01-Massachusetts Ave & Columbus Ave

02-Alewife Linear Park, off Massachusetts Ave

03-36 Cambridgepark Dr

04-Fresh Pond, Off Concord Ave

05-Danehy Park

06-Mass Ave between Milton and Russell Streets

07-Concord Ave, near Donnell St, in front of Boudreau Branch of Public Library (trees not represented on map)

CONCORD AVE + HURON B

08-Fayerweather St between Brattle & Reservoir Streets

09-Mass Ave between Prentiss & Garfield Streets

10-Cambridge Common Park

11-Hews St, off Western Ave

12-DCR, Magazine Beach Park

13-Corner of Pearl & Henry Streets

14-Tremont St, off Broadway

15-Sennott Park, Corner of Broadway and Norfolk St

16-Mass Ave at Blanche and State Streets

17-Munroe St.

18-Spring St, off Sciarappa St

19-First St & Binney St

20-Education St in North Point

SOIL SAMPLING LOCATIONS MAP

STRUCTURAL SOIL EXTENTS FOR CONCORD AVE & HURON B PROJECT AREAS

STREET TREES	PARK TREES
GOOD COND.	GOOD COND.
FAIR	FAIR
POOR	POOR
DEAD	DEAD

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11890
Unique ID: Cambridge Loc 1
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.93**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**13.55**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**416.53**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.25	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**22.02**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	641.83	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.65**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.03**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.03**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.62**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**4,961.05**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**619.32**	number/g	> 20,000.00	
Ciliates	49.55	number/g	< 56.00	
Nitrogen Cycling Potential	25-50	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**0.31**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.19**	number/g	> 4.00	
Fungal	**0.00**	number/g	> 4.00	
Fungal/Root	0.00	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.12	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	**14.00**	%	> 40	Low colonization, foods may be required. -
ECTO		%	> 40	
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11890
Unique ID: Cambridge Loc 1
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Panagrolaimus	0.03	number/g	Bacterial Feeders	
Plectus	0.03	number/g	Bacterial Feeders	
Rhabditidae	0.12	number/g	Bacterial Feeders	
Meloidogyne	0.05	number/g	Root Feeders	Root-Knot nematode
Pratylenchus	0.08	number/g	Root Feeders	Lesion nematode

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #1 0-12"
Order Number: 40083
Lab Number: S180904-302
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.6	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	3.2	4-14
Potassium (K)	66	100-160
Calcium (Ca)	688	1000-1500
Magnesium (Mg)	59	50-120
Sulfur (S)	9.6	>10
Micronutrients *		
Boron (B)	0.0	0.1-0.5
Manganese (Mn)	2.8	1.1-6.3
Zinc (Zn)	12.8	1.0-7.6
Copper (Cu)	1.1	0.3-0.6
Iron (Fe)	15.3	2.7-9.4
Aluminum (Al)	78	<75
Lead (Pb)	74.5	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	13.0	
Exch. Acidity, meq/100g	8.9	
Base Saturation, %		
Calcium Base Saturation	26	50-80
Magnesium Base Saturation	4	10-30
Potassium Base Saturation	1	2.0-7.0
Scoop Density, g/cc	1.18	
Optional tests		
Soil Organic Matter (LOI), %	4.8	
Soluble Salts (1:2), dS/m	0.09	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Soil and Plant Nutrient Testing Laboratory
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Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #1 0-12"
Order Number: 40148
Lab Number: X180907-101
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	66.3
Silt	0.002-0.05	22.6
Clay	<0.002	11.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.4
Coarse	0.5-1.0	17.5
Medium	0.25-0.5	22.7
Fine	0.10-0.25	12.4
Very Fine	0.05-0.10	5.3

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	10.4
Medium	0.005-0.02	9.9
Fine	0.002-0.005	2.4

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	91.5
1.00	#18	83.9
0.50	#35	67.8
0.25	#60	47.0
0.10	#140	35.7
0.053	#270	30.9
0.02	20 um	21.4
0.005	5 um	12.3
0.002	2 um	10.1

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 8.5

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #1 12-24"
Order Number: 40083
Lab Number: S180904-303
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.7		**Cation Exch. Capacity, meq/100g**	10.0	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	2.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	4.0	4-14	Calcium Base Saturation	73	50-80
Potassium (K)	51	100-160	Magnesium Base Saturation	6	10-30
Calcium (Ca)	1448	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	75	50-120	**Scoop Density, g/cc**	1.28	
Sulfur (S)	14.5	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.7	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.10	<0.6
Manganese (Mn)	1.7	1.1-6.3			
Zinc (Zn)	10.1	1.0-7.6			
Copper (Cu)	3.4	0.3-0.6			
Iron (Fe)	10.2	2.7-9.4			
Aluminum (Al)	40	<75			
Lead (Pb)	48.3	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #1 12-24"
Order Number: 40148
Lab Number: X180907-102
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	60.9
Silt	0.002-0.05	26.2
Clay	<0.002	12.9

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	6.5
Coarse	0.5-1.0	14.2
Medium	0.25-0.5	22.1
Fine	0.10-0.25	14.4
Very Fine	0.05-0.10	3.7

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	11.9
Medium	0.005-0.02	9.2
Fine	0.002-0.005	5.2

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	65.8
1.00	#18	61.5
0.50	#35	52.2
0.25	#60	37.6
0.10	#140	28.1
0.053	#270	25.7
0.02	20 um	17.9
0.005	5 um	11.9
0.002	2 um	8.5

USDA Textural Class: gravelly sandy loam

Gravel Content: (%) 34.2

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #1 24-36"
Order Number: 40083
Lab Number: S180904-304
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.1		**Cation Exch. Capacity, meq/100g**	10.4	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	5.3	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	2.6	4-14	Calcium Base Saturation	39	50-80
Potassium (K)	88	100-160	Magnesium Base Saturation	7	10-30
Calcium (Ca)	818	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	95	50-120	**Scoop Density, g/cc**	1.17	
Sulfur (S)	11.0	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.9	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.09	<0.6
Manganese (Mn)	2.2	1.1-6.3			
Zinc (Zn)	11.8	1.0-7.6			
Copper (Cu)	3.9	0.3-0.6			
Iron (Fe)	17.0	2.7-9.4			
Aluminum (Al)	45	<75			
Lead (Pb)	14.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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161 Holdsworth Way
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Amherst, MA 01003
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e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #1 24-36"
Order Number: 40148
Lab Number: X180907-103
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	54.0
Silt	0.002-0.05	26.6
Clay	<0.002	19.3

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	5.1
Coarse	0.5-1.0	13.2
Medium	0.25-0.5	19.6
Fine	0.10-0.25	11.7
Very Fine	0.05-0.10	4.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	9.7
Medium	0.005-0.02	7.9
Fine	0.002-0.005	9.0

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	63.8
1.00	#18	60.5
0.50	#35	52.1
0.25	#60	39.6
0.10	#140	32.1
0.053	#270	29.3
0.02	20 um	23.1
0.005	5 um	18.1
0.002	2 um	12.3

