Heavy Metals in Soil Testing

There is an increasing concern of the dangers posed by heavy metal pollution. The Cornell Nutrient Analysis Lab offers heavy metal analysis to both commercial growers and home garden owners. However, no interpretations of results or recommendations will be provided. The CNAL is not a certified laboratory in order to do so. Informational fact sheets/guidelines will be included with the results of your test.

The cost of the test is $50.00. Make checks payable to Cornell University and include it with your soil sample. **You need to check box 2020 on the back of Form S**. This will test your soil for the following: Aluminum, Arsenic, Boron, Beryllium, Calcium, Cadmium, Cobalt, Chromium, Copper, Iron, Potassium, Lithium, Magnesium, Manganese, Molybdenum, Sodium, Nickel, Phosphorus, Lead, Sulfur, Titanium, Vanadium, and Zinc. Use a heavy duty freezer bag to hold the dry soil for testing.

Results will take approximately 2-3 weeks.

NOTE: If you wish to have the standard soil pH and nutrient test as well as the heavy metal test, you will need to purchase a standard soil test kit separately (cost is $10.00). It is an entirely different test. Received

Contact Information:

Cornell Nutrient Analysis Laboratory

G01 Bradfield Hall, Ithaca NY 14853

Phone: 607-255-4540

Fax: 607-255-7656

Email: soiltest@cornell.edu

Web: http://cnal.cals.cornell.edu

April 2012

CORNELL NUTRIENT ANALYSIS LABORATORY

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SOIL ANALYSIS

S

Contact Information

Name _____ Company/Department _____

Address _____ Telephone _____

City _____ Fax _____

State _____ Zip _____ email _____

Sample Information

Sample Description _____

Submission Date ___/___/___ Number of Samples _____

☐ email results ☐ fax results ☐ mail results

☐ **Cornell researchers** please contact us for internal pricing.

☐ Rush order. Results returned within 5 business days from date samples received. (Please add an additional 50% of the test cost/sample to your total) Please Contact Lab before submission (50% surcharge may not apply).

☐ Special report formatting. Please contact lab with details. ($50/hr; 30 min increments)

☐ Quarantine samples. Arrangements must be made in advance of delivering samples. Please contact us for permission to use our USDA-APHIS permit. ($1/sample)

☐ Retain samples for 1 month after samples are received. (no charge)

☐ Potentially hazardous samples. Details_____.

☐ Additional sample processing required. Please contact lab with details. ($35/hr; 30 min increments)

Sequentially, enter unique identification code used on submitted sample containers (attach additional sheets, if needed):

1.	5.	9.	13.	17.
2.	6.	10.	14.	18.
3.	7.	11.	15.	19.
4.	8.	12.	16.	20.

Payment Information

Total Amount Owed: $_____.___

○ Credit Card (Visa and Mastercard accepted) ***$50 minimum charge***

Exact Name on Credit Card and Contact information _____

Credit Card Number _____ Expiration Date _____

We will contact you for the security code prior to processing your credit card.

○ Check or Account Number _____

○ Purchase Order (P.O.) Number _____

Signatures

Signature of customer shipping or delivering samples

Signature of CNAL employee receiving samples

Retain a copy of the completed form for your records
Please select types of analyses from list on the reverse side

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S

SOIL ANALYSIS

*For **Fertilizer Recommendations**, please submit your soil sample and payment directly to **Agro-One**:www.dairyone.com/AgroOne*

Soil Fertility Analyses			Cost per Sample
☐	1030	Soil Fertility Test Package #1 [Morgan extractable P and NO_3 (colorimetric); K, Ca, Mg, Fe, Mn, Zn, and Al (ICP); pH; buffer pH (Modified Mehlich); and organic matter (Loss on Ignition)]	$15.00
☐	1060	Soil Fertility Test Package #2 [Modified Morgan, Mehlich I, or Mehlich III extractable P, K, Ca, Mg, Fe, Mn, Zn, and Al (ICP); pH; buffer pH (Modified Mehlich); and organic matter (LOI)]	$15.00
☐	1050	Pre-Sidedress Nitrogen Test (PSNT), nitrate only (see PSNT submission form)	$9.00

pH, Buffer (Modified Mehlich) pH, EC, OM, TN, TC, TOC, TIC, Exchangeable Cations			Cost per Sample
☐	1810	Organic matter [(Loss on ignition (LOI) method]	$6.00
☐	1820	pH in water	$6.00
☐	1830	pH in 0.01 M $CaCl_2$	$6.00
☐	1880	Soluble salts (conductivity)	$7.50
☐	1840	Buffer pH (Modified Mehlich buffer)	$6.00
☐	1841	Exchange acidity	$8.00
☐	2031	NH_4OAc (buffered at pH 7) extractable bases Ca, Mg, K, Na	$25.00
☐	2032	NH_4OAc (buffered at pH 7) extractable Cation Exchange Capacity (CEC)	$25.00
☐	2041	NH_4Cl (unbuffered) extractable bases Ca, Mg, K, Na	$25.00
☐	2042	NH_4Cl (unbuffered) extractable CEC	$25.00
☐	2735	Total carbon and Total nitrogen (combustion analysis)	$13.00
☐	2750	Organic carbon (you must also check Test 2735 Total carbon and Total nitrogen)	$20.00
☐	2740	Inorganic carbon	$15.00

Soil Health Assessment Chemical Tests			Cost per Sample
For complete Soil Health Assessment Tests Packages see the Soil Health submission form.			
☐	2820	Potentially Mineralizable Nitrogen (PMN)	$20.00

Total Elemental Analysis/Heavy Metal Screening			Cost per Sample
☐	2020	Microwave assisted acid (HNO_3) digestion (EPA Method 3051-6010) Includes: Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Se, Sr, Ti, V, Zn	$35.00
☐	2021	ICAP Elements Hot plate HNO3/HCIO4 digestion **(NEW)** Same as 2020 test (above)	$17.00
☐	2071	Lead screening (1M nitric acid extraction)	$14.00

Extractable Nutrients/Elements			Cost per Sample
☐	2503	NH_4 (KCl extraction; colorimetric method)	$12.50
☐	2506	$NO_3 + NO_2$ (KCl extraction; colorimetric method)	$12.50
☐	2511	2503 NH_4 and 2506 $NO_3 + NO_2$ (KCl extraction; colorimetric method)	$15.00
☐	1230	DTPA extraction (pH 7.3) for micronutrients (Fe, Mn, Cu, and Zn)	$15.00
☐	1860	Hot water-soluble boron (B)	$15.00

Soil Physical Characteristics			Cost per Sample
☐	1885	Particle size distribution (soil texture) Anticipate 4-5 weeks for the completion of the test (depends on the organic matter content of the sample)	$60.00
☐	1890	Sand content (sieve)	$20.00
☐	1940	Moisture retention curve (5 point)	$60.00
☐	1950	Moisture content at 15 bar	$30.00
☐	1960	Moisture content at 0.33 bar	$30.00

Lime Analyses:			Cost per Sample
☐	2610	Complete lime analysis: calcium carbonate equivalent, total elements (P, K, Ca, Mg), particle size, and moisture content	$65.00
☐	2611	Calcium carbonate equivalent and moisture content	$30.00
☐	2613	Total elements and moisture content	$20.00

Discounts may be given for samples submitted dried and ground.
Samples must be prepared to CNAL specifications. By prior arrangement only--call for details.
Anticipate 2-3 weeks for the completion of tests.
Additional submission forms can be downloaded from our website: http://cnal.cals.cornell.edu.
Please complete form on reverse side.