

Soil Test this Fall to Jump Start Fertility in 2010

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Is there still value in soil testing this fall? A wet fall and late harvest is affecting much of the Plains and Corn Belt regions, and many growers may be considering opting out of soil testing this fall. But, knowing the nutrient levels of potassium (K), phosphorous (P), magnesium (Mg) and zinc (Zn) is important for developing a fertility program for the 2010 growing season. Soil testing is an important tool in high yield farming.

In many areas of the Corn Belt nutrient budgets have become negative due to the changes in the way growers have fertilized their crops in recent years. According to a study released by the International Plant Nutrition Institute (IPNI), the nutrient balance of P and K added through commercial fertilizer and manure in 2007 and removed in harvested grain for the average of 2006-2008 are negative in many areas. Prior to 2009 much of the Corn Belt was running a P deficit of 20 percent to up to 60 percent; not insignificant amounts.

To prevent this from happening, and start correcting the deficient areas, growers need to have sound fertility management programs in place. Soil testing fields can help growers manage fertility levels in the soil and build fertility histories. And, it's never too late to start. It is important to test the levels of the relatively soil-immobile nutrients such as P, K, Zn and Mg. Knowing the levels of plant-available nutrients helps ensure optimum return on investment in high-yielding, high cost genetics. Determine the extent of the problem and plan to harvest the most at risk fields first. You may have to harvest lodged corn at a slower ground speed. Gathering chain speeds and snapping roller speed should be reduced to match ground speed ratios.

There is still time to soil test fields quickly as the crop comes out, particularly in fields with soybeans that will be switching to corn in 2010. Winter soil sampling is also an option. Testing when the soil is frozen is acceptable as long as conditions allow for a uniform boring to extract a core sample at the appropriate depth. This may require a portable power boring tool. However, using a pick or shovel to take a few frozen clumps of soil off the surface will give inaccurate results.

Soil tests provide basic facts on which fertilizer needs are determined. The soil test is a helpful diagnostic tool that needs accurate interpretation to follow the needs and goals of the grower. The samples should be collected from the field in a way that will reflect the field's true nutrient status. That isn't saying that all of the samples should test the same, but that they should reflect the variations within the field. Recommendations can never be more accurate than the accuracy of soil sampling.

When interpreting these soil test results keep in mind that soil tests are better at predicting the probability of a profitable response to nutrient application than predicting the actual quantity of nutrients needed in a given year. In fact, interpreting soil tests and recommendations usually becomes a matter of how to improve the fertility status of soil that is less than optimal. How much will be needed to change the soil from low or medium to high in that element? Or, what is the most economical level at which to maintain the nutrient status of the soil? Appropriate use of soil testing incorporates a long-term approach to fertility management. Site-specific soil test target levels must be established for each field and nutrient management plans developed to attain and maintain target levels.