

Soil and Tissue Testing are Critical This Year

There's no question that much of the country dealt with very poor planting conditions this spring, causing many to plant crops much later than ever before. Even so, it's still quite possible to produce a good crop this year. The weather has finally turned around for many, providing some dryness and plenty of heat. But in many cases, fertilizer was applied many weeks or months prior to planting, suffering through a lot of rainfall. We know that adequate fertility is a critical component of optimal plant growth and high yields. So how well did it hold up?

Soil nitrogen seems to be highly reduced in many areas, based on many soil nitrate and ammonia tests we have seen so far. Several conversations I've had with retailers and growers confirm this, often requiring above-average amounts of nitrogen applications to compensate. This is not unexpected or unusual in high-rainfall years.

Nitrate is the primary form of nitrogen taken up by plants, but it is not well-held by soil due to its negative charge. Therefore, it is very prone to leaching down through the soil profile. The higher the rainfall, the more leaching there is. Once N reaches greater depths or tile lines, it is obviously useless for the crop. Ammonium is the other form of nitrogen taken up by plants. It is positively charged, and therefore held to the soil surface much better than nitrate. But in almost all cases, it is first converted to nitrate by soil microbes before uptake. The longer the ammonium is in contact with the soil at warm temperatures, the more it is converted to nitrate, again leaching away. Testing your soil nitrogen is strongly advised in most years, but is vital this year.

But what about other necessary crop nutrients? All nutrients, including nitrogen, can be accurately monitored by taking plant tissue samples. The popularity of tissue sampling has grown dramatically in recent years, as more and more growers are finding it to be a valuable tool. When crops are very deficient in an essential nutrient, they begin to show deficiency symptoms. However, most crops won't show these symptoms until they are very deficient, well after crop growth and yield are already being impacted. Constant monitoring of proper sufficiency levels through plant tissue testing allows you to catch any problems early. Usually, a dry or foliar product can be applied to correct the issue right away.

With crop nutrition, every moment that an essential nutrient is deficient adds up to reduced final yield, with no way to recover what was lost. Therefore, constant monitoring of nutrient sufficiency is important to maintain high levels within the tissue throughout the entire season. In a short growing season such as this, every bushel of yield will be even more important. Soil and tissue testing are excellent tools to help you maximize productivity, especially in this difficult year.