USDA Textural Class: gravelly sandy loam

Gravel Content: (%) 36.2

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11891
Unique ID: Cambridge Loc 2
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.92**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**25.41**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**566.45**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.50	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**16.32**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	793.94	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.71**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.04**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.02**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**1.56**		5.00 to 10.00	Bacterial dominated, becoming more fungal.
Protozoa (Protists)				
Flagellates	**1,500.19**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**9,003.33**	number/g	> 20,000.00	
Ciliates	30.31	number/g	< 105.00	
Nitrogen Cycling Potential	50-75	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**0.79**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.33**	number/g	> 4.00	
Fungal	**0.00**	number/g	> 4.00	
Fungal/Root	0.10	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.36	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	**12.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11891
Unique ID: Cambridge Loc 2
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Plectus	0.08	number/g	Bacterial Feeders	
Rhabditidae	0.25	number/g	Bacterial Feeders	
Filenchus	0.10	number/g	Fungal/Root Feeders	
Meloidogyne	0.36	number/g	Root Feeders	Root-Knot nematode

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #2 0-12"
Order Number: 40083
Lab Number: S180904-305
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.1		**Cation Exch. Capacity, meq/100g**	15.2	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	11.6	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	9.7	4-14	Calcium Base Saturation	20	50-80
Potassium (K)	89	100-160	Magnesium Base Saturation	2	10-30
Calcium (Ca)	595	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	46	50-120	**Scoop Density, g/cc**	1.04	
Sulfur (S)	10.3	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	7.8	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.18	<0.6
Manganese (Mn)	18.2	1.1-6.3			
Zinc (Zn)	5.7	1.0-7.6			
Copper (Cu)	0.3	0.3-0.6			
Iron (Fe)	12.5	2.7-9.4			
Aluminum (Al)	88	<75			
Lead (Pb)	3.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #2 0-12"
Order Number: 40148
Lab Number: X180907-104
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	69.9
Silt	0.002-0.05	24.9
Clay	<0.002	5.2

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	9.7
Coarse	0.5-1.0	17.8
Medium	0.25-0.5	23.5
Fine	0.10-0.25	12.3
Very Fine	0.05-0.10	6.6

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	12.4
Medium	0.005-0.02	10.3
Fine	0.002-0.005	2.2

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	83.2
1.00	#18	75.2
0.50	#35	60.3
0.25	#60	40.7
0.10	#140	30.6
0.053	#270	25.1
0.02	20 um	14.7
0.005	5 um	6.1
0.002	2 um	4.3

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 16.8

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #2 12-24"
Order Number: 40083
Lab Number: S180904-306
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

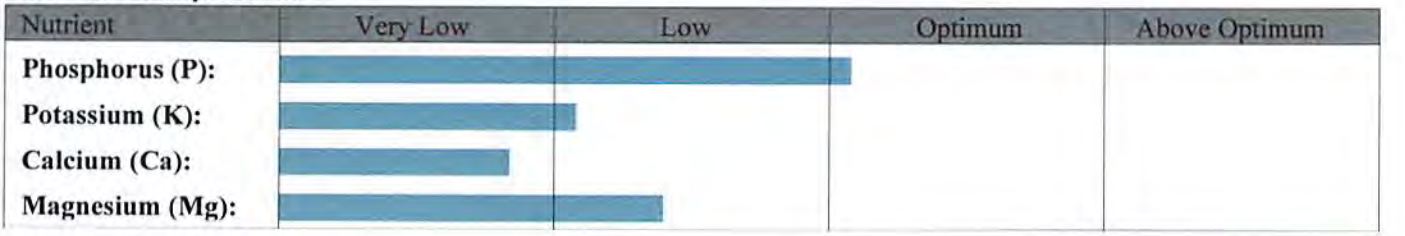
Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.3	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	4.8	4-14
Potassium (K)	53	100-160
Calcium (Ca)	421	1000-1500
Magnesium (Mg)	35	50-120
Sulfur (S)	9.0	>10
Micronutrients *		
Boron (B)	0.0	0.1-0.5
Manganese (Mn)	9.2	1.1-6.3
Zinc (Zn)	3.4	1.0-7.6
Copper (Cu)	0.2	0.3-0.6
Iron (Fe)	10.5	2.7-9.4
Aluminum (Al)	72	<75
Lead (Pb)	2.2	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	10.9	
Exch. Acidity, meq/100g	8.4	
Base Saturation, %		
Calcium Base Saturation	19	50-80
Magnesium Base Saturation	3	10-30
Potassium Base Saturation	1	2.0-7.0
Scoop Density, g/cc	1.24	
Optional tests		
Soil Organic Matter (LOI), %	4.0	
Soluble Salts (1:2), dS/m	0.14	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:
Sample ID: Cambridge Loc #2 12-24"
Order Number: 40148
Lab Number: X180907-105
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	74.3
Silt	0.002-0.05	19.1
Clay	<0.002	6.6

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	9.9
Coarse	0.5-1.0	19.0
Medium	0.25-0.5	21.5
Fine	0.10-0.25	16.6
Very Fine	0.05-0.10	7.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	11.1
Medium	0.005-0.02	5.0
Fine	0.002-0.005	3.0

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	79.3
1.00	#18	71.4
0.50	#35	56.4
0.25	#60	39.4
0.10	#140	26.2
0.053	#270	20.4
0.02	20 um	11.6
0.005	5 um	7.7
0.002	2 um	5.3

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 20.7

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11892
Unique ID: Cambridge Loc 3
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.92**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**1.96**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**150.73**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	2.75	µm	> 2.50	Good balance of fungi. -
Active Bacteria	34.88	µg/g	> 30.00	Bacterial activity within normal levels.
Total Bacteria	665.88	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.23**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.01**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.05**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.06**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**3,001.34**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**1,500.13**	number/g	> 20,000.00	
Ciliates	0.00	number/g	< 45.00	
Nitrogen Cycling Potential	<25	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**0.42**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.13**	number/g	> 4.00	
Fungal	**0.00**	number/g	> 4.00	
Fungal/Root	0.05	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.23	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	**24.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11892
Unique ID: Cambridge Loc 3
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Prismatolaimus	0.08	number/g	Bacterial Feeders	
Teratocephalus	0.05	number/g	Bacterial Feeders	
Filenchus	0.05	number/g	Fungal/Root Feeders	
Xiphinema	0.23	number/g	Root Feeders	Dagger nematode

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #3 0-12"
Order Number: 40083
Lab Number: S180904-307
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.7		**Cation Exch. Capacity, meq/100g**	7.6	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	4.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	3.2	4-14	Calcium Base Saturation	38	50-80
Potassium (K)	79	100-160	Magnesium Base Saturation	7	10-30
Calcium (Ca)	572	1000-1500	Potassium Base Saturation	3	2.0-7.0
Magnesium (Mg)	63	50-120	**Scoop Density, g/cc**	1.13	
Sulfur (S)	8.6	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.8	
Boron (B)	0.2	0.1-0.5	Soluble Salts (1:2), dS/m	0.12	<0.6
Manganese (Mn)	2.0	1.1-6.3			
Zinc (Zn)	5.5	1.0-7.6			
Copper (Cu)	0.3	0.3-0.6			
Iron (Fe)	4.1	2.7-9.4			
Aluminum (Al)	48	<75			
Lead (Pb)	4.8	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #3 0-12"
Order Number: 40148
Lab Number: X180907-106
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	66.9
Silt	0.002-0.05	25.1
Clay	<0.002	8.0

