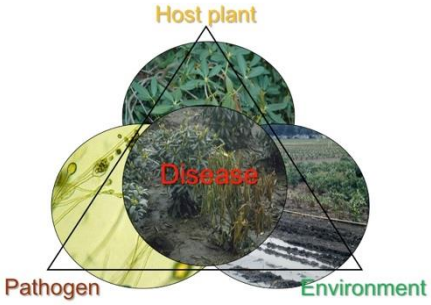
Helpline Happenings – March 2024
Soil Testing – It's That Time of Year
Be FULLY INFORMED to best HELP our CLIENTS
By Judy Colburn

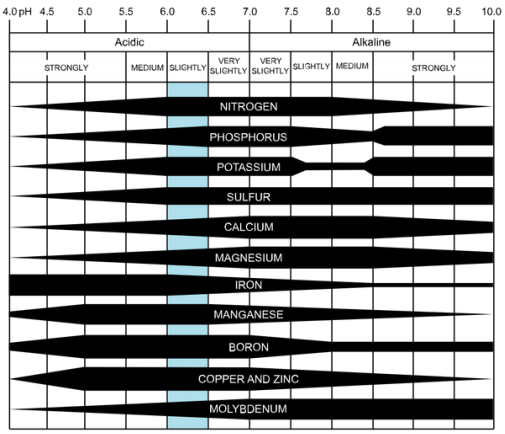
Spring is a great time for gardeners to test their soil for nutrients and pH. While spring is not the only time to test, doing it then fosters starting off on the right foot for the upcoming growing season.

WHY should we advocate soil testing to our clients?
The short answer is that we better position them for horticultural success. The client's property and what grows there – be it lawn, vegetable or cutting gardens, or ornamental landscaping – can be best and most cost-effectively managed if the client understands the environment of their plants. In other words, it is critical that they understand their soil. Issues may be arising because the soils lack the necessary pH or macro- and micro-nutrients needed for the plant's health. Recall the disease triangle: ENVIRONMENT/HOST PLANT/PATHOGEN - see the diagram below. If any one of the three points in the triangle are not right, disease in the plant can result. Soil suitability – the environment of the plant **-** is foundational to plant health.



The Disease Triangle
Oregon State University

Nutrients being available in the soil for plants to take up is only part of the equation for plant health. Soil pH has a critical impact on plants' ability to take up those nutrients. In the graph below nutrient uptake is shown relative to soil pH. Wider black areas represent greater availability of nutrients to plants. The blue bar shows the optimum pH level for nutrient uptake by plants.



Nutrient uptake relative to soil pH
NC State Extension Gardener Handbook

Armed with the information provided by soil testing and Rutgers' recommendations, the client can be judicious about

- selection of plants for their garden saving costs on plants that do not thrive in the conditions of the present soil, and
- application of soil amendments and fertilizers, minimizing the potential for leaching and runoff into ground water and nearby waterways

In the end, this means better outcomes, less cost, and less potential collateral damage to the environment.

WHEN should clients do soil test?
The timing of the test will depend on the plants. For LAWNS, clients should test in late summer, using those findings to define fall treatments. For CROPS (vegetables and cutting gardens), clients should test after harvest in the fall, or in early spring – but absolutely test *before* applying any spring treatments. Testing should always be done in the event of observed decline in plantings. If results from prior soil tests show pH and nutrient levels are near-optimal, then re-test sandy soils every two to three years and clay soils every three to four years. If previous tests indicate pH and/or nutrient levels that are well out-of-range, soil tests should be repeated annually.

Remind the client not to test either when soils are very wet or after the application of any treatments.

HOW do we sell the test kit and **HOW** does the client conduct the test?

The Helpline Committee has prepared a resource in Helpline Hint 5 – Soil Testing. It is a laminated sheet and can be found in the Helpline Office on the counter.

Sales of soil test kits and pH tests should be handled like any other Helpline inquiry in that a Helpline Form must be filled out and entered into the Electronic Logbook. Soil test kits, pH forms, and the receipt book are all maintained in the upper right drawer of the grey file cabinets in the Helpline office. Payments ($20 for the soil test kit, $5 for a pH test) must be in check or cash, with payments given to Joelle or Dana.

When speaking with the client, check to make sure the soil test kit is complete, reviewing the following in the mailer:

- Soil Sampling Instructions (yellow flier – NJAES)
- Soil test questionnaire (double-sided white form with kit/serial number)
- Clear plastic soil collection bag (5”x 7” – and yes, it is a tight fit).

While there are soil sampling instructions in the mailer, for more visuals The North Carolina Extension Gardener Handbook site is particularly good: https://content.ces.ncsu.edu/extension-gardener-handbook/1-soils-and-plant-nutrients#section_heading_7244.

Encourage the client to fill out the questionnaire *completely* and *thoughtfully*. Also stress the importance of submitting separate tests and thus questionnaires for different plant-types, for example lawn, vegetable garden, or ornamental shrubs. It is important to note that broad-leaved evergreens (hollies, rhododendron, magnolia, azalea) should be tested separately, due to their penchant for acidic soil.

For clients new to soil sampling, tell them not to worry – the post office is very familiar with these odd-looking parcels. Remind the client that the mailer is NOT prepaid – they will have to pay postage. Yet another reason to take samples when the soil is relatively dry – it will weigh and cost less to mail. Also, encourage them to remove small stones, twigs, and debris from the sample.

Make sure the plastic bag is in the kit. It can slip out of the mailer easily.

WHO receives the results?

The client will receive results emailed to the address they enter on the questionnaire. Periodically, the list of soil test kits numbers sold by Mercer County Extension is sent to Dana and from this file, the soil test results can be retrieved. In the event a client does not receive -- or misplaces -- their results, Helpline volunteers can work with Dana to help retrieve the missing report. We do not call clients to discuss their results. If the client has questions about the Soil Test report, make sure they first read the recommendations that accompany the report; they are specific to the soil sample and the plantings located on the site as indicated on the questionnaire they completed and submitted with the test. Then, they can speak with an MG on Helpline for further assistance. To support clients' search for soil fertilizers and amendments, Rutgers has a 'Fertilizer Finder' interactive page found at https://itsappserver.sebs.rutgers.edu/FertProducts/. In using the page, clients input the target N:P:K identified in the recommendations in their report and the site returns relevant products. For support in answering clients' "now what?" questions about their test's findings and recommendations, see Rutgers Cooperative Extension Fact Sheet FS871 "Understanding Fertilizer Labels" and FS839 "How to calculate the amount of fertilizer needed for your lawn".

Now…go out and sell these incredibly valuable tests!

SOURCES

Rutgers NJAES, Soil Testing for Home Lawns and Gardens (FS797), Joseph Heckman, April 2003.
North Carolina State Extension, The North Carolina Extension Gardeners Handbook.
Rutgers NJAES Newsroom: Optimizing Soil Health in New Jersey, April 24, 2018.
Oregon State University: Disease Triangle