

Forms to print and fill out by hand are also available online ([www.ncagr.gov/agronomi/forms.htm](http://www.ncagr.gov/agronomi/forms.htm)). Form AD-1 is for predictive samples and AD-2 for diagnostic samples. During peak season, please use online submission instead. Never include checks or cash with samples.

Give each sample a unique identifier of up to five letters and/or numbers. Put this identifier on the sample box as well as the information form. Choose an identifier that will help you remember the area represented by the sample, such as FYARD, BYARD, ROSES or GRASS.

Be sure to list the existing plants and/or the plants you are planning to grow. You must include crop code(s) in order to receive lime and fertilizer recommendations. Use only the codes designated for homeowners that are listed on the back of the sample information form. Code 024 applies to all vegetable garden crops and 026 to all lawn grasses except centipedegrass (022).

To receive email notification that your report is ready, provide a valid email address.

■ **Package samples appropriately.** Put the soil mixture in the sample box. **Do not** put soil in a plastic bag. **Do not** use tape to seal a sample box. If you send several samples through the mail, pack them carefully in a sturdy container that will protect the boxes. **Do not** use manila envelopes.

### Obtaining your report

Completed reports are posted online. Visit [www.ncagr.gov/agronomi/](http://www.ncagr.gov/agronomi/) and select **Find Your Report (PALS)** from the left-column navigation bar to access the search utility.

## North Carolina Department of Agriculture and Consumer Services

Steve Troxler, Commissioner of Agriculture

### Agronomic Division

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[www.ncagr.gov/agronomi/](http://www.ncagr.gov/agronomi/)

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*For more information on  
sampling, interpreting agronomic reports or  
implementing recommendations,  
contact the regional agronomist  
assigned to your county.*

[www.ncagr.gov/agronomi/rahome.htm](http://www.ncagr.gov/agronomi/rahome.htm)

Agronomic Sampling  
Folder No. 1

revised April 2014



## Soil Sampling Home Lawns & Gardens

The Agronomic Division analyzes soil for its nutrient content and for properties that affect plant growth. Soil testing

- provides optimal, cost-effective lime and fertilizer recommendations,
- diagnoses common nutrient deficiencies or toxicities and
- promotes environmental quality.

When gardeners follow recommended guidelines for fertilization, nutrient runoff into surface or ground water is minimized, money is saved and natural resources are conserved.

### Taking a good sample

Sample collection is the critical first step in soil testing. The sample must represent the area, or results will have little or no value.

A soil sample must be taken at the right time and in the right way. The tools used, the area sampled, the depth and uniformity of the sample, the information provided and packaging all influence sample quality.

■ **Time it right.** Collect soil samples several months before initiating any new landscaping—laying sod, starting a vegetable garden, putting in a flower bed or planting perennials. Submit samples to the lab from April through mid-November to obtain a report within one to two weeks and to avoid paying a peak-season fee. If the soil report recommends lime, apply it as soon as possible so it has sufficient time to adjust soil pH before planting.

Sample established areas—lawns, trees, shrubbery and other perennials—once every three or four years. Mid-August through mid-September is an ideal time to take samples for cool-season grasses, such as fescue, bluegrass and ryegrass so you will be ready to apply lime in the fall.

If a planting exhibits abnormal growth or discoloration, take a soil sample for problem diagnosis. Also collect matching plant tissue samples and/or separate soil samples for nematode assay. For details, visit [www.ncagr.gov/agronomi/pdffiles/samprob.pdf](http://www.ncagr.gov/agronomi/pdffiles/samprob.pdf).

For areas recently limed or fertilized, delay sampling at least six to eight weeks. Delay sampling, also, if soil is too wet for collection and mixing of cores (see next section).

■ **Use clean sampling equipment.** Use a soil probe, spade, garden trowel or shovel to collect cores. A core is a slice of soil from the surface to the desired depth. **Do not** use brass, bronze or galvanized tools that can contaminate samples with copper and/or zinc.

Mix soil cores for each sample in a clean, plastic bucket. If the bucket has been used to hold fertilizer or other chemicals, wash it thoroughly before using it.

■ **Sample each unique area separately.** Each sample should represent only one soil type or area—for example, a lawn, vegetable garden or perennial landscaped area (Figure 1). For each unique area, take at least 10 to 12 cores and combine them to make one composite sample.