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	4.3
Coarse	0.5-1.0	13.8
Medium	0.25-0.5	29.4
Fine	0.10-0.25	14.1
Very Fine	0.05-0.10	5.2

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	13.3
Medium	0.005-0.02	8.7
Fine	0.002-0.005	3.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	74.4
1.00	#18	71.1
0.50	#35	60.9
0.25	#60	39.0
0.10	#140	28.5
0.053	#270	24.6
0.02	20 um	14.7
0.005	5 um	8.3
0.002	2 um	5.9

USDA Textural Class: sandy loam

Gravel Content: (%) 25.6

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #3 12-24"
Order Number: 40083
Lab Number: S180904-308
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.2		**Cation Exch. Capacity, meq/100g**	8.3	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	4.3	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	2.6	4-14	Calcium Base Saturation	41	50-80
Potassium (K)	61	100-160	Magnesium Base Saturation	5	10-30
Calcium (Ca)	688	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	50	50-120	**Scoop Density, g/cc**	1.05	
Sulfur (S)	13.8	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	4.2	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.26	<0.6
Manganese (Mn)	1.8	1.1-6.3			
Zinc (Zn)	4.7	1.0-7.6			
Copper (Cu)	0.2	0.3-0.6			
Iron (Fe)	7.2	2.7-9.4			
Aluminum (Al)	73	<75			
Lead (Pb)	4.8	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #3 12-24"
Order Number: 40148
Lab Number: X180907-107
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	66.8
Silt	0.002-0.05	23.2
Clay	<0.002	9.9

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	4.5
Coarse	0.5-1.0	11.6
Medium	0.25-0.5	22.9
Fine	0.10-0.25	20.7
Very Fine	0.05-0.10	7.1

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	10.3
Medium	0.005-0.02	8.5
Fine	0.002-0.005	4.5

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	91.3
1.00	#18	87.2
0.50	#35	76.6
0.25	#60	55.7
0.10	#140	36.7
0.053	#270	30.3
0.02	20 um	20.9
0.005	5 um	13.1
0.002	2 um	9.1

USDA Textural Class: sandy loam

Gravel Content: (%) **8.7**

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Soil Test Report

Prepared For:

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PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #3 24-36"
Order Number: 40083
Lab Number: S180904-309
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.4	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	1.9	4-14
Potassium (K)	39	100-160
Calcium (Ca)	719	1000-1500
Magnesium (Mg)	27	50-120
Sulfur (S)	12.0	>10
Micronutrients *		
Boron (B)	0.0	0.1-0.5
Manganese (Mn)	2.2	1.1-6.3
Zinc (Zn)	4.4	1.0-7.6
Copper (Cu)	0.4	0.3-0.6
Iron (Fe)	6.6	2.7-9.4
Aluminum (Al)	57	<75
Lead (Pb)	10.7	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	7.2	
Exch. Acidity, meq/100g	3.3	
Base Saturation, %		
Calcium Base Saturation	50	50-80
Magnesium Base Saturation	3	10-30
Potassium Base Saturation	1	2.0-7.0
Scoop Density, g/cc	1.09	
Optional tests		
Soil Organic Matter (LOI), %	3.7	
Soluble Salts (1:2), dS/m	0.27	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Soil and Plant Nutrient Testing Laboratory
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Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #3 24-36"
Order Number: 40148
Lab Number: X180907-108
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	67.7
Silt	0.002-0.05	20.4
Clay	<0.002	11.9

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	5.4
Coarse	0.5-1.0	13.5
Medium	0.25-0.5	25.3
Fine	0.10-0.25	17.1
Very Fine	0.05-0.10	6.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	7.8
Medium	0.005-0.02	8.7
Fine	0.002-0.005	3.9

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	66.1
1.00	#18	62.5
0.50	#35	53.6
0.25	#60	36.9
0.10	#140	25.6
0.053	#270	21.3
0.02	20 um	16.2
0.005	5 um	10.4
0.002	2 um	7.8

USDA Textural Class: gravelly sandy loam

Gravel Content: (%) 33.9

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11893
Unique ID: Cambridge Loc 4
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	0.79	N/A	0.45 to 0.85	Within normal moisture levels.
Active Fungi	**1.36**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**183.83**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.00	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**17.28**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	944.47	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.19**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.01**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.02**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.08**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**3,497.25**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**17,483.71**	number/g	> 20,000.00	
Ciliates	17.66	number/g	< 210.00	
Nitrogen Cycling Potential	75-100	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**1.31**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.74**	number/g	> 4.00	
Fungal	**0.29**	number/g	> 4.00	
Fungal/Root	0.00	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.29	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	**15.00**	%	> 40	Low colonization, foods may be required. -
ECTO		%	> 40	
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11893
Unique ID: Cambridge Loc 4
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Prismatolaimus	0.20	number/g	Bacterial Feeders	
Rhabditidae	0.53	number/g	Bacterial Feeders	
Aporcelaimium	0.12	number/g	Fungal Feeders	
Eudorylaimus	0.16	number/g	Fungal Feeders	
Gracilacus	0.12	number/g	Root Feeders	Pin nematode
Hemicriconemoides	0.08	number/g	Root Feeders	False Sheath nematode
Paratylenchus	0.08	number/g	Root Feeders	Pin nematode

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website: soiltest.umass.edu

Soil Test Report

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:
Sample ID: Cambridge Loc #4 0-12"
Order Number: 40083
Lab Number: S180904-310
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.6		**Cation Exch. Capacity, meq/100g**	16.1	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	7.9	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	1.1	4-14	Calcium Base Saturation	44	50-80
Potassium (K)	91	100-160	Magnesium Base Saturation	6	10-30
Calcium (Ca)	1403	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	119	50-120	**Scoop Density, g/cc**	0.90	
Sulfur (S)	15.0	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	8.5	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.08	<0.6
Manganese (Mn)	3.4	1.1-6.3			
Zinc (Zn)	7.7	1.0-7.6			
Copper (Cu)	0.2	0.3-0.6			
Iron (Fe)	25.9	2.7-9.4			
Aluminum (Al)	73	<75			
Lead (Pb)	17.3	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #4 0-12"
Order Number: 40148
Lab Number: X180907-109
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	55.6
Silt	0.002-0.05	25.2
Clay	<0.002	19.2

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	6.7
Coarse	0.5-1.0	12.9
Medium	0.25-0.5	16.9
Fine	0.10-0.25	13.2
Very Fine	0.05-0.10	5.9

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	10.9
Medium	0.005-0.02	9.6
Fine	0.002-0.005	4.7

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	79.4
1.00	#18	74.0
0.50	#35	63.8
0.25	#60	50.4
0.10	#140	39.9
0.053	#270	35.3
0.02	20 um	26.6
0.005	5 um	19.0
0.002	2 um	15.2

