KENTUCKY STATE UNIVERSITY
Cooperative Extension Program

COOPERATIVE EXTENSION
KSU EXTENSION CONNECTIONS

HELPFUL INFO

Information from the Community Resource Development Team with Kentucky State University's Cooperative Extension Program

Urban Horticultural Production

Soil Testing in Urban Horticulture

Urban horticulture is expanding as city residents transform vacant lots, backyards, and community gardens into spaces for fresh produce, herbs, and flowers. These gardens enhance community health, biodiversity, and sustainability. However, urban soil often faces issues from contamination, compaction, and poor management. Soil testing is a vital first step for urban growers, revealing key information about nutrients, pH, organic matter, and possible contaminants.

This guide provides a simple, step-by-step approach to soil testing, helping urban growers create healthy, productive, and safe gardens.

Why Test Urban Soils?

Common concerns in urban soil include:

1. pH extremes (too acidic or too alkaline)
2. Compaction and poor drainage
3. Heavy metal contamination (lead, arsenic, cadmium)
4. Excess salt from past construction or irrigation
5. Nutrient imbalances (too much or too little nitrogen, phosphorus, potassium)

Soil testing helps you:

- Identify nutrient needs
- Determine pH adjustments
- Detect potential contamination
- Avoid unnecessary fertilizer use
- Reduce environmental harm
- Support long-term soil health
- Plan crop selection, amendments, and irrigation methods based on soil conditions

When and How Often to Test

When to Test: Ideally, test soil 3-6 months before planting, especially if amendments are needed.

How Often: At least every 2–3 years for ongoing gardens. Test annually if growing food intensively or applying compost/fertilizer regularly.

How to Collect a Soil Sample

Tools Needed

- Pair of gloves
- Clean plastic bucket
- Clean spade or shovel
- Clean trovel or soil probe
- Ziplock bag or soil sample box (provided by testing lab)

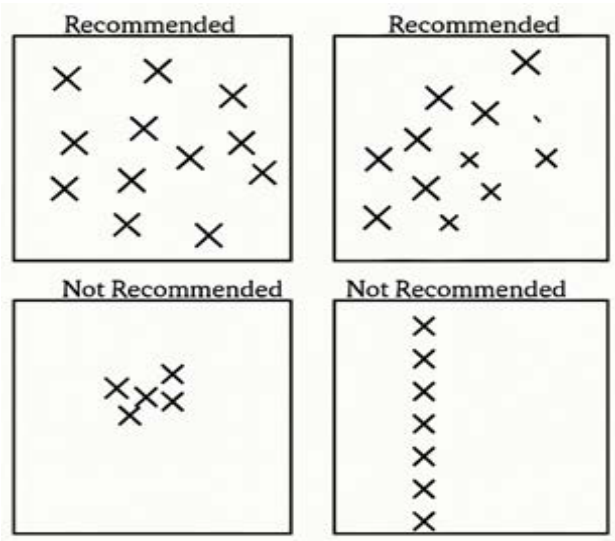
Depth of Sample

Lawn	3-4 Inches
Flower Garden	4-6 Inches
Shrub Beds	6-8 Inches
Vegetable Gardens	4-6 Inches
Trees	4-8 Inches
Pastures	4-6 Inches

Sampling Locations

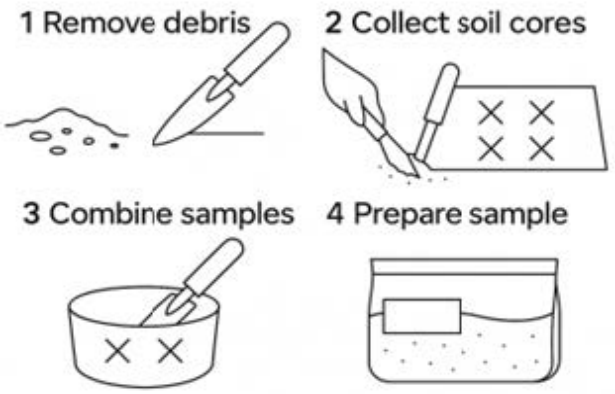
Look for different environments in your field or garden and collect separate samples from areas that are mostly sunny versus those in deep shade, or dry areas versus wet areas.

**Do not sample compost areas, under the dripline of trees, or near sidewalks and driveways.*



Collecting Your Sample

- Clear away mulch and surface debris.
- Dig 6-8 inches deep in garden beds (or 3–4 inches for lawns).
- Take 10–15 subsamples from different spots across the area.
- Mix subsamples thoroughly in the bucket.
- Fill the sample bag with about 2 cups of mixed soil.
- Label your sample with the area's name (e.g., "Backyard Bed" or "Front Planter").



Soil Testing Resources in Louisville

KSU West Louisville Extension Office
1300 Muhammad Ali Blvd, Louisville, KY 40203
Dr. Alhagie K. Cham
alhagie.cham@kysu.edu

Jefferson Co. Soil & Water Conservation District
4229 Bardstown Rd Ste. 203, Louisville, KY 40218
Dave Nichter
soiltech@jeffcd.org

KSU Soil Lab
Dr. Mahateme Gebremedhin
maheteme.gebremedhin@kysu.edu

Jacob Brown, MSc
jacob.brown1@kysu.edu

For more information, contact:

Dr. Alhagie K. Cham
Senior Extension Associate,
Urban Horticutlure Production
(502) 597-6570
alhagie.cham@kysu.edu
1300 Muhammad Ali Blvd., Louisville, KY 40203

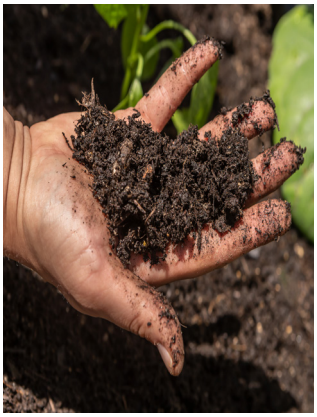
Contributors

Dr. Maheteme Gebremedhin
Assistant Professor, Soil Science

Jacob Brown
Research Assistant

Kelly Rawalt
Food Systems Coordinator

Dave Nichter
Soil & Water Conservation Technician



Sources

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