If one area of your yard seems healthy and another has bare or yellow areas, sample healthy and unhealthy areas separately even if both are lawn grasses or flower gardens, etc.

■ **Take a soil core to the appropriate depth.** For lawns, sample to a depth of four inches, excluding any turf thatch.

For vegetable and flower gardens, sample to the depth that you plan to incorporate lime or fertilizer, usually four to six inches.

For shrubbery, remove any mulch or surface debris, then sample to a depth of four to six inches around the base of plants. Avoid zones where lime or fertilizer have been recently applied.

■ **Mix soil cores well.** Place all cores for one unique area in a plastic bucket and mix thoroughly. Use the mixture in the bucket to fill a soil sample box about two-thirds full. Look for the **fill line** on the box.

■ **Fill out a sample information form and label the sample box completely.** Obtain soil sample boxes from county Cooperative Extension offices or the Agronomic Division office in Raleigh. Use permanent ink or pencil to label boxes.

The Division prefers that you complete sample information forms online at [www.ncagr.gov/agronomi/PALS](http://www.ncagr.gov/agronomi/PALS). Just choose **Submit Sample Information** from the PALS Utilities menu. Specify *Predictive* for **Submission Type** if you want routine fertilizer and lime recommendations; specify *Diagnostic* only if you have an existing, potentially nutrient-related, plant-growth problem to identify. If the peak-season fee is in effect, you will be prompted to pay with a credit card.

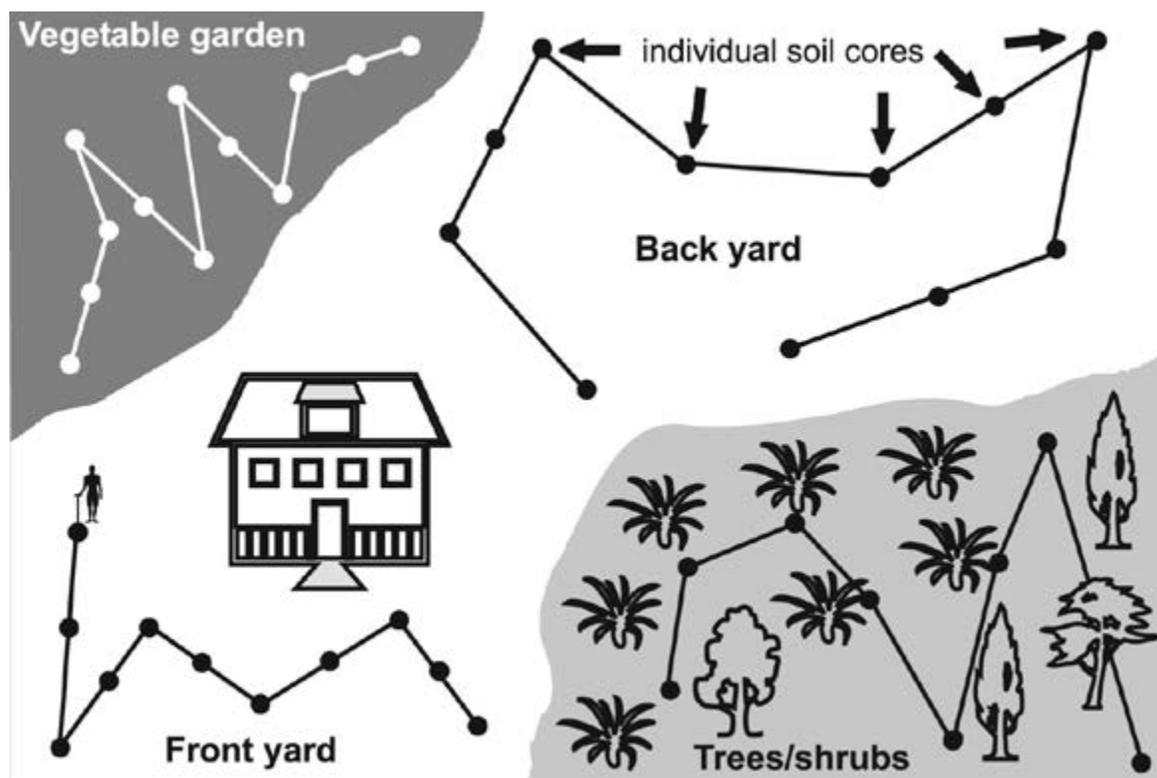


Figure 1. Unique areas to sample in a home landscape.