USDA Textural Class: sandy loam

Gravel Content: (%) 20.6

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #4 12-24"
Order Number: 40083
Lab Number: S180904-311
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.7		**Cation Exch. Capacity, meq/100g**	9.6	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	5.1	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	0.7	4-14	Calcium Base Saturation	40	50-80
Potassium (K)	51	100-160	Magnesium Base Saturation	6	10-30
Calcium (Ca)	770	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	68	50-120	**Scoop Density, g/cc**	1.18	
Sulfur (S)	7.3	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.0	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.05	<0.6
Manganese (Mn)	1.5	1.1-6.3			
Zinc (Zn)	3.0	1.0-7.6			
Copper (Cu)	0.1	0.3-0.6			
Iron (Fe)	10.3	2.7-9.4			
Aluminum (Al)	30	<75			
Lead (Pb)	9.2	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Soil and Plant Nutrient Testing Laboratory
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Amherst, MA 01003
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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #4 12-24"
Order Number: 40148
Lab Number: X180907-110
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	82.4
Silt	0.002-0.05	7.5
Clay	<0.002	10.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.6
Coarse	0.5-1.0	17.0
Medium	0.25-0.5	35.0
Fine	0.10-0.25	17.6
Very Fine	0.05-0.10	4.1

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	1.3
Medium	0.005-0.02	3.3
Fine	0.002-0.005	2.9

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	59.8
1.00	#18	54.6
0.50	#35	44.4
0.25	#60	23.5
0.10	#140	13.0
0.053	#270	10.5
0.02	20 um	9.7
0.005	5 um	7.8
0.002	2 um	6.0

USDA Textural Class: gravelly loamy coarse sand

Gravel Content: (%) 40.2

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #4 24-36"
Order Number: 40083
Lab Number: S180904-313
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.8		**Cation Exch. Capacity, meq/100g**	7.1	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.9	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	0.7	4-14	Calcium Base Saturation	38	50-80
Potassium (K)	32	100-160	Magnesium Base Saturation	6	10-30
Calcium (Ca)	535	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	50	50-120	**Scoop Density, g/cc**	1.23	
Sulfur (S)	5.4	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.2	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.04	<0.6
Manganese (Mn)	2.6	1.1-6.3			
Zinc (Zn)	2.2	1.0-7.6			
Copper (Cu)	0.1	0.3-0.6			
Iron (Fe)	8.1	2.7-9.4			
Aluminum (Al)	29	<75			
Lead (Pb)	4.6	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #4 24-36"
Order Number: 40148
Lab Number: X180907-111
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	80.2
Silt	0.002-0.05	9.0
Clay	<0.002	10.8

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	13.5
Coarse	0.5-1.0	19.6
Medium	0.25-0.5	27.4
Fine	0.10-0.25	14.6
Very Fine	0.05-0.10	5.1

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	2.0
Medium	0.005-0.02	4.0
Fine	0.002-0.005	2.9

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	58.0
1.00	#18	50.2
0.50	#35	38.8
0.25	#60	22.9
0.10	#140	14.4
0.053	#270	11.5
0.02	20 um	10.3
0.005	5 um	8.0
0.002	2 um	6.3

USDA Textural Class: gravelly coarse sandy loam

Gravel Content: (%) 42.0

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11894
Unique ID: Cambridge Loc 5
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.90**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**2.48**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**122.25**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	2.50	µm	> 2.50	Good balance of fungi. -
Active Bacteria	**24.27**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	942.48	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.13**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.02**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.03**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.10**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**2,380.44**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**15,413.36**	number/g	> 20,000.00	
Ciliates	6.67	number/g	< 178.00	
Nitrogen Cycling Potential	50-75	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**0.85**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.85**	number/g	> 4.00	
Fungal	**0.00**	number/g	> 4.00	
Fungal/Root	0.00	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.00	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	**9.00**	%	> 40	Low colonization, foods may be required. -
ECTO		%	> 40	
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11894
Unique ID: Cambridge Loc 5
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.13	number/g	Bacterial Feeders	
Plectus	0.13	number/g	Bacterial Feeders	
Prismatolaimus	0.21	number/g	Bacterial Feeders	
Rhabditidae	0.38	number/g	Bacterial Feeders	

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #5 0-12"
Order Number: 40083
Lab Number: S180904-314
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.7	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	1.2	4-14
Potassium (K)	25	100-160
Calcium (Ca)	209	1000-1500
Magnesium (Mg)	25	50-120
Sulfur (S)	5.9	>10
Micronutrients *		
Boron (B)	0.0	0.1-0.5
Manganese (Mn)	1.8	1.1-6.3
Zinc (Zn)	0.4	1.0-7.6
Copper (Cu)	0.1	0.3-0.6
Iron (Fe)	19.1	2.7-9.4
Aluminum (Al)	65	<75
Lead (Pb)	1.2	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	4.5	
Exch. Acidity, meq/100g	3.1	
Base Saturation, %		
Calcium Base Saturation	23	50-80
Magnesium Base Saturation	5	10-30
Potassium Base Saturation	1	2.0-7.0
Scoop Density, g/cc	1.16	
Optional tests		
Soil Organic Matter (LOI), %	1.7	
Soluble Salts (1:2), dS/m	0.09	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #5 0-12"
Order Number: 40148
Lab Number: X180907-112
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	77.7
Silt	0.002-0.05	12.2
Clay	<0.002	10.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.6
Coarse	0.5-1.0	19.7
Medium	0.25-0.5	29.1
Fine	0.10-0.25	16.3
Very Fine	0.05-0.10	5.1

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	4.1
Medium	0.005-0.02	5.2
Fine	0.002-0.005	2.9

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	80.2
1.00	#18	74.1
0.50	#35	58.3
0.25	#60	35.0
0.10	#140	21.9
0.053	#270	17.9
0.02	20 um	14.5
0.005	5 um	10.4
0.002	2 um	8.1

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 19.8

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #5 12-24"
Order Number: 40083
Lab Number: S180904-315
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.1		**Cation Exch. Capacity, meq/100g**	0.7	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.2	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	0.8	4-14	Calcium Base Saturation	59	50-80
Potassium (K)	13	100-160	Magnesium Base Saturation	10	10-30
Calcium (Ca)	87	1000-1500	Potassium Base Saturation	4	2.0-7.0
Magnesium (Mg)	9	50-120	**Scoop Density, g/cc**	1.33	
Sulfur (S)	2.8	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	0.3	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.14	<0.6
Manganese (Mn)	0.4	1.1-6.3			
Zinc (Zn)	0.1	1.0-7.6			
Copper (Cu)	0.0	0.3-0.6			
Iron (Fe)	3.4	2.7-9.4			
Aluminum (Al)	17	<75			
Lead (Pb)	0.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #5 12-24"
Order Number: 40148
Lab Number: X180907-113
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	92.2
Silt	0.002-0.05	2.4
Clay	<0.002	5.4

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.0
Coarse	0.5-1.0	17.7
Medium	0.25-0.5	29.7
Fine	0.10-0.25	29.5
Very Fine	0.05-0.10	8.2

