



Winter 1999-2000, No. 4

### SHOULD I FERTILIZE MY SOIL IF IT TESTS “MEDIUM”?

**There is currently some controversy about whether soils testing medium should be fertilized under times of economic stress.** Most agree that soils testing lower than medium should always be fertilized. But what about soils testing medium? Here are some points to consider when making such decisions.

**The first step in answering this question is to test your soil.** This seems obvious, but many are not testing their soil...trying to save money. Saving money may be necessary, but you can't cut a cost that has the potential to reduce your profitability. Soil testing is a critical part of managing risk in the nutrient management process. Without soil tests, a fertility program becomes simply a guess—and guessing can result in economic losses.

**Soil tests help manage risk.** At lower soil test levels, there is greater risk that fertility is limiting yields. There is also a greater chance that crops will respond to phosphorus or potassium inputs. Such responses are capable of producing substantial net returns in the year of application. At higher soil test levels, crop response to fertilization is less likely. However, higher fertility levels provide some assurance that yield reductions aren't coming from the fertility program.

**Higher levels also provide flexibility.** In years when crop prices are low, bulk applications of phosphate or potash could be skipped without much risk of yield reductions. Such flexibility doesn't exist at lower soil test levels. Moderate or medium levels of fertility have, according to some recommendations, about a 40 to 60 percent chance of getting a yield response to phosphorus or potassium inputs in the year of application. Add to this that in some years and in some situations, moderate fertility may still be yield-limiting. Should you fertilize when your soil tests medium? Doing so helps stack the deck in your favor.

**Is your soil test representative of the fertility levels of your field?** How variable are the fertility levels in your field? How much of the field was represented by the sample? What is the management history of the field? These are but some of the questions that need to be addressed. A medium soil test could be representative of most of your field or only a very small part. For instance, in areas with a history of manure applications or homesteading, there may be areas in a field that test very high in phosphorus and/or potassium. Cores out of such areas mixed with cores from lower testing areas will result in a higher soil test, even though other parts of the field tested lower. Not fertilizing areas with good potential for yield response is a costly mistake. When interpreting a soil test, be sure to consider whether or not that medium soil test represents the majority of the acreage in a particular field.

**Should you fertilize a soil when it tests medium?** For many states, experts have determined that there is a reasonable chance of response in the year of application. There may also be lower fertility areas in the field missed by a single soil test. Applying phosphorus and potassium at moderate fertility levels will ensure that yields don't take a hit because of inadequate fertility. Realizing full production potential is critical to remaining competitive.

—TSM—

For more information, contact Dr. T. Scott Murrell, Northcentral Director, PPI, 14030 Norway Street, NW, Andover, MN 55304. Phone: (612) 755-3444. E-mail: [smurrell@ppi-far.org](mailto:smurrell@ppi-far.org)