

Agri *Resource*

Soil Analysis

Soil testing is a process where nutritional elements are chemically removed from the soil and measured for their “plant available” content within the sample. The quantity of available nutrients in conjunction with post-fertilizer management and cropping history provide a guideline for the lime and fertilizer needs of the soil.

Why Soil Test?

- Encourages plant growth by providing the best lime and fertilizer recommendations.
- Diagnoses whether there is too little or too much of a nutrient.
- Promotes environmental quality.
- Saves money that might otherwise be spent on unneeded lime and fertilizer.

Regular soil testing is an important element in nutrient management.

Different soil types, different fields and often areas within the same field vary in the availability of plant nutrients. Also, the levels of these nutrients may vary, with one nutrient being low and the other being high. The results of a soil test aid in determining cropping practices, a producer's management style and the yield potential of a crop.

Fertilizer Recommendations

Fertilizer recommendations will accompany each soil analysis. For those who reside in the state of Maryland, the use of phosphorus indexing is required. Unless specified, Pioneer Water Testing Laboratory will use a build up and maintenance equation for reporting fertilizer recommendations. The general formula for arriving at fertilizer recommendations is as follows:

$$\text{(Min. Soil test level + Crop Removal) - Soil Test Level = Fertilizer Recommendation}$$

Basic Soil Test

A basic soil test will provide adequate information for most cropping needs. A routine soil test determines the pH and pH (buffer) of the soil, as well as the levels of phosphorus, potassium, calcium, and magnesium. Base saturation and a cation exchange capacity (CEC) are also included. A routine soil test with a trace mineral profile indicates the presence of copper, iron, manganese, zinc, boron, sulfate, and sodium.

There are times when additional laboratory information may be needed. Please see our fee schedule for a complete listing of soil services available for your nutrient management needs.