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	-0.3
Medium	0.005-0.02	-0.8
Fine	0.002-0.005	3.5

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	82.1
1.00	#18	76.3
0.50	#35	61.8
0.25	#60	37.4
0.10	#140	13.2
0.053	#270	6.4
0.02	20 um	6.7
0.005	5 um	7.3
0.002	2 um	4.5

USDA Textural Class: sand

Gravel Content: (%) 17.9

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11895
Unique ID: Cambridge Loc 6
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.90**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**11.93**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**1,004.87**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.00	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**12.14**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	977.39	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**1.03**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.01**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.01**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.98**		5.00 to 10.00	Balanced fungal and bacterial biomass, likely to stay balanced.
Protozoa (Protists)				
Flagellates	**1,537.11**	number/g	> 20,000.00	High ciliate numbers indicate possible anaerobic conditions.
Amoebae	**5,108.16**	number/g	> 20,000.00	
Ciliates	**313.85**	number/g	< 66.00	
Nitrogen Cycling Potential	25-50	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**1.67**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**1.60**	number/g	> 4.00	
Fungal	**0.07**	number/g	> 4.00	
Fungal/Root	0.00	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.00	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	**17.00**	%	> 40	Low colonization, foods may be required. -
ECTO		%	> 40	
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11895
Unique ID: Cambridge Loc 6
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.15	number/g	Bacterial Feeders	
Cuticularia	0.22	number/g	Bacterial Feeders	
Eumonhystera	0.29	number/g	Bacterial Feeders	
Plectus	0.44	number/g	Bacterial Feeders	
Prismatolaimus	0.22	number/g	Bacterial Feeders	
Rhabditidae	0.29	number/g	Bacterial Feeders	
Epidorylaimus	0.07	number/g	Fungal Feeders	

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

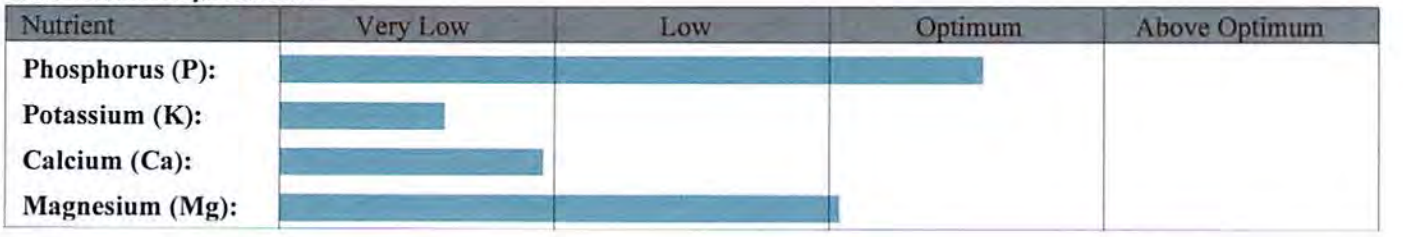
Sample ID: Cambridge Loc #6 0-12"
Order Number: 40083
Lab Number: S180904-316
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.4		**Cation Exch. Capacity, meq/100g**	7.7	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	4.8	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	9.7	4-14	Calcium Base Saturation	31	50-80
Potassium (K)	31	100-160	Magnesium Base Saturation	6	10-30
Calcium (Ca)	475	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	52	50-120	**Scoop Density, g/cc**	0.95	
Sulfur (S)	11.1	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	5.4	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.12	<0.6
Manganese (Mn)	2.7	1.1-6.3			
Zinc (Zn)	14.4	1.0-7.6			
Copper (Cu)	2.4	0.3-0.6			
Iron (Fe)	26.3	2.7-9.4			
Aluminum (Al)	44	<75			
Lead (Pb)	9.4	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #6 0-12"
Order Number: 40148
Lab Number: X180907-114
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	77.2
Silt	0.002-0.05	13.0
Clay	<0.002	9.8

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.2
Coarse	0.5-1.0	20.6
Medium	0.25-0.5	26.2
Fine	0.10-0.25	16.6
Very Fine	0.05-0.10	6.5

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	5.4
Medium	0.005-0.02	4.3
Fine	0.002-0.005	3.3

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	81.0
1.00	#18	75.1
0.50	#35	58.4
0.25	#60	37.2
0.10	#140	23.7
0.053	#270	18.4
0.02	20 um	14.1
0.005	5 um	10.6
0.002	2 um	7.9

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 19.0

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #6 12-24"
Order Number: 40083
Lab Number: S180904-317
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.4		**Cation Exch. Capacity, meq/100g**	4.5	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.7	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	2.3	4-14	Calcium Base Saturation	15	50-80
Potassium (K)	23	100-160	Magnesium Base Saturation	3	10-30
Calcium (Ca)	137	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	17	50-120	**Scoop Density, g/cc**	1.12	
Sulfur (S)	8.5	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.6	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.16	<0.6
Manganese (Mn)	2.9	1.1-6.3			
Zinc (Zn)	4.8	1.0-7.6			
Copper (Cu)	1.9	0.3-0.6			
Iron (Fe)	20.6	2.7-9.4			
Aluminum (Al)	67	<75			
Lead (Pb)	7.2	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

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F2 Environmental Design
PO Box 292
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andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #6 12-24"
Order Number: 40148
Lab Number: X180907-115
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	77.2
Silt	0.002-0.05	13.4
Clay	<0.002	9.4

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.7
Coarse	0.5-1.0	14.7
Medium	0.25-0.5	24.8
Fine	0.10-0.25	21.3
Very Fine	0.05-0.10	8.7

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	4.6
Medium	0.005-0.02	5.4
Fine	0.002-0.005	3.4

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	81.3
1.00	#18	75.0
0.50	#35	63.0
0.25	#60	42.9
0.10	#140	25.6
0.053	#270	18.5
0.02	20 um	14.7
0.005	5 um	10.3
0.002	2 um	7.6

USDA Textural Class: sandy loam

Gravel Content: (%) 18.8

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Soil Test Report

Prepared For:

Andrea Fillippone
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PO Box 292
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908-413-1957

Sample Information:

Sample ID: Cambridge Loc #6 24-36"
Order Number: 40083
Lab Number: S180904-318
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.2		**Cation Exch. Capacity, meq/100g**	3.9	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.1	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	2.6	4-14	Calcium Base Saturation	15	50-80
Potassium (K)	19	100-160	Magnesium Base Saturation	3	10-30
Calcium (Ca)	112	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	13	50-120	**Scoop Density, g/cc**	1.16	
Sulfur (S)	17.6	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.0	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.17	<0.6
Manganese (Mn)	2.5	1.1-6.3			
Zinc (Zn)	7.1	1.0-7.6			
Copper (Cu)	1.5	0.3-0.6			
Iron (Fe)	20.5	2.7-9.4			
Aluminum (Al)	50	<75			
Lead (Pb)	10.6	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #6 24-36"
Order Number: 40148
Lab Number: X180907-116
Received: 9/7/2018
Reported: 9/13/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	84.3
Silt	0.002-0.05	7.6
Clay	<0.002	8.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.5
Coarse	0.5-1.0	19.6
Medium	0.25-0.5	35.2
Fine	0.10-0.25	15.7
Very Fine	0.05-0.10	5.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	1.4
Medium	0.005-0.02	3.1
Fine	0.002-0.005	3.0

