

When and How to Take a Soil Test

Over time, soil fertility, pH, and even soil structure can change as nutrients are depleted. Testing the soil can provide home gardeners a better understanding of the site and save them money.

What can soil tests identify?

- **Current nutrient concentrations.**
- **Nutrient deficiencies**, indicating what amendments are necessary.
- **Soil pH.** Nutrients can best be used by plants when the soil pH is between 6.5 and 7.
- **Organic matter.**
- **Macronutrients**, such as phosphorus, potassium, sulfur, calcium, and magnesium, and some **micronutrients**, such as boron, copper, iron, or manganese.
- **Contaminants**, such as lead. Available upon request from the testing laboratory.

When should you test soil?

Take a soil test every three to five years. Fall is a good time to test:

- Soil temperatures are above 50°F.
- The growing season is slowing down.
- Any amendments, such as added organic matter, will have time to decompose.
- Nutrients from added fertilizers will be available in the soil well before planting season.

How do soil tests work?

Take a soil sample

To test the soil, gardeners must take samples that represent an entire yard or garden.

- Use a soil probe, sharp spade or trowel.

- Take several soil samples from evenly distributed spots. Take the same amount of soil from each location. Mix the samples. Remove roots, rocks, or twigs.
- If comparing soils, take two separate samples.

Submit the sample to a laboratory

- Home soil test kits are not recommended. There are several certified soil testing labs in Illinois. Review a list at alta.ag/certified-labs.
- Contact the lab about instructions and costs.
- Mail the lab your sample.

What do the results mean?

Many labs will provide interpretation and recommendations for next steps upon request. University of Illinois Extension horticulture staff can provide further guidance. Find your county Extension office at go.illinois.edu/ExtensionOffice.

Do you need to add fertilizer?

Taking a soil test identifies existing nutrient levels. Fertilizer may not be needed depending on natural fertility and plant needs. Too much fertilizer can harm trees, shrubs, and turfgrass especially during droughts. Excess fertilizer can enter waterways and cause issues with wildlife and water quality.

- Only fertilize when soil tests show a deficiency.
- Use native species of landscape plants to reduce the need for fertilizer.
- Choose the right plant for the right site and use cultural methods to keep plants healthy.

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