RUTGERS
New Jersey Agricultural Experiment Station

RUTGERS SOIL TESTING LABORATORY
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Soil Sampling Instructions

for lawn, shrubs, flowers, trees, or home vegetable or fruit garden

Taking a soil sample is a critical step in the process of soil analysis. If a soil is not properly sampled, the analytical results will be of little use, and may actually result in recommendations that are detrimental to the plants' growth. Please follow these directions carefully.

Other notes:

- Potting mix or other organic-matter-based soil must be analyzed differently than mineral-based soil. See test choices, fees, and sampling instructions on Organic Media questionnaire *http://njaes.rutgers.edu/soiltestinglab/pdfs/greenhouse/Greenhouse_or_Compost_-_Organic_Media_Questionnaire.pdf*
- Sampling instructions are different for lead screening of soil. In that case, see FS336, *Lead contaminated soil: Minimizing health risks*: *http://njaes.rutgers.edu/pubs/publication.asp?pid=FS336*

Planning

- **Sample separately the areas used for different types of plants**. For example, keep samples taken from lawn areas separate from samples taken from flower and shrub areas. Samples from areas with rhododendron, azalea, and other acid-loving plants should be kept separate from samples taken from areas with other types of shrubs. In other words, *most samples should represent only one type of planting,* at most two. If more than two types of plantings are selected, the sample probably represents none of them well.
- Also sample separately areas that have received different lime and/or fertilizer treatments in the past.
- Do not sample areas that have been limed or fertilized within the past 6 weeks unless trouble is evident.
- Where poor growth exists, separate samples should be taken from both good and bad areas, if possible.
- To obtain a representative sample, plan to collect multiple subsamples at random locations within an area.
- Each sample must be submitted with a corresponding soil test questionnaire.

Sampling procedure - this procedure is also described in FS797, *Soil testing for home lawn & gardens* *http://njaes.rutgers.edu/pubs/publication.asp?pid=fs797*

Hint: For ease of sampling, the soil should be moist, but not too wet. Moisten if necessary; allow water to soak in to soften hard soil.

- Use a trowel or spade to obtain thin vertical slices of soil, or a soil tube or auger to obtain cores, from the surface to a depth of 6-7".

  If using a trowel or spade, dig a hole to a depth of 6-7", setting the soil aside. Then take a thin slice of soil from the face of the hole. From the center of this slice, cut a 1" wide subsample (squared core) from top to bottom.

  Place the subsample in a clean plastic bucket.
- Repeat this procedure at 10-15 locations within the sampling area, placing all subsamples together in the container. (Exception: in areas smaller than 100 square feet, 5-10 subsamples will be adequate).

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- Mix all the soil in the container, breaking up subsamples and any large clods. The goal is to provide an average, homogenized soil sample, representative of the area.
- If the soil is wet, allow it to air-dry by spreading it out on clean paper or plastic. **Do not heat** the soil. Dry samples reduce processing time as well as mailing costs.
- Place 1 pint (2 cups) of soil in a plastic bag (sandwich-size), press out excess air, and seal carefully. Mark the bag with the sample ID using permanent ink. Double bagging is encouraged to prevent breakage/spill. Excess soil can be returned to the sampling holes.

Repeat this process for any other areas that you wish to have tested. Remember to use sample IDs that will distinguish the samples from each other. The sample ID will be printed on the soil test report.

Submitting the sample(s)

- Fill out a soil test questionnaire for each sample. The questionnaire is available at *http://njaes.rutgers.edu/soiltestinglab/pdfs/home/Home_and_Landscape_-_Soil_Test_Questionnaire.pdf*
  - Please provide a complete address, including zip code, a phone number, and email address for electronic reporting. *Hint: for convenience and to ensure legibility, use a self-stick address label.*
  - Make sure to fill in the sample ID on the appropriate line of the questionnaire; be sure to use the same ID that is marked on the sample bag. The sample ID will be printed on the report for you to distinguish between samples. Keep a record of sample ID, areas sampled, and date mailed.
  - Payment must be included for the test fees. Enclose a check or provide the credit card information requested on the form.
  - To obtain fertilizer and/or lime recommendations, select type of planting on the questionnaire (**no more than two** as described earlier). Check off the appropriate selections under "Growing conditions".
- Place the completed questionnaire(s), bagged sample(s), and payment in a sturdy envelope or box. Mail to Rutgers Soil Testing Laboratory using the address in the header. In-person delivery is another option.

Results

- A soil test report will be emailed or mailed for each sample, typically within 5 - 7 working days after the lab receives the sample. Longer turn-around time should be expected in early spring & fall. If special tests are requested, allow for 10 working-day turn-around time.
- A copy of your Soil Test Report will be forwarded to the Rutgers Cooperative Extension office in your county. For assistance with the soil test report or soil/plant problems, consult the RCE agent in your county after you receive your report. The phone number will be on your report. Be prepared to discuss the types of plants, site conditions, and soil amendments used.

Soil tests aid in diagnosing only those troubles that result from a deficiency or an excess of lime and certain plant nutrients. Other factors may have an equal or greater influence on plant growth. These include soil drainage, rainfall, insects, diseases, and others. In the case of lawns, nitrogen fertilization and mowing height and frequency are very important to the health and appearance of the grass.

Agricultural agents, horticultural consultants, and/or Master Gardeners are available at your county RCE office to provide information and answer your questions. Information about your county RCE office is available at *http://njaes.rutgers.edu/county*

Diagnosis of plant disease or insect damage is available for a fee by the Rutgers Plant Diagnostic Laboratory. Identification of plants, insects, or fungi/mold, and detection of nematodes are additional fee-based services. For more information: *http://njaes.rutgers.edu/plantdiagnosticlab*

Find answers to many of your lawn & gardening questions at the Rutgers Cooperative Extension's Lawn & Garden website: *http://njaes.rutgers.edu/garden*