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SOIL TESTING REDUCES RISK

Are you going to apply nutrients this fall? Will you wait until spring? How much will you put on? Will you broadcast them or band them? Will you use starter? If you already have the answers to these questions, chances are you have already tested your soil.

But wait...does soil testing provide all the answers? Combined with other agronomic information, soil testing is a powerful tool for deciding how best to specifically manage nutrients. Without soil testing, nutrient applications are a guess, and there is no room for guessing in today's atmosphere of narrow margins and public concern with the environment. Let's consider how soil testing helps reduce the risks involved with applying nutrients.

Consider the risk of over or under applying nutrients. Over applying nutrients means putting on more than crops need to produce economically optimum yields. Too many nutrients waste money that can be put into other areas of the operation. Excesses also pose an increased threat to the water we drink and enjoy for recreation. Applying too few nutrients cuts into much needed profits by reducing yields and quality. Nutrient management is a balancing act. Knowing the quantity of nutrients already available in the soil gives the best chance of purchasing or redistributing the right amount.

Soil testing helps you determine when to fertilize. There's more to a soil test than the quantity of various nutrients present. Soil testing also provides information about how tightly the soil will hold certain nutrients, such as potassium and ammonium forms of nitrogen. Think about it. If the soil can't hold nutrients very well, then applying nitrogen in the fall can result in some serious losses. Not testing soil increases the risk that nutrients applied in the fall may be in short supply when crops need them most. It can also lead to an unnecessarily stressful spring if appropriate fall applications were neglected.

Have you ever considered banding nutrients? Soils can be tested at different depths. Doing this helps you understand how nutrient availability changes vertically in the soil. Conservation tillage systems, such as no-till, can lead to significant accumulations of nutrients near the top of the soil. Testing the top couple of inches separately from the soil farther down can help reduce the risks of taking on the costs of banding. How? If nutrient availability deeper in the soil is yield limiting, plants growing in drier years may not be able to get to the nutrients they need. Also, if you are thinking about liming, knowing subsoil pH can help you determine whether or not to expect much of a yield response.

Is starter fertilizer a good idea? Starters can, under some conditions, provide a real yield benefit that more than pays for the program. There comes a point, however, when soil tests are so high that benefits from nutrient placement near the seed are no longer seen. It is important to familiarize yourself with the information in your area. Not knowing your soil test increases the risk that starter fertilization will be handled in the wrong way.

Is your soil test doing a good job of telling you the quantity of available nutrients? One way to test this is to take more than one sample out of a field. Get some idea of how nutrient availability changes within a field. You might find some hot spots as well as some areas that have been neglected. Limiting yourself to one soil sample per field increases the risk of both over and under application.

Soil testing is a valuable tool. Use it and start making your crop production more reliable.

—TSM—

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Note: *Agri-Briefs* are available online at the PPI web site: ppi-far.org/agri-briefs