

## Appendix B

### Soil and Tissue Testing Service

UMass Extension offers a variety of soil test options at the University of Massachusetts Amherst Soil and Tissue Testing Laboratory. (Contact laboratory for current price list, <http://www.umass.edu/soiltest>.)

**The tests listed DO NOT identify plant growth problems associated with soil drainage, insects, plant diseases (whether soil-borne or not), weeds, winter injury, the misuse of pesticides, or the spillage of petroleum products.**

Again, pesticide residues and petroleum contaminants are **not identified** by these tests. Analyses for these are expensive, but may be obtained through the private sector.

1. Standard Soil Test - includes pH and lime requirement, levels of available plant nutrients, and abnormally high levels of several toxic elements. Based on this test the client receives recommendations on the amount of lime and fertilizer to add to the soil and what actions to take should an unusually high level of lead be present.
2. pH Test only -
3. Standard Soil plus Organic Matter - includes all the elements of the standard test listed above plus the percentage of organic matter in the soil.
4. Soil Texture only - provides the percentages of sands, silts, and clay.
5. Tissue Test without Nitrogen - provides concentrations of total tissue phosphorus, potassium, calcium, magnesium, sulphur, iron, manganese, zinc, copper, boron, and molybdenum. Lead, cadmium, nickel, and chromium levels available on request.
6. Tissue Test with Nitrogen - provides concentrations of all elements listed in #5 plus nitrogen.

### Tissue Sampling

Tissue samples should be taken from the specific plant part, at a specific location on the plant, at a specific stage of growth as noted below:

Sample fully expanded leaves from current growth midshoot during late July or August.

### Tissue Sampling Procedure

1. When there is a plant-growth problem, always attempt to sample the problem areas and then take a second sample from the same variety showing satisfactory growth. Send these two samples in separate containers with separate payments.
2. When no plant growth problem exists, but there is interest in assessing the nutritional status, your results will be compared with those in the scientific literature or from previously sampled crops.

3. Remove leaves (or selected plant part) from a representative area. For example, remove leaves from 10 to 20 plants scattered through the area to be sampled (rather than 10 to 20 plants from one end of the planting).
4. Make certain management practices have been uniform within the sampling area. If soil characteristics vary significantly over the area, sampling should be refined to reflect these differences.
5. Take 10 to 50 leaves (or selected plant part), depending on crop, and rinse thoroughly with tap water to remove any chemicals, foliar-applied fertilizer, and soil particles. Place them on clean paper to air-dry.
6. Once air-dried, carefully place tissue (avoiding contamination with foreign material) in paper bag.

**Send soil or tissue samples, with a check made payable to the University of Massachusetts, to:**

**Soil & Tissue Testing Laboratory  
West Experiment Station, 682 North Pleasant Street, UMass, Amherst, MA 01003-9302  
Phone (413)545-2311  
<http://www.umass.edu/soiltest>**