



# Cornell Soil Health Assessment 2012

Cornell Nutrient Analysis Lab (CNAL), G01 Bradfield Hall, Ithaca, NY 14853 (607) 255-4540

Soil Health Coordinator Bob Schindelbeck (607) 227-6055, rrs3@cornell.edu

E-mail: soilhealth@cornell.edu

Website: <http://soilhealth.cals.cornell.edu>



**NUTRIENT RECOMMENDATIONS FOR NY ONLY. Please provide the SOIL NAME**  
For soil maps and soil names visit <http://websoilsurvey.nrcs.usda.gov/app/>

<b>Grower</b>	<b>Commercial representative</b>
Grower name: _____	Representative name: _____
Address: _____	Address: _____
Phone: _____	Phone: _____ <b>County:</b> _____
Email: _____	Email: _____

**Soil Health Analysis Cost**

Basic Package\* \$45/ sample \$ \_\_\_\_\_ [ ] Check enclosed (to: CORNELL UNIV.)  
 Standard Package \$75/ sample \$ \_\_\_\_\_ [ ] Paid Agent (name):  
 Add-on Soluble Salts \$7.50/ sample \$ \_\_\_\_\_ [ ] Bill Me:  
 Add-on Metals Screening \$17/ sample \$ \_\_\_\_\_ **:Total**

\* See Back of Sheet (top) for Listing of Tests Performed in each Soil Health Package

## FIELD AND FARM INFORMATION

<b>Field yields are:</b>	<b>Field problems:</b>	<b>Farm Operation (check all that apply):</b>
<input type="checkbox"/> high	<input type="checkbox"/> crusting	<input type="checkbox"/> dairy
<input type="checkbox"/> increasing	<input type="checkbox"/> soil hard	<input type="checkbox"/> organic
<input type="checkbox"/> medium	<input type="checkbox"/> diseases	<input type="checkbox"/> research farm
<input type="checkbox"/> decreasing	<input type="checkbox"/> droughty	<input type="checkbox"/> vegetable
<input type="checkbox"/> low	<input type="checkbox"/> stays wet	<input type="checkbox"/> conventional
<input type="checkbox"/> constant	<input type="checkbox"/> other _____	<input type="checkbox"/> grain
		<input type="checkbox"/> other _____
		<input type="checkbox"/> garden

## SOIL INFORMATION

★ **Remember: 4-6 cups of soil are needed!** ★

<b>LAB ID (Lab Use Only)</b>	<b>Field Identification</b>	<b>Date Sampled</b>
<b>SOIL NAME (REQUIRED)</b>	<b>Tillage Depth</b>	<b>Artificial Drainage</b>
(ex. LIMA silt loam)	<b>2010</b> <b>2011</b> <b>2012</b>	<b>Manure / Organic Additions</b>
	<b>1</b> = no till, <b>2</b> = 1-7 inch, <b>3</b> = 7-9 inch, <b>4</b> = >9 inch	Type/ Animal   Amount/ Acre [ ] 2010 [ ] 2011 [ ] 2012
	<b>3</b> = Adequate, <b>4</b> = Excellent	

## CROP INFORMATION (see back of this sheet for Crop Codes)

<b>% Legume Last Year</b>	<b>Cover Crop</b>	<b>Past Year Crops</b>			<b>Future Crops</b>		
<b>1</b> = 0%, <b>2</b> = 1-25%, <b>3</b> = 26-50%, <b>4</b> = 51-100%	<b>1</b> = Before next crop, <b>2</b> = Before 2nd years crop, <b>3</b> = Before 3rd years crop, <b>4</b> = Before all years crop	<b>3 yrs ago</b>	<b>2 yrs ago</b>	<b>Last yr</b>	<b>This yr</b>	<b>Next yr</b>	<b>Third yr</b>

## FIELD PENETROMETER DATA COLLECTION (use SMALL 1/2" tip)

<b>PENETRATION RESISTANCE</b>	<b>location 1</b> <b>location 2</b> <b>location 3</b> <b>location 4</b> <b>location 5</b>										<b>Depth to Hardpan</b>
<b>0-6 INCH Maximum</b>	push 1	push 2	push 3	push 4	push 5	push 6	push 7	push 8	push 9	push 10	<b>or a Restrictive Layer (inches):</b>
<b>6-18 INCH Maximum</b>											

Record the highest resistance value encountered in each depth range. NOTE: A field penetrometer is available to borrow. Contact Bob Schindelbeck (at top of page) and it can be sent to you through the mail.

## CORNELL SOIL HEALTH TEST INFORMATION

### Field Crop and Vegetable Soil Health Package Analyses

#### **Basic Package Analyses \$45/ sample**

**Recommended applications:** field crops, dairy, lawns  
Soil pH, Mod. Morgan Extractable P, K, micronutrients  
Soil Texture  
Wet Aggregate Stability  
Available Water Capacity  
Surface/ sub-surface Hardness  
Organic Matter  
Active Carbon

#### **Standard Package Analyses \$75/ sample**

**Recommended applications:** organic production, vegetable crops, problem diagnosis, soil health initializing, home gardens  
**Basic Package**  
PMN (Potentially Mineralizable N)  
Root Bioassay

#### Landscape/ Urban/ High Tunnel Add-on Tests

#### **Soluble Salts/ conductivity (CNAL test 1880) \$7.50/ sample and Sodium Absorption Ratio (SAR)**

**Recommended applications:** high tunnels, landscaped areas, lawns and urban areas, heavily composted areas, home gardens

#### **Heavy Metal Screening \$17/ sample (CNAL test 2021, EPA Method 3051-6010)**

**Recommended applications:** urban areas and gardens, home gardens, playgrounds, brownfields, heavily composted areas

The complete Cornell Soil Health Test Report, which includes the test results from the Basic and Comprehensive Packages listed above require about 4-6 weeks for completion and will be sent from the Soil Health Lab of the Cornell Nutrient Analysis Lab, G01 Bradfield Hall, Cornell University, Ithaca, NY 14853.

