

Money Saved With Manure Nutrients

How would you like to save \$20, maybe even \$40 per acre on manured fields this spring? Plan now to take pre-sidedress nitrate soil tests (PSNTs) on fields going to corn, or other high nitrogen user crops.

A traditional soil test does not test for the nitrogen that will become available this spring from manure, or other organic sources, of nitrogen. Due to the nature of nitrogen release from manures, the PSNT needs to be taken after soil temperatures warm up and the organic nitrogen has time to convert to the nitrate form. This is generally just prior to nitrogen sidedress time for corn.

The PSNT works best when only minimal amounts of nitrogen have been applied at planting. If all the nitrogen has been pre-plant applied or applied at planting, the PSNT will not provide accurate results. But when only starter amounts of nitrogen have been banded, avoid soil sampling in this area and the tests will provide a good indication of the nitrate nitrogen that will be plant available yet this season.

If manure application rates were planned to provide all the nitrogen for the coming season, then do take a PSNT to insure that the amount of nitrogen is adequate for the cropping season. "Nitrogen is too costly, and important to the crop, to be either too short or to be over applying," states Natalie Rector, MSU Extension Educator.

Insuring that nitrogen from manure is readily available to crops begins with good manure management. Manure should be sampled and tested to determine the estimated nutrient content, then applied at agronomic rates with calibrated rates consistently across fields. "In other words, it should be thought of and applied like fertilizer," Rector adds.

PSNTs need to be taken following these guidelines:

Timing: Take the soil test about 5-14 days ahead of sidedress. Samples taken too early will not be as accurate since the soil is releasing nitrate continually in the spring.

Priority Fields to Test: Test fields that will be corn or other high nitrogen demand crops. Test fields that have been manured this year or last year and fields that were alfalfa, clover or beans in 2004. These rotations will provide the greatest chance of nitrate credits.

Cautions: The PSNT will not be accurate in measuring soil nitrate if fertilizer nitrogen has already been applied, such as plowed down, large amounts broadcast at planting or with pre-emerge herbicides. Nitrogen placed in a starter band can be avoided during sampling whereas broadcast applications cannot.

Taking the sample: Soil samples should represent no more than 20 acres. The sampled area should be consistent for past crop, soil types and manure applications. Probe the soil 12" deep, taking 15-20 cores per field.

Handling samples: Air dry samples as soon as they are taken. Do **not** put damp soil samples in plastic bags. If the soil samples cannot be dried right away, keep them cool, less than 50°F.

Delivering samples to the Lab: Deliver samples to a soil testing lab to speed results or express mail air dried soil.

Using the MSU Soil and Plant Nutrient Lab: Cost for nitrate soil samples is \$9/sample, plus one dollar if you have all the samples faxed rather than mailed, which is encouraged. The fee must accompany the samples. The lab is open 8-5, Monday through Friday. For sample bags and forms, contact your local MSU Extension office. Other commercial labs are also available.

