The best way to know what your soil need is to test it every two or three years. Soil tests that are commonly offered include:

**pH** – determines the acidity of your soil and estimates how much lime is needed to adjust the pH to an optimal level.

**Nutrients** – determines the levels of available plant nutrients. Often labs don’t bother to test for nitrogen, since this test is often misleading. Around our area you can assume your soil needs moderate inputs of nitrogen every year. Some labs test for calcium. This is unnecessary too, since you will be adding lime (calcium carbonate) for pH balance anyhow.

**Organic matter** – determines the percentage of organic material in your sample.

**Soil texture** – determines the percentages of sand, silt and clay in the soil and classifies it by texture according to the USDA system (ex. Silty loam). Since your soil texture is not going to change, you have to request this test only the first time.

**Heavy metals** – determines whether your soil contains abnormally high levels of toxic heavy metals. Sometimes the test is strictly for lead, the most common garden heavy metal contaminate. Usually if levels are elevated, recommendations will be included on steps to take to counteract the danger.

Whatever test you do, the procedure for taking the sample is the same. Each area where the soil looks different or has been treated differently should be tested separately. Don’t sample in abnormal spots like right next to a fence, driveway, sidewalk or building.

Don’t sample a soil that has just been fertilized or limed. Make sure your shovel and bucket are not contaminated from the last time you fertilized. Any of these things could throw the results way off.

There will be variations even within a rather homogeneous area, so the sample you send should be a mix of several samples. Using a clean trowel or spade, take thin vertical slices of soil from about 10 locations within the area they are to represent. Put them in a clean bucket and mix thoroughly. From this, take the cup or whatever amount your lab requests. For most purposes you will want to sample the top 6-8 inches. For fruit you should go down to 8-10 inches.

WSU closed its soil testing facility many years ago, so we suggest that you check with private, local labs. Make sure that their basic soil test package includes the tests you want and that they interpret the numbers into fertilizer recommendations for you. Alternatively, the University of Massachusetts offers the tests most gardeners need at a very reasonable price.
standard test does pH, nutrients and heavy metals. Soils can take more fertilizer and lime that sandy soil, but sandy soils need it applied more often.

If you can’t get a soil test done before you plant, here are some general recommendations based on average soil needs in our area. Clay soils and silt soils can take more fertilizer and lime that sandy soil, but sandy soils need it applied more often.

All amendments should be mixed thoroughly in the top 8-12 inches of soil.

**LIME:** Per 100 square feet. * Use:

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandy Soil</td>
<td>4 pounds (4 pints) every 2 years.</td>
</tr>
<tr>
<td>Loam</td>
<td>6 pounds (6 pints) every 2 years</td>
</tr>
<tr>
<td>Clay Soil</td>
<td>8 pounds (8 pints) every 3 years</td>
</tr>
</tbody>
</table>

**COMPOST:** About 2 wheelbarrow loads (ten 5-gallon buckets) per 100 square feet.* New gardens may need more. Use:

- Aged horse or cow manure (not chicken) or zoodoo
- Decomposed yard and kitchen wastes
- Aged sawdust (fresh sawdust must have lots of nitrogen fertilizer added. A 1-inch layer over 100 square feet needs 10 pounds of ammonium sulphate or 4 pounds of ammonium nitrate.)

**FERTILIZER:** Use recommended amounts only! More is not always better. Fertilizer may be mixed into soil or “banded” in furrows 2-3 inches deep and 2-3 inches away from rows of plants. For larger plants (tomatoes, squash), fertilizer may be placed beneath each plant – 1 tablespoon 5:10:10 per plant or ¼ cup of organic fertilizer.

Per 100 square feet* or 100 feet of row. Use:

- 5:10:10 4 cups (2 pounds)
- 10:20:20 2 cups (1 pound)
- chicken manure (20 pounds)
- complete organic fertilizer:
  - 4 cups blood meal (or 7 cottonseed)
  - and 4 cups bonemeal
  - and 4 cups kelp meal (or 8 greensand or wood ash)

**NOTE:** 100 square feet equals four 4-foot by 6-foot beds.
Where to Send Order

Let us extend our appreciation for your efforts and share new ideas presented and discussed. Order your copy of this newsletter and a check made payable to UMass Extension.

U Mass Extension Newsletters

Soil Testing

Why Test?

Soil Testing

1. Vegetables

2. Animal, Perennial Plants, and Flowers

3. Rose

4. New Lawn (post-connection)

5. Established Lawns (good connection)

6. Small Fruit (apple, cherry, or blueberry)

7. Trees and Vines

8. Established Forests

9. subdivisions, Shrubs, Trees, and Vines

10. Forests and Woodlands

11. Grassy lawns, Fescue, and other turf

12. Other reasons: For sitting (growth and health) Energy, for Lawns, Golf course, Commercial, Crops (corn, soy, and feed)

Plan your choice to one or two.

Crop List

Let us know if you need a soil test. We appreciate the positive contribution of your efforts.

Crop List

1. Vegetables

2. Animal, Perennial Plants, and Flowers

3. Rose

4. New Lawn (post-connection)

5. Established Lawns (good connection)

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8. Established Forests

9. Subdivisions, Shrubs, Trees, and Vines

10. Forests and Woodlands

11. Grassy lawns, Fescue, and other turf

12. Other reasons: For sitting (growth and health) Energy, for Lawns, Golf course, Commercial, Crops (corn, soy, and feed)
WEB Site or call us

B. Soil Testing
- Test Soil
  - Nutrient and pH Information
  - Spot Test
  - Sample

When to Sample

Soil Sampling Instructions

1. Avoid taking samples near trees or shrubs.
2. Collect samples from a variety of areas.
3. Collect samples from each area of the test plot.

When to Sample

Soil Test Order Form

Name

Address

City/State/Zip

Phone

Order Total:

Date

Comment

Sample

Test

Soil Test Price List

A. Soil PH

B. Standard Soil Test

C. Standard Soil Test w/ Organic Matter

D. Soil Texture (only)

E. Soluble Salts

$3.00

$21.00

$12.00

$3.50

$3.00

$3.00

$3.00