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	82.8
1.00	#18	75.8
0.50	#35	59.6
0.25	#60	30.4
0.10	#140	17.4
0.053	#270	13.0
0.02	20 um	11.8
0.005	5 um	9.2
0.002	2 um	6.7

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 17.2

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11896
Unique ID: Cambridge Loc 7
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.90**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**6.01**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**197.22**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	2.75	µm	> 2.50	Good balance of fungi. -
Active Bacteria	39.44	µg/g	> 30.00	Bacterial activity within normal levels.
Total Bacteria	785.40	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.25**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.03**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.05**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.15**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**923.82**	number/g	> 20,000.00	High ciliate numbers indicate possible anaerobic conditions.
Amoebae	**3,079.03**	number/g	> 20,000.00	
Ciliates	**64.40**	number/g	< 40.00	
Nitrogen Cycling Potential	<25	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**1.19**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**1.06**	number/g	> 4.00	
Fungal	**0.14**	number/g	> 4.00	
Fungal/Root	0.00	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.00	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	Processing	%	> 40	Low colonization, foods may be required. -
ECTO	Processing	%	> 40	
Ericoid	Processing	%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11896
Unique ID: Cambridge Loc 7
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.07	number/g	Bacterial Feeders	
Diploscapter	0.10	number/g	Bacterial Feeders	
Eumonhystera	0.10	number/g	Bacterial Feeders	
Heterocephalobus	0.31	number/g	Bacterial Feeders	
Panagrolaimus	0.10	number/g	Bacterial Feeders	
Prismatolaimus	0.20	number/g	Bacterial Feeders	
Rhabditidae	0.17	number/g	Bacterial Feeders	
Eudorylaimus	0.14	number/g	Fungal Feeders	

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #7 0-12"
Order Number: 40083
Lab Number: S180904-319
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.0		**Cation Exch. Capacity, meq/100g**	1.9	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	2.2	4-14	Calcium Base Saturation	71	50-80
Potassium (K)	88	100-160	Magnesium Base Saturation	16	10-30
Calcium (Ca)	265	1000-1500	Potassium Base Saturation	12	2.0-7.0
Magnesium (Mg)	37	50-120	**Scoop Density, g/cc**	1.00	
Sulfur (S)	6.7	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.3	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.07	<0.6
Manganese (Mn)	2.9	1.1-6.3			
Zinc (Zn)	7.1	1.0-7.6			
Copper (Cu)	0.9	0.3-0.6			
Iron (Fe)	9.4	2.7-9.4			
Aluminum (Al)	50	<75			
Lead (Pb)	9.0	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Sample Information:
Sample ID: Cambridge Loc 7 0-12"

Order Number: 40264
Lab Number: X180914-101
Received: 9/14/2018
Reported: 9/25/2018

Prepared For:
Andrea Fillippone
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PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	70.5
Silt	0.002-0.05	21.5
Clay	<0.002	8.0

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	9.9
Coarse	0.5-1.0	15.7
Medium	0.25-0.5	22.5
Fine	0.10-0.25	15.8
Very Fine	0.05-0.10	6.5

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	13.9
Medium	0.005-0.02	7.0
Fine	0.002-0.005	0.6

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	72.7
1.00	#18	65.5
0.50	#35	54.1
0.25	#60	37.7
0.10	#140	26.2
0.053	#270	21.4
0.02	20 um	11.3
0.005	5 um	6.2
0.002	2 um	5.8

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 27.3

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Soil Test Report

Prepared For:

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PO Box 292
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andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

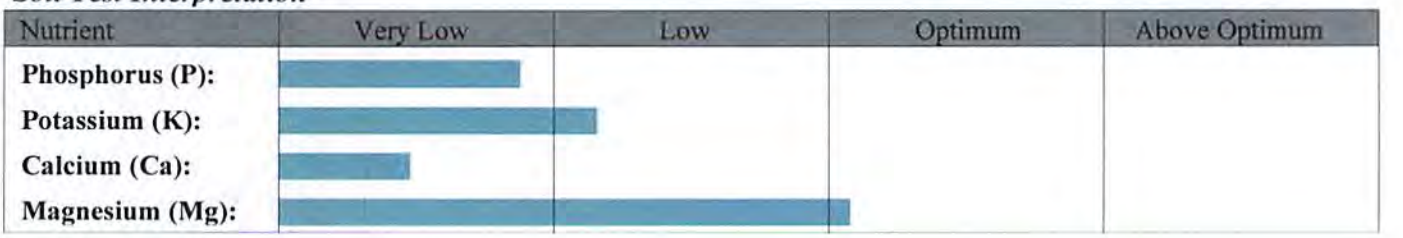
Sample ID: Cambridge Loc #7 12-24"
Order Number: 40083
Lab Number: S180904-320
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.4		**Cation Exch. Capacity, meq/100g**	1.8	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	1.7	4-14	Calcium Base Saturation	66	50-80
Potassium (K)	58	100-160	Magnesium Base Saturation	26	10-30
Calcium (Ca)	234	1000-1500	Potassium Base Saturation	8	2.0-7.0
Magnesium (Mg)	55	50-120	**Scoop Density, g/cc**	1.14	
Sulfur (S)	4.3	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	1.6	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.12	<0.6
Manganese (Mn)	2.2	1.1-6.3			
Zinc (Zn)	3.8	1.0-7.6			
Copper (Cu)	0.6	0.3-0.6			
Iron (Fe)	6.1	2.7-9.4			
Aluminum (Al)	30	<75			
Lead (Pb)	4.8	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Particle Size Analysis - Comprehensive

Prepared For:

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908-413-1957

Sample Information:

Sample ID: Cambridge Loc 7 12-24"
Order Number: 40264
Lab Number: X180914-102
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	74.5
Silt	0.002-0.05	19.4
Clay	<0.002	6.2

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	6.7
Coarse	0.5-1.0	13.6
Medium	0.25-0.5	23.6
Fine	0.10-0.25	23.4
Very Fine	0.05-0.10	7.2

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	9.7
Medium	0.005-0.02	7.0
Fine	0.002-0.005	2.8

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	60.1
1.00	#18	56.1
0.50	#35	48.0
0.25	#60	33.8
0.10	#140	19.7
0.053	#270	15.3
0.02	20 um	9.5
0.005	5 um	5.4
0.002	2 um	3.7

USDA Textural Class: gravelly sandy loam

Gravel Content: (%) 39.9

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Soil Test Report

Prepared For:

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908-413-1957

Sample Information:

