

Why growers and agronomists should consider spring soil sampling

We've turned the calendar again, but the longstanding agronomic debate still continues: should routine soil samples for fertility analysis be collected in the spring or the fall? Fueled by the need for fertilizer recommendations and nutrient management planning information, this question plagues agronomists each year. As fall rolls around, agronomic consultants face the sometimes-crippling effects of fall burnout brought about by the expectation of harvest and fall soil sampling completion within a very small, fall-weather window of time. The convention for soil sampling has long been to collect samples in the fall, but why is that, especially considering the pains it causes?

Soil sampling is supposed to happen in the fall, isn't it? DITWWHADI isn't just a random group of letters – it's a swear word that means 'do it the way we have always done it'. It's a swear word because of the negative impact it can have by preventing people from moving beyond their current mindsets.

Fall soil sampling is a perfect example of this. The tradition has been to assess soil fertility after harvest so that fertilizer can be applied prior to tillage. However, the increased prevalence of reduced and no-till operations, combined with advancements in fertilizer chemistry and fertilizer application equipment, have made the post-harvest window less important.

As growers and agronomists realize that the need for post-harvest sampling is diminished, DITWWHADI becomes the only reason to continue on the fall-sampling path. The argument is that since previous soil samples were collected

in the fall, future samples should be as well. However, there is a valid case for spring soil sampling and why growers and agronomists can find peace in switching their seasonality and mindset.

Spring sampling does not produce different results

One of the myths driving this tradition is that spring-pulled samples will yield different results than fall-pulled samples. This simply isn't true - at least not in any meaningful way. Soil test data from Rock River Laboratory was split into spring (March – June) and fall (September – December) categories and analyzed for differences. The results showed only slight differences in soil test P, K, and pH; not large enough to make a difference in any fertilizer or lime recommendations. Knowing that spring sampling and fall sampling will yield similar results helps to overcome DITWWHADI and opens the door to the increased flexibility that spring sampling has to offer.

Leisurely planning for all

One of the most compelling arguments for spring sampling is that it allows for more time to plan the fertility program. This is especially important recently as fertilizer prices seem to fluctuate with the wind. Being able to develop a fertility plan prior to harvest means that the amount of fertilizer needed will be known long before the year's end. Growers armed with this information will be able to watch the market and be prepared to pounce on a fertilizer purchase if the conditions are right.

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That's a much better scenario than the typical, relatively-short purchasing window right at the end of the year. To be clear, spring sampling is not to develop a fertilizer program for the crop that's being planted that spring – it's for next year's crop. To that point, spring sampling does not need to be finished up prior to planting. Samples can be safely pulled until the time that a crop will no longer recover from being driven over by an ATV. This revelation elicits immediate relief if you're someone who falls into the aforementioned 'fall burnout' category. If starter has been applied, try to stay out of it, but if the right number of cores are pulled for each sample (8-10 cores are ideal), the chances that any applied fertilizer alters the soil test result is quite small.

Know what the crop is actually growing in

Crop residue from harvest is a major source of plant nutrients. The freeze and thaw cycles of the winter, combined with snow melt, are important mechanisms to get the residue nutrients back into the soil profile and fall sampling simply doesn't allow any time for this to happen. This means that spring soil tests will account for these nutrients better than fall sampling will, giving a more complete picture of the growing conditions.

While the spring tests are not used to fertilize the immediate crop, having these residue nutrients accounted for provides a complete picture for better planning. Even better, pulling soil samples in late spring means the soil ecology will be active and the results will better match the soil conditions of the growing plant, rather than will the more dormant soil of late fall or early winter.

Many people have weighed in on the fall vs. spring debate, and there are articles and publications to be found on the internet that both prove and disprove seasonal differences. For those that claim a seasonal difference exists, there are two key pieces of information that tend to always be missing: 1) while differences may exist, they are agronomically insignificant, and 2) the differences are typically not outside of what one would see between sampling events that happened in the same season. Soil is heterogeneous and differences will always exist between sampling events. It seems logical that the better data and increased planning time of spring sampling outweigh the slight differences that seasonal variation might bring.

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