

Soil Testing Made Simple

by Skip Richter

By the time you put a seed or transplant in the ground you are already 75% of the way to success or failure. You've already chosen a well-adapted or poorly adapted species or variety, and a sunny or shady planting location. You've either amended the soil or not, and if the surface or internal drainage is poor, created a raised bed with a quality blend of organic matter and soil...or not.



Soil pH and nutrient content is very important. While some nutrient supplementation after planting can help, there is nothing like starting off right. A soil test is an important part of preparing a good foundation for garden success.

With the soil test results in hand, you will know exactly what is or isn't needed. The specific nutrients required to correct any deficiencies or imbalances and to create a balanced soil nutrient "bank account" can be mixed into the soil prior to planting so the new plants can thrive.

Some nutrients, such as phosphorus, need to be incorporated into the soil as they tend to not move within

the soil much, while others such as nitrogen, wash down into the soil profile readily with rain or irrigation. Once plants are established it is much more difficult to balance certain nutrient issues in a soil that is significantly out of balance.

Kits vs Labs

Store bought soil test kits are not as accurate or as comprehensive as a test run in a professional lab. Since soil testing is a relatively inexpensive service, I'd strongly recommend that you choose a professional lab for your soil analysis.

There are state and private labs that can do soil testing for a fee, such as the [state soil testing lab at Texas A&M](#) where you can find information on sampling, shipping, pricing and payment, and download the [Urban and Homeowner Soil Sample](#) form.

The [Routine Analysis](#) is generally sufficient; but if this in your first soil test for an area I would suggest that you choose the [Routine + Micronutrients](#).

Whichever lab you choose, I suggest you stay with that lab for subsequent testing. Labs use different procedures for extracting some nutrients which may indicate different nutrient levels that the lab can interpret based on their procedure's analysis. In other words, jumping around various labs may yield confusing results for you.

TEXAS A&M AGRILIFE EXTENSION Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
Texas A&M University System
Urban and Homeowner Soil Sample Information Form

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Submit this completed form and payment with samples. Mark each sample bag with your sample identification and ensure that it corresponds with the sample identification written on this form. See sampling and testing instructions on the back of this form.
PLEASE DO NOT SEND CASH

SUBMITAL AND INVOICE INFORMATION (This information will be used for all official mailing and communication.)

Name _____ County where sampled _____
Mailing Address _____ Phone _____
City _____ State _____ Zip _____ Email _____

Payment Options (DO NOT SEND CASH)
1) Check/Money Order (send your \$10.00 invoice)
Amount Paid \$ _____ Check Number _____
Make Checks Payable to: **Soil Testing Laboratory**
2) Payment on Aggie Marketplace Payment
Order Number _____ (if in mail 7 digits of order number)
3) ☐ AG 257 (signature required) (addition only)
55000000 _____ (if in mail 8 digits)

***A \$3.00 mail fee will be charged for all invoices and sample results mailed via USPS. Results and invoice can be emailed in PDF form for free. ☐ email results. ☐ Charge \$3 for mailing.**
Please email the laboratory at soiltesting@aggies.tamu.edu during time of shipping samples to ensure a valid email address is on file for delivery of your results.

Analysis	Price
1. Routine Analysis (R)	\$12 per sample
2. R + Micronutrients (Micro)	\$20 per sample
3. R + Micronutrients + Texture (TEX)	\$40 per sample
4. R + Micronutrients + Organic Matter (OM)	\$40 per sample
5. R + Micronutrients + OM + Texture Analysis (TEX)	\$60 per sample
6. R + OM	\$32 per sample
7. R + TEX (includes % sand, silt, and clay)	\$37 per sample
8. R + OM + TEX	\$67 per sample
9. R + Detailed Salinity (SAL)	\$47 per sample
10. R + Micro + SAL	\$65 per sample
11. R + Micro + OM + SAL	\$75 per sample
12. R + Micro + OM + SAL + TEX	\$100 per sample

REQUIRED SAMPLE INFORMATION (This sample can be used for all Aggie Analytic Services.)
Laboratory # _____ My Sample ID _____ Square feet of sampled area _____ I am growing _____
For Lab Use: _____ previously used _____ (see page 2)

Sample	Field No.	Area	Fertilized	Rate (lb/100 sq ft)	Requested Analysis
					C12 C23 C34
					C8 C9 C17 C18
					C10 C11 C12
					C12 C23 C34
					C8 C9 C17 C18
					C10 C11 C12
					C12 C23 C34
					C8 C9 C17 C18
					C10 C11 C12

Hardcopy mailed to address listed above (1-100 samples) \$3 per shipment. Pricing valid until 12-31-2026. The latest form can be downloaded at the laboratory's website: soiltesting.tamu.edu

How to Take a Soil Sample

Proper sampling is important to get accurate results that represent the nutrient levels in the soil. For example, after years of fertilizing a lawn with a complete fertilizer (some of all three numbers on the bag), most of the applied phosphorus is still in the top inch or two at the soil surface.



A sample from scooped from the surface could show very high phosphorus levels while a sample taken from the bottom of a 6" deep hole may show very low levels. This is one reason why it is important that your sample have equal amounts of soil from each inch of depth from the surface down to about 6" deep.

A soil probe designed for sampling (available at various online vendors) is the easiest way to collect vertical cores of soil from the surface to 6" deep. In the absence of a soil probe, you can use a shovel to scoop out a 6" deep hole (save this scoop of soil and turfgrass for replacing when done). Then taking a 1-2" vertical slice out of the side of the hole with the shovel or a hand trowel and use a knife to cut a 2" section from the center of the slice of soil. Place this 2" section into a clean bucket. Set the initial scoop back into the hole, press down and water it in well so the turf can resume growth.

Repeat this several times in a random pattern in various locations in the yard to make sure the sample represents a blend of the soil in the location you are sampling. When you are done, mix the soil cores well in the bucket and remove about a pint of the mixed soil to send to the lab for analysis. If the soil is wet, spread it out and allow it to dry for a few days and then place the sample in a plastic bag for shipping to the lab.

If you notice that the soil varies in appearance across your lawn or garden, or if plant performance in one area is visibly different from another, I'd recommend that you sample those areas separately.



Before filling out the form and sending in your sample, check out the [Payment Options](#) for the state soil testing lab and if using one of the two credit card options, select the link to the one you choose to proceed.