Please see the website <http://soilhealth.cals.cornell.edu> for specific field sampling and sample handling instructions. This website also contains the **Cornell Soil Health Assessment Training Manual** which outlines the soil analyses and how to interpret the Soil Health Test Report.

## STANDARD SOIL FERTILITY GUIDELINES (NY ONLY)

The Cornell Nutrient Analysis Laboratory will be performing Soil Nutrient tests and will send results directly to the names listed on this submission form **in New York only**. Soils from other States will only receive chemical level scores on the Soil Health Report.

**Standard Nutrient Guidelines (NY only):** pH, buffer pH (lime requirement), organic matter and Modified Morgan extractable phosphorus, potassium, calcium, magnesium, aluminum, sulfur, zinc, manganese and iron.

You will receive the soil Chemical results and nutrient recommendation guidelines within 2 weeks of sample submission.

## CROP CODES

### PERENNIAL AGRONOMIC CROPS

CODE	INITIAL ESTABLISHMENT	CODE	TOPDRESSING ESTAB. STANDS	CODE	INITIAL ESTABLISHMENT	CODE	TOPDRESSING ESTABL.
ALE	Alfalfa	ALT	Alfalfa	CVE	Crownvetch	CVT	Crownvetch
AGE	Alfalfa-grass	AGT	Alfalfa-grass	GRE	Grasses	GRT	Grasses (brome, timothy)
ABE	Alfalfa-trefoil-grass	ABT	Alfalfa-trefoil-grass	GIE	Grass-intensive mgmt.	GIT	Grass-intensive management
BTE	Birdsfoot-trefoil	BTT	Birdsfoot-trefoil	PIE	Pasture-rotation grazed	PIT	Pasture-intensive management
BGE	Birdsfoot-trefoil-grass	BGT	Birdsfoot-trefoil-grass	PGE	Pasture w/improv. grazing	PNT	Pasture w/native grass
BCE	Birdsfoot-trefoil-clover	BCT	Birdsfoot-trefoil-clover-grass	PLE	Pasture with legumes	PGT	Pasture w/improved grass
BSE	Birdsfoot-trefoil-seed	BST	Birdsfoot-trefoil-seed	WPE	Waterways, pond dikes	PLT	Pasture w/legumes
CLE	Clover	CLT	Clover			WPT	Waterways, pond dikes
CGE	Clover-grass	CGT	Clover-grass				
CSE	Clover-seed production	CST	Clover-seed production				

### ANNUAL AGRONOMIC CROPS

CODE	INITIAL ESTABLISHMENT	CODE	TOPDRESSING ESTAB. STANDS	CODE	INITIAL ESTABLISHMENT	CODE	TOPDRESSING ESTABL.
BSP	Barley-spring	BUK	Buckwheat	RYC	Rye-cover crop	SOY	Soybeans
BSS	Barley-spring w/legume	COG	Corn-grain	RYS	Rye-seed production	SUN	Sunflower
BWI	Barley-winter	COS	Corn-silage	SOG	Sorghum-grain	TRP	Triticale, Peas
BWS	Barley-winter w/legume	MIL	Millet	SOF	Sorghum-forage	WHT	Wheat
BDR	Beans-dry	OAT	Oats	SSH	Sorghum-sudan hybrid	WHS	Wheat w/legume
		OAS	Oats seeded w/legume	SUD	Sudangrass		

### MISCELLANEOUS CROPS- Results only. No interpretations or nutrient guidelines are provided for IDL or OTH.

CODE	CROP	CODE	CROP
TRT	Christmas Tree, Topdress	IDL	Idle Land
TRE	Christmas Tree, Establishment	OTH	Crops not listed

NOTE: The complete list of crop codes can be found at [http://www.dairyone.com/AgroOne/Agro\\_One\\_Crop\\_Codes.pdf](http://www.dairyone.com/AgroOne/Agro_One_Crop_Codes.pdf)

### VEGETABLE CROPS

CODE	CROP	CODE	CROP	CODE	CROP	CODE	CROP
ASP	Asparagus	CFS	Cauliflower-seeded	MML	Muskmelon	RAD	Radishes
BND	Beans-dry	CEL	Celery	MUS	Mustard	RHU	Rhubarb
BNS	Beans-Snap	CRD	Chard	ONP	Onion-transplanted	SPS	Spinach-spring
BET	Beets	CHC	Chinese cabbage	ONS	Onion-seeded	SPF	Spinach-fall
BRP	Broccoli-transplanted	CKP	Cucumber-transplanted	PSL	Parsley	SQS	Squash-summer
BRS	Broccoli-seeded	CKS	Cucumber-seeded	PSN	Parsnips	SQW	Squash-winter
BUS	Brussels Sprouts	EGG	Eggplant	PEA	Peas	SWC	Sweet corn
CBP	Cabbage-transplanted	END	Endive/Escarole	PEP	Peppers	TME	Tomato-early
CBS	Cabbage-seeded	GAR	Garlic	POP	Popcorn	TOM	Tomato-all others
CAR	Carrots	LET	Lettuce	POT	Potatoes	TUR	Turnips
CFP	Cauliflower-transplanted	MIX	Mixed vegetables	PUM	Pumpkins	WAT	Watermelon