## FALL IS A GOOD TIME FOR SOIL TESTING

Though we often think of soil testing as a spring chore, fall can actually be a better time. Soil-testing laboratories are often very busy during the spring resulting in a longer turnaround from submission to recommendations. Also, soils in the spring are often waterlogged, making taking samples difficult. If your soil test suggests more organic matter, fall is a much better season because materials are more available than in the spring (tree leaves), and fresher materials can be used without harming young tender spring-planted plants.

Begin by taking a representative sample from at least six locations in the garden or lawn. Each sample should contain soil from the surface to about 6 to 8 inches deep. This is most easily done with a soil sampler. Many K-State Research and Extension offices have such samplers available for checkout. If you don't have a sampler, use a shovel to dig straight down into the soil. Then shave a small layer off the back of the hole for your sample. Mix the samples together in a clean plastic container and select about 1 to 1.5 cups of soil. This can be placed in a plastic container such as a resealable plastic bag.

Take the soil to your county extension office to have tests done for a small charge at the K-State soil-testing laboratory. A soil test determines fertility problems, not other conditions that may exist such as poor drainage, poor soil structure, soil borne diseases or insects, chemical contaminants or damage, or shade with root competition from other plants. All of these conditions may reduce plant performance but cannot be evaluated by a soil test.

## There is Still Time to Plant Spring-Flowering Bulbs

Generally, it is recommended to plant hardy bulbs (especially daffodils) in October to give them enough time to root before winter. But it is not too late to plant them in early November. As long as the soil temperatures are above 40 degrees F, the bulbs should continue root development.

Although many of the best bulbs have probably already been purchased, garden centers may still have a good selection. Be sure to select large, firm bulbs that have not begun to sprout. While many bulbs can adapt to a wide range of soil types, none can tolerate poorly drained soil. Prepare the planting bed by adding organic matter such as peat moss, well-rotted manure, or compost and mix into the soil. Adequate fertility is essential. It is best to rely on a soil test to determine what nutrients are needed. Garden soils that have been fertilized regularly in the past may have excess levels of phosphorus. Excess phosphorus can interfere with the uptake of other essential micronutrients though levels need to be extremely high to be of concern. In cases where levels of phosphorus are high, it would be better to use a fertilizer relatively high in nitrogen such as a 29-5-4, 27-3-3, or something similar. Although these are lawn fertilizers, they will work well for our purposes as long as they don't contain and weed preventer or weed killer. Apply these fertilizers at the rate of 2/3 pound (3 cups) per 100 square feet. Organic sources of fertilizers low in phosphorus include blood meal (12-0-0) applied at 5 to 10 pounds per 100 square feet, cottonseed meal (6-0.4-1.5) applied at the rate of 10 pounds per 100 square feet and soybean meal (7-2-1) applied at the rate of 8 pounds per 100 square feet. In the absence of a soil test, or if phosphorus is needed, add a low analysis, balanced fertilizer such as 5-10-5 or 6-10-4 at the rate of 2 to 3 pounds (4 to 6 cups) per 100 square feet of bed. Mix all amendments thoroughly with the soil before planting the bulbs. The size and species of the bulb determines how deep to plant. In general, the depth to the bottom of the bulb should be about 2 to 3 times the size of the bulb, but check the planting instructions specific to each particular flower.