Sample ID: Cambridge Loc #7 24-36"
Order Number: 40083
Lab Number: S180904-321
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.3		**Cation Exch. Capacity, meq/100g**	2.9	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	3.6	4-14	Calcium Base Saturation	69	50-80
Potassium (K)	71	100-160	Magnesium Base Saturation	25	10-30
Calcium (Ca)	397	1000-1500	Potassium Base Saturation	6	2.0-7.0
Magnesium (Mg)	87	50-120	**Scoop Density, g/cc**	1.14	
Sulfur (S)	8.0	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	1.0	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.61	<0.6
Manganese (Mn)	1.7	1.1-6.3			
Zinc (Zn)	1.5	1.0-7.6			
Copper (Cu)	0.1	0.3-0.6			
Iron (Fe)	1.6	2.7-9.4			
Aluminum (Al)	18	<75			
Lead (Pb)	1.0	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 7 24-36"
Order Number: 40264
Lab Number: X180914-103
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	56.3
Silt	0.002-0.05	28.7
Clay	<0.002	15.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	4.2
Coarse	0.5-1.0	7.9
Medium	0.25-0.5	13.8
Fine	0.10-0.25	21.2
Very Fine	0.05-0.10	9.2

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	12.2
Medium	0.005-0.02	11.7
Fine	0.002-0.005	4.8

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	90.6
1.00	#18	86.8
0.50	#35	79.6
0.25	#60	67.1
0.10	#140	47.9
0.053	#270	39.6
0.02	20 um	28.6
0.005	5 um	18.0
0.002	2 um	13.6

USDA Textural Class: fine sandy loam

Gravel Content: (%) 9.4

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11897
Unique ID: Cambridge Loc 8
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.87**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**15.93**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**427.44**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.25	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**25.11**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	794.43	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.54**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.04**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.03**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.63**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**6,618.15**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	52,977.44	number/g	> 20,000.00	
Ciliates	66.71	number/g	< 596.00	
Nitrogen Cycling Potential	100-150	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**2.70**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**2.56**	number/g	> 4.00	
Fungal	**0.15**	number/g	> 4.00	
Fungal/Root	0.00	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.00	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	**21.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11897
Unique ID: Cambridge Loc 8
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Achromadora	0.22	number/g	Bacterial Feeders	
Cephalobus	0.29	number/g	Bacterial Feeders	
Cuticularia	0.58	number/g	Bacterial Feeders	
Plectus	0.29	number/g	Bacterial Feeders	
Prismatolaimus	0.29	number/g	Bacterial Feeders	
Protorhabditis	0.88	number/g	Bacterial Feeders	
Eudorylaimus	0.15	number/g	Fungal Feeders	

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

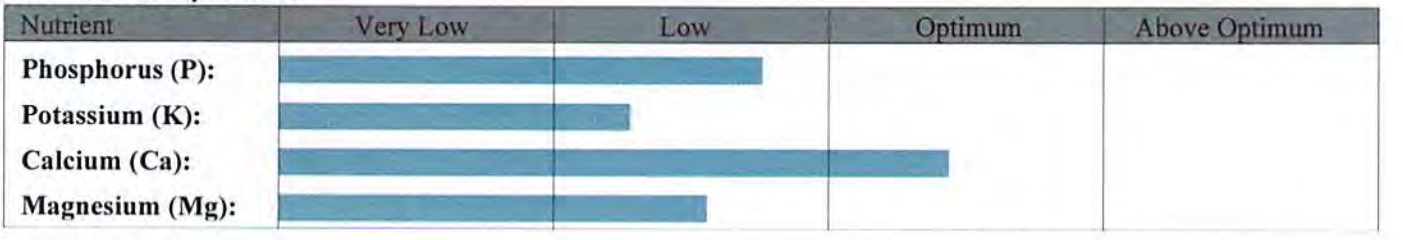
Sample ID: Cambridge Loc #8 0-12"
Order Number: 40083
Lab Number: S180904-322
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.2		**Cation Exch. Capacity, meq/100g**	6.6	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	3.5	4-14	Calcium Base Saturation	93	50-80
Potassium (K)	63	100-160	Magnesium Base Saturation	5	10-30
Calcium (Ca)	1226	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	39	50-120	**Scoop Density, g/cc**	1.05	
Sulfur (S)	10.1	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	4.1	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.08	<0.6
Manganese (Mn)	5.3	1.1-6.3			
Zinc (Zn)	3.1	1.0-7.6			
Copper (Cu)	0.1	0.3-0.6			
Iron (Fe)	5.5	2.7-9.4			
Aluminum (Al)	35	<75			
Lead (Pb)	4.9	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Sample Information:
Sample ID: Cambridge Loc 8 0-12"

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Order Number: 40264
Lab Number: X180914-104
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	69.6
Silt	0.002-0.05	24.7
Clay	<0.002	5.7

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.6
Coarse	0.5-1.0	17.3
Medium	0.25-0.5	30.4
Fine	0.10-0.25	8.8
Very Fine	0.05-0.10	4.5

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	12.6
Medium	0.005-0.02	8.3
Fine	0.002-0.005	3.8

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	75.3
1.00	#18	68.8
0.50	#35	55.8
0.25	#60	32.9
0.10	#140	26.3
0.053	#270	22.9
0.02	20 um	13.4
0.005	5 um	7.2
0.002	2 um	4.3

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 24.7

Soil and Plant Nutrient Testing Laboratory
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161 Holdsworth Way
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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #8 12-24"
Order Number: 40083
Lab Number: S180904-324
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.5	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	3.8	4-14
Potassium (K)	51	100-160
Calcium (Ca)	1375	1000-1500
Magnesium (Mg)	33	50-120
Sulfur (S)	10.8	>10
Micronutrients *		
Boron (B)	0.2	0.1-0.5
Manganese (Mn)	9.7	1.1-6.3
Zinc (Zn)	2.9	1.0-7.6
Copper (Cu)	0.5	0.3-0.6
Iron (Fe)	4.3	2.7-9.4
Aluminum (Al)	24	<75
Lead (Pb)	20.3	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	90.8	
Exch. Acidity, meq/100g	83.5	
Base Saturation, %		
Calcium Base Saturation	8	50-80
Magnesium Base Saturation	0	10-30
Potassium Base Saturation	0	2.0-7.0
Scoop Density, g/cc	1.03	
Optional tests		
Soil Organic Matter (LOI), %	2.5	
Soluble Salts (1:2), dS/m	0.08	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 8 12-24"
Order Number: 40264
Lab Number: X180914-105
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	69.4
Silt	0.002-0.05	21.6
Clay	<0.002	9.0

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	11.3
Coarse	0.5-1.0	15.4
Medium	0.25-0.5	19.0
Fine	0.10-0.25	17.1
Very Fine	0.05-0.10	6.6

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	10.9
Medium	0.005-0.02	7.9
Fine	0.002-0.005	2.7

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	47.5
1.00	#18	42.1
0.50	#35	34.8
0.25	#60	25.8
0.10	#140	17.7
0.053	#270	14.5
0.02	20 um	9.4
0.005	5 um	5.6
0.002	2 um	4.3

