K·STATE Research and Extension Johnson County

K·STATE Research and Extension Master Gardener Johnson County

Testing Your Soil

What is a soil test?

A soil test measures soil pH and available nutrients in the soil. It cannot identify insects, diseases, or chemical pollutants, and cannot answer questions about soil composition, drainage or compaction.

Why test the soil?

Testing the soil gives you accurate information about the type and amount of fertilizer or amendment to apply in order to maintain good plant health. This helps protect the environment, and can save you money and time.

Available soil tests

Many different analyses are conducted at the KSU Soil Testing Lab. The most common tests for Kansas soils are for pH, phosphorus (P), potassium (K), nitrate (NO_3), and organic matter.

Package #1 (pH, P, K) This is the basic fertility test, sufficient for most homeowner lawns and gardens.

Package #2 (pH, P, K, NO_3, organic matter). For soils that might have too much nitrogen or organic matter due to continuous heavy applications of fertilizer, compost, or manure.

Individual tests: (rarely needed for the homeowner) Calcium (Ca), Magnesium (Mg), Sodium (Na), Cation exchange capacity (CEC), Iron (Fe), Zinc (Zn), Copper (Cu), Manganese (Mn), Ammonium (NH_4), Sulfate (SO_4), Chloride (Cl), Aluminum (Al), Soil texture, Soluble salts/alkali.

Special conditions or crops may require special tests. Please ask your Extension agent for advice on special testing.

Samples are kept in storage at K-State for a short time so they may be available for additional analysis.

How to take a good soil sample

Test results will only be as reliable as the sample collected, so proper methods are important. Follow these steps:

1. Using a clean shovel or soil probe, dig down to a depth of: 3 inches for lawns, 6 inches for vegetables, flowers and small fruits, and 10-12 inches for trees and shrubs.

2. Take at least 4-5 samples from the area to be tested. Mix samples together in a clean, plastic container. Remove all plant material.

3. Bring **two cups** of the mixed soil to the Johnson County Extension Service in a re-sealable quart-size plastic bag.

Create separate samples for each area you want to have tested. Avoid sampling overly wet soil, and soil that has been recently fertilized. Samples should be dry. **Do not use heat to dry your sample.**

Soil test forms

Forms for **Agriculture**, **Flowers and Ornamentals**, **Lawn and other Turf**, and **Vegetables and Fruit** are available online www.johnson.k-state.edu (click on Lawn and Garden, then Soil testing), or at the Extension Office.

To give you the best recommendations, we need to know about fertilization practices, soil amendments, mowing (turf) and any special problems in the test area.

Soil Test Fees*

Package #1 $12.00
Package #2 $20.00
Individual Tests: Trace Elements $3.00 each, Organic Matter $5.00, CEC $15.00, Soil texture $12.00, Salt & Alkali $15.00,First metal $15 Each additional ,metal $3.00 Complete Heavy Metal Panel – Cadmium, Chromium, Lead, Nickel $20.00

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