

SOIL TESTING TIME

Spring time in Cache Valley is always rewarding. After enduring another long, cold winter that seemed to drag on forever, warm sunshine is certainly welcome. We will all be extremely busy with yard work and field work in the coming weeks. Most are happy to get out and dig in the dirt.

The best times for collecting soil samples and applying needed fertilizers are early spring and late fall. Fall fertilization has the advantage of incorporation of applied fertilizer with fall tillage and winter precipitation. Spring testing, however, provides a better indication of nutrient availability (especially nitrogen) prior to plant growth. Soil testing measures the nutrient supplying capability of a soil thereby identifying nutritional deficiencies, potential toxicities, and salt accumulation problems. For a relatively small lab fee, plant growers will know how much fertilizer to apply. Growers should allow a minimum of two to three weeks for lab analyses, fertilizer purchase and application, and any other corrective measures needed before planting.

It always makes economic and environmental sense to test soils. Since commercial fertilizers are expensive there is no need to apply more fertilizer than what plants will actually need. Responsible growers (farmers, home owners and landscapers) will also be careful to prevent contamination of surface and ground water by applying excessive amounts of fertilizer. Regular testing helps develop and maintain more productive soils for farming, gardening, and landscaping. By carefully identifying plant nutrients that are deficient and applying only those amounts needed, yields in fields and gardens can be maximized and landscapes will be filled with beauty.

For perennial plants, such as alfalfa, pastures, turf and trees, soil should be tested prior to planting and again every two to three years thereafter. For annuals, such as corn, small grains, and gardens it is a good practice to sample the soil annually, or at least biennially. Generally, as the intensity of management increases so should the frequency of soil testing. Land owners should keep soil test records for all areas sampled, as well as fertilizer application and plant yield and quality information.

Fields that have uniform characteristics such as slope, soil depth, texture, cropping and fertilization history, and irrigation can be sampled as a single unit. If there are major differences within a field there should be as many samples as there are distinctively different field portions. A minimum of five to ten samples (more, if ambitious) should be collected from throughout each area or field by following a zigzag path. Samples should be collected to a depth of 12 inches for routine analyses of agricultural fields, gardens and trees and shrubs. A 6 inch depth is sufficient for turf. The soil cores are then crushed and thoroughly mixed and then combined together into one composite sample (minimum of two cups) to submit for laboratory analysis. It is recommended that one composite soil sample not represent more than 20 to 30 acres regardless of apparent field uniformity.

The most efficient way to collect samples is with a hollow tube soil probe, available on loan from the County Extension office. A shovel can also be used but it is more time consuming and causes disturbance in areas with established vegetation. The County Extension office also has an instruction sheet with additional details, including a description of tests that can be run at the USU Analytical Lab. The Routine Test (\$14) measures soil pH, salinity, lime, texture class, and plant availability of the major

nutrients. A Complete Soil Test package (\$50) is also available, which includes everything the Routine Test offers, plus micro-nutrients and organic matter. Additional tests and costs are also available.

Individuals who are interested in additional information about the USU Analytical Lab are invited to access their website at www.usual.usu.edu. Some local farm supply companies also provide soil testing services. Sometimes they use the USU Lab and sometimes another reputable laboratory.