

## Frequently Asked Questions about Nitrogen

Nitrogen (N) is essential to nearly every aspect of plant growth. We frequently get questions about nitrogen test results and recommendations, as well as testing options. Here are some of the most frequently asked questions.

**1. *If nitrogen is so important, why do I not see nitrogen results on my report?***

Plants absorb nitrogen as nitrate ( $\text{NO}_3^-$ ) and ammonium ( $\text{NH}_4^+$ ). Soil  $\text{NO}_3^-$  and  $\text{NH}_4^+$  levels can fluctuate widely with weather and soil conditions over very short time periods. For this reason, soil nitrogen testing is only useful for predicting immediate fertilizer application needs.

Nitrogen recommendations are based on crop needs with the assumption that very little available N remains in the soil at the end of the growing season. Recommendations given reflect the amount of nitrogen needed for one growing season.

- 2. *If I want to know my available nitrogen levels, what do I check off on my order form?*** Checking off the Nitrate box on the order form for a Routine Soil Analysis will give you available nitrogen levels at the time of sampling. This information is useful when trying to diagnose a problem, such as yellowing leaves or sluggish growth, which could indicate low nitrate levels, or lots of lush green foliage but little or no flower or fruit, which could indicate high nitrate levels. In the case of over-fertilized soils or those with very high organic matter levels, nitrate test levels may supersede nitrogen recommendations given on the report. The optimum level of nitrate for most crops is 25-30 ppm. When soil nitrate levels exceed 30 ppm, a nitrogen application is not recommended. The optional Nitrate test is an additional \$8 per sample when added to a Routine Soil Analysis. We also offer a Pre-Sidedress Soil Nitrate Test (PSNT) that measures soil nitrate only. The PSNT is usually performed in mid-June for corn and other commercially grown crops. The fee for this test is \$15 per sample.

**3. *What amendments can I use to supply nitrogen?***

To supply nitrogen only, use a product called Dried Blood or Blood Meal. It is rated at 12-0-0, or 12% nitrogen. Urea (46-0-0) also supplies nitrogen. Most garden centers carry these products. Composted manure also contains nitrogen. However, the amount of nitrogen varies depending on the type of manure and other factors. Estimating how much to use can be difficult. Manures also contain other nutrients, including phosphorus and potassium.

There is a wealth of information about nitrogen and other soil and nutrient related topics on our website. If you want to know more, visit <http://ag.umass.edu/services/soil-plant-nutrient-testing-laboratory/fact-sheets>.