THE BEST TEST FOR POTTING MIXES

The A.U. Soil Testing Laboratory is encountering more and more gardeners (yes, some Master Gardeners) and others who are sending in “potting mixes” for routine soil testing. THIS IS NOT THE BEST CHOICE!

Routine soil testing was designed and developed for “mineral soils”. Mineral soils are those found in natural landscapes and are composed mostly of mineral materials, e.g. sand, clay and silt. Most mineral soils contain less than 10 percent organic matter. “Potting mixes” can be mostly organic matter, e.g. finely ground pine bark mulch, peat and compost. Sometimes a little sand, perlite or vermiculite is added to improve drainage or water-holding capacity. Potting mixes are usually made according to some formula or recipe that includes adding ground limestone and slow-release fertilizers for the plants to be grown (see http://www.aces.edu/pubs/docs/A/ANR-1345/ANR-1345.pdf)

Potting Mixes may not need testing! Sometimes, a gardener can replace the soil entirely in a pot or container garden for what it would cost to test it. For mineral soils to be heavily amended with pine bark, peat or compost, simply test the soil BEFORE adding the amendments.

In the Soil Testing Laboratory, mineral soils are usually dried, crushed, screened, and scooped or weighed and extracted with a solution specifically for removing nutrients, primarily P, K, Ca and Mg. The Auburn Lab uses 20 ml of a dilute, double-acid solution (Mehlich-1 extract) for 5 g of acid soil. Alkaline soils require a different procedure. These methods simply won’t work with potting mixes because the potting mix would simply absorb all the extracting solution.

We do have a test designed specifically for “potting soils”. We call it the “Saturated Media Test” for greenhouse and nursery samples because it involves saturating the potting mix with demineralized water, letting it stand, and then pulling the excess water off with suction. The liquid is then tested to see what soluble nutrients and minerals are in the solution. It is a labor intensive process designed to help commercial greenhouse and nursery operators diagnose problems for high value crops. It is almost meaningless for backyard gardeners and hobby growers. Most would not want to pay for this level of testing. The cost is $7 for a routine MINERAL soil and $25.00 for the SATURATED MEDIA TEST (see menu at: http://www.aces.edu/anr/soillab/documents/CompostFormRevised1.pdf).

If the Soil Testing Laboratory suspects that a gardener inadvertently sent in a potting mix for a routine soil test, the Lab will try to notify the gardener and explain the concern. If a gardener agrees, the Saturated Media Test will be run.

Prepared by: Charles C. Mitchell, Extension Agronomist-Soils, and Gobena Huluka, Laboratory Director
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