

## NUTRIENT SOIL TESTING

Nutrient soil tests are recommended when developing of a new garden, when plantings fail, or to provide baseline soil data when a gardener or garden moves to a new location. The goal of most soil testing labs in the United States and our region is nutrient soil testing. Many people immediately equate soil nutrient testing with all soil testing. However, the primary purpose of nutrient soil tests is to assess soil fertility and calculate potential soil nutrient amendments.

Typical results of a “standard” nutrient soil test will yield pH; percent organic matter (%OM); cation exchange capacity (CEC); available macronutrients including (nitrogen (N), phosphorus (P) and potassium (K)). They may also report micronutrients, also called trace elements (e.g., boron, zinc, manganese, copper) as well as salts in the soil. Nutrient soil testing methods vary widely and the results can be anything but “standard”. Thus, because the methods and laboratories vary, the soil test results, format, and recommendations can look markedly different. Calculated recommendations typically assume the client intends to add those amendments in the form of readily available synthetic fertilizer<sup>1</sup>.

There are many forms of synthetic fertilizers on the market including all-purpose fertilizer, lawn fertilizer, ornamental plant fertilizer, quick-release fertilizer, slow-release fertilizer, and so on. All fertilizers will include the ratios of nutrients they contain via the N-P-K ratio, expressed in numbers such as 10-10-10. Use of synthetic fertilizer may be the least burdensome at face value but bears more of a risk of long term soil alterations that require a more robust or yearly laboratory monitoring schedule. When using synthetic fertilizers, application instructions should always be closely followed because synthetic fertilizers are made up of chemicals that **may** harm a plant’s roots if applied too heavily.

Many growers practicing organic, regenerative, or alternative agriculture, will use organic by-products and some unprocessed minerals which are sold as organic fertilizers. Commercial organic fertilizers tend to be more expensive per pound of nutrients than either processed fertilizers or manures.

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<sup>1</sup> Synthetic fertilizers are man-made, inorganic fertilizers. They are normally derived from the by-products of the petroleum industry and include such ingredients as potassium sulfate, ammonium phosphate, superphosphate, and ammonium nitrate.

## C222 – Nutrient Soil Testing

Additional information on fertilizer rates, placement, and timing can be found in University Extension publications available from Washington State University and Oregon State University. The method for calculating processed fertilizer rates and estimating organic fertilizer rates can be found in publication EM063E, A Home Gardener’s Guide to Soils and Fertilizers, section “Fertilizer Calculation and Use” <http://cru.cahe.wsu.edu/CEPublications/EM063E/EM063E.pdf>.

### Local Labs Providing Nutrient Soil Testing

We highly recommend use of accredited laboratories only. Nutrient soil labs typically cater to larger farmers and growers, so at any given time of year such as the spring rush, your samples may linger in a testing queue. Again, Easy DIY Soil Tests may satisfy your goals more cost efficiently, with less waiting, and a lower investment of your time or energy.

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<p>Best Test Analytical Services 3394 Bell Road NE Moses Lake, WA 98837 877 950-2378 <a href="http://www.besttestlabs.com/">http://www.besttestlabs.com/</a> *Accredited under ALP rather than NAPT, hasn’t sought accreditation for N testing under DoE</p>	<p>Soil Test Farm Consultants, Inc. 2925 Driggs Dr. Moses Lake, Wa 98837 (509) 765-1622 <a href="http://www.soiltestlab.com/">http://www.soiltestlab.com/</a></p>
<p>Cascade Analytical, Inc. 3019 G.S. Center Rd. Wenatchee, WA 98801 800 545-4206 <a href="http://www.cascadeanalytical.com/">http://www.cascadeanalytical.com/</a> *Also a Yakima Laboratory</p>	<p>Analytical Science Laboratory University of Idaho Physical Address: (FedEx/UPS) Holm Research Center 2222 West Sixth Street Moscow, Idaho 83844-2203 Mailing Address: 875 Perimeter Drive MS 2203 Moscow, ID 83844-2203 Phone: 208-885-7081 <a href="https://www.uidaho.edu/cals/analytical-sciences-laboratory">https://www.uidaho.edu/cals/analytical-sciences-laboratory</a></p>
<p>Kuo Testing Labs 337 1<sup>st</sup> Ave S Othello, WA 99344 509 488-0112 <a href="http://www.kuotestinglabs.com/">http://www.kuotestinglabs.com/</a> *ALP and other accreditations</p>	<p>*Note: U of I Laboratory does not interpret results or provide recommendations</p>