functions we can visibly observe.

When we see differences in stands in early growth and development or later on in flowering (hastened maturity) or grain production, it could be a result of differences in Phosphorous levels. It's a factor in things we don't see as readily as well, including root development and resistance to drought and cold temperatures. Inadequate P slows carbohydrate utilization and deficiencies of the nutrient can noticeably inhibit leaf area and number.

While we've tended to pay less attention to soil Potassium (K) levels, it's a nutrient of increasing concerns across our crop and forage systems with soil test levels increasingly showing deficiencies. Unlike the more noticeable effects low P soils might exhibit, K has more 'internal' effects including plant enzyme activation and roles in photosynthetic processes. Of particular interest in forage crops is its role in the conversion of nitrogen (N) to protein and in field crops, the value it has in reducing plant disease. Not as visible – just as important.

While a soil sample is relatively inexpensive in the scheme of things, it does take time as well as some attention to detail to make sure you collect one that will give you good results. Even so, the value even a basic soil test can provide for nutrients like P and K is well worth the effort. If you're interested in discussing what collecting a good sample might entail – or what other nutrients you might want to add to these more basic ones - drop me a line.