SOIL SAMPLING INSTRUCTIONS

When to sample. Sampling at least every four years is strongly suggested.

Which tests to have run. An analysis of soil pH, P-1 (available phosphorus), K (potassium), OM (organic matter), CEC (cation exchange capacity and base exchange) should be run for limestone, phosphorus and potassium fertilizer recommendations. These tests provide information which aid in determining the nutrient balance and fertility status of the soil. Percent organic matter and cation exchange capacity are important factors in making precise recommendations for certain herbicides.

The reserve phosphorus soil test (P-2) is not run on a routine basis because rock phosphate usage has decreased, however, the test may be requested.

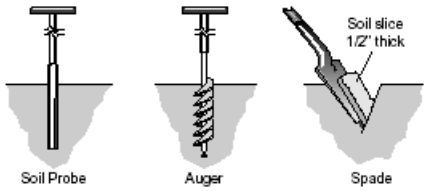
Soil tests for certain secondary and micronutrients warrant consideration under particular circumstances. These tests are useful for:

1. Trouble shooting. Diagnosing symptoms of abnormal growth. Paired samples representing areas of good and poor growth are needed for analysis.
2. "Hidden-hunger checkup". Identifying deficiencies before symptoms appear. However, soil tests are of little value in indicating marginal levels of secondary and micronutrients when crop growth is apparently normal. For this purpose, plant analysis may yield more useful information.

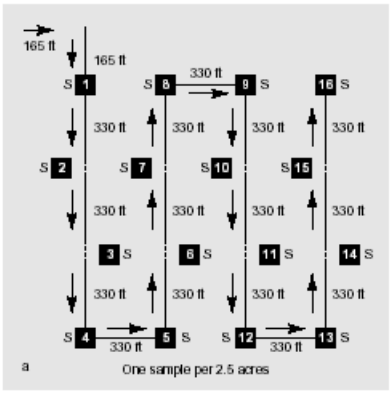
How to sample. A soil tube, Fig. 1, is the best instrument to use for taking soil samples, but a spade or auger also can be used. One composite sample from every 2.5 acres is suggested. Five soil cores taken with a tube will give a satisfactory composite sample of about 1 to 2 cups in size. You may follow a regular pattern as indicated in Fig. 2. The objective is to map nutrient patterns in the field. This will provide information for fertilizing areas of the field differently if that option is chosen. The recommended sampling depth is 7 inches. For fields in which reduced tillage systems have been used, proper sampling depth is especially important, as these systems result in less thorough mixing of lime and fertilizer than does a tillage system that includes a moldboard plow.

The most common mistake is to take too few samples to represent the fields adequately. Following shortcuts in sampling may produce unreliable results and lead to higher fertilizer costs or lower returns or both.

Information to accompany soil samples. The best fertilizer recommendations made are those that are based both on soil test results and a knowledge of the field conditions that will affect nutrient availability. Since the person making the recommendation does not know the conditions of each field, it is important that you provide adequate information with each sample. Please fill out one soil analysis information sheet for each field as completely as possible and check analyses desired.



How to take soil samples with an auger, soil tube, and spade. (Fig 1)



Directions for collecting soil samples from a 40 acre field. Each step is a 3 foot distance. Each numbered area is a soil sample location 20 ft. square. Five core samples 1 inch in diameter are collected from each square to a depth of 7 inches and mixed. (Fig 2)

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