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# Soil Testing Guide for Home Gardens

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# Soil Testing Guide for Home Gardens

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**HORTICULTURE FACT SHEET 05**

1990

HG/H 05

All soils naturally contain some plant nutrients derived from decomposition of soil minerals and organic matter. Phosphorus P and potassium K added in fertilizers, manures and crop residues generally remain in the soil until used by crops.

Many soils along the Wasatch Front are naturally high in phosphorus and potassium. With the regular use of composts or manures, many gardens will have adequate P and K levels. Over fertilizing can lead to salt and micronutrient problems.

Garden sites on poor soils or subsoils frequently benefit from phosphorus and potassium fertilizers. Where nutrients are low, plant growth may be limited unless fertilizer is applied to establish a basic fertility level.

A soil test is the best method to indicate whether P or K fertilizer is needed. It is recommended that home gardeners have their soil tested every 5 years.

## **WHAT A SOIL TEST WILL TELL YOU**

At the USU Soil Testing Laboratory, samples are tested for P and K levels, pH, salt, and lime content. Technicians estimate soil texture.

Results of your test will tell you if you need to apply phosphorus and/or potassium fertilizer. Salinity and pH values indicate whether you have problems with accumulated salt or sodium. A general fertilizer program will be outlined for you, including nitrogen needs for various crops under average conditions.

## **WHAT A SOIL TEST WILL NOT TELL YOU**

The standard soil test does not check the nitrogen level as it is continually changing and plants usually require a yearly application. A standard soil test will not indicate levels of micronutrients although tests for these are available at additional cost. Most Utah garden soils supply adequate micronutrients for normal crops although certain crop varieties can become deficient in iron. Select varieties suited for low iron soils and be alert for deficiency symptoms.

Nutrient supply is only one of many factors affecting plant growth. A soil test will give no information about other problems limiting your garden's performance. It will not indicate if your irrigation is adequate, if you over water or under water, if you have poor drainage, poor soil

structure, weed competition, too much shade, poor varieties or just neglect. Soil tests do not detect toxic chemicals, herbicide residues in the soil, insect populations or disease problems.

## **HOW TO TAKE A SOIL SAMPLE**

The results of your soil test are no better than the sample you send to the lab. The sample must be representative of the yard or garden being considered. **GARDENERS WHO TRY TO SHORTCUT THE SAMPLING PROCEDURE WILL NOT RECEIVE A RELIABLE DIAGNOSIS.** Your sample sent to the lab should represent a composite of several sampling sites, with a sampling depth of 0 to 12 inches. If you shortcut your sampling, you have wasted your money and lab time!

## **STEPS TO TAKE FOR A SOIL SAMPLE**

1. With a shovel, make a deep hole in the soil. SAMPLING DEPTH SHOULD BE 0-12 INCHES. Do not just sample the surface.
2. Throw this shovel full of soil aside.
3. Cut a ½ to 1 inch slice of soil from the side of the hole. Be sure the slice is fairly even in width and thickness.
4. Place the slice in a bucket.
5. Repeat steps 1 through 4 at about six different locations. This step is important to obtain a representative sample.
6. Thoroughly mix the 6 sub-samples.
7. Send about 1 pint of the thoroughly mixed garden soil for the test. Obtaining the soil sample will be easier if you have a soil probe or bulb planter.
8. Supply the information on the test form for better interpretation of results.

## **WHERE TO SEND YOUR SOIL TO BE TESTED**

Soil samples are sent to the: Soil Testing Laboratory  
Utah State University  
Logan, UT 84322-4830

Soil shipping bags, boxes and test forms are available through any USU Extension County Office. FEE FOR THE STANDARD TEST IS \$10.00 PER SAMPLE, and should be sent with the soil and test forms.

Test results and fertilizer recommendations are mailed directly to your residence. It takes about 10-14 days on the average to receive results. If you have questions after receiving your report, call your USU Extension County Office.

**HOME SOIL TEST KITS ARE OF LITTLE TO NO VALUE.** They are designed for eastern soils and give very poor accuracy on our western soil types.

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