USDA Textural Class: gravelly coarse sandy loam

Gravel Content: (%) 52.5

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #8 24-36"
Order Number: 40083
Lab Number: S180904-325
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.1		**Cation Exch. Capacity, meq/100g**	7.2	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.1	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	2.4	4-14	Calcium Base Saturation	49	50-80
Potassium (K)	74	100-160	Magnesium Base Saturation	5	10-30
Calcium (Ca)	696	1000-1500	Potassium Base Saturation	3	2.0-7.0
Magnesium (Mg)	42	50-120	**Scoop Density, g/cc**	1.02	
Sulfur (S)	7.2	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.1	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.06	<0.6
Manganese (Mn)	2.7	1.1-6.3			
Zinc (Zn)	4.2	1.0-7.6			
Copper (Cu)	0.9	0.3-0.6			
Iron (Fe)	5.1	2.7-9.4			
Aluminum (Al)	30	<75			
Lead (Pb)	17.3	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Soil and Plant Nutrient Testing Laboratory
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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 8 24-36"
Order Number: 40264
Lab Number: X180914-106
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction		
Main Fractions	**Size (mm)**	**Percent**
Sand	0.05-2.0	66.1
Silt	0.002-0.05	19.7
Clay	<0.002	14.1
Sand Fractions	**Size (mm)**	**Percent**
Very Coarse	1.0-2.0	4.9
Coarse	0.5-1.0	7.3
Medium	0.25-0.5	21.7
Fine	0.10-0.25	26.7
Very Fine	0.05-0.10	5.5
Silt Fractions	**Size (mm)**	**Percent**
Coarse	0.02-0.05	4.8
Medium	0.005-0.02	11.4
Fine	0.002-0.005	3.5

Percent of Whole Sample Passing		
Size (mm)	**Sieve #**	**Whole Sample % of Sample Passing**
2.00	#10	81.5
1.00	#18	77.5
0.50	#35	71.6
0.25	#60	53.9
0.10	#140	32.1
0.053	#270	27.6
0.02	20 um	23.7
0.005	5 um	14.4
0.002	2 um	11.5

USDA Textural Class: sandy loam

Gravel Content: (%) 18.5

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11898
Unique ID: Cambridge Loc 9
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.94**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**6.85**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**168.54**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.00	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**15.61**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	743.62	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.23**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.04**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.02**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.44**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**1,478.50**	number/g	> 20,000.00	High ciliate numbers indicate possible anaerobic conditions.
Amoebae	**2,958.07**	number/g	> 20,000.00	
Ciliates	**61.87**	number/g	< 44.00	
Nitrogen Cycling Potential	<25	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**0.84**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.47**	number/g	> 4.00	
Fungal	**0.12**	number/g	> 4.00	
Fungal/Root	0.17	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.07	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	**26.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11898
Unique ID: Cambridge Loc 9
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.22	number/g	Bacterial Feeders	
Prismatolaimus	0.10	number/g	Bacterial Feeders	
Rhabditidae	0.15	number/g	Bacterial Feeders	
Pungentus	0.12	number/g	Fungal Feeders	
Aphelenchoides	0.10	number/g	Fungal/Root Feeders	Foliar nematode
Filenchus	0.07	number/g	Fungal/Root Feeders	
Gracilacus	0.07	number/g	Root Feeders	Pin nematode

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

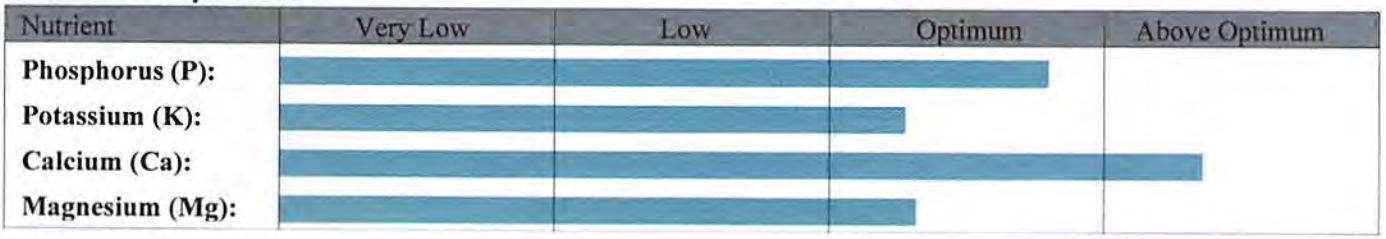
Sample ID: Cambridge Loc #9 0-12"
Order Number: 40083
Lab Number: S180904-326
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.9		**Cation Exch. Capacity, meq/100g**	11.7	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	2.4	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	11.9	4-14	Calcium Base Saturation	72	50-80
Potassium (K)	115	100-160	Magnesium Base Saturation	5	10-30
Calcium (Ca)	1679	1000-1500	Potassium Base Saturation	3	2.0-7.0
Magnesium (Mg)	74	50-120	**Scoop Density, g/cc**	1.13	
Sulfur (S)	12.7	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	5.9	
Boron (B)	0.2	0.1-0.5	Soluble Salts (1:2), dS/m	0.18	<0.6
Manganese (Mn)	3.3	1.1-6.3			
Zinc (Zn)	16.5	1.0-7.6			
Copper (Cu)	0.7	0.3-0.6			
Iron (Fe)	6.2	2.7-9.4			
Aluminum (Al)	29	<75			
Lead (Pb)	19.0	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Sample Information:
Sample ID: Cambridge Loc 9 0-12"

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Order Number: 40264
Lab Number: X180914-107
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	70.1
Silt	0.002-0.05	21.1
Clay	<0.002	8.8

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.0
Coarse	0.5-1.0	17.8
Medium	0.25-0.5	21.4
Fine	0.10-0.25	16.1
Very Fine	0.05-0.10	7.9

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	11.5
Medium	0.005-0.02	8.6
Fine	0.002-0.005	0.9

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	86.5
1.00	#18	80.4
0.50	#35	65.0
0.25	#60	46.6
0.10	#140	32.7
0.053	#270	25.8
0.02	20 um	15.8
0.005	5 um	8.4
0.002	2 um	7.6

USDA Textural Class: sandy loam

Gravel Content: (%) 13.5

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #9 12-24"
Order Number: 40083
Lab Number: S180904-327
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.0		**Cation Exch. Capacity, meq/100g**	7.1	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	2.1	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	9.3	4-14	Calcium Base Saturation	60	50-80
Potassium (K)	102	100-160	Magnesium Base Saturation	6	10-30
Calcium (Ca)	864	1000-1500	Potassium Base Saturation	4	2.0-7.0
Magnesium (Mg)	54	50-120	**Scoop Density, g/cc**	1.27	
Sulfur (S)	10.5	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.6	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.16	<0.6
Manganese (Mn)	3.5	1.1-6.3			
Zinc (Zn)	9.4	1.0-7.6			
Copper (Cu)	0.6	0.3-0.6			
Iron (Fe)	5.5	2.7-9.4			
Aluminum (Al)	28	<75			
Lead (Pb)	17.3	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 9 12-24"
Order Number: 40264
Lab Number: X180914-108
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	73.3
Silt	0.002-0.05	19.2
Clay	<0.002	7.5

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	11.1
Coarse	0.5-1.0	20.7
Medium	0.25-0.5	24.3
Fine	0.10-0.25	12.6
Very Fine	0.05-0.10	4.6

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	8.7
Medium	0.005-0.02	7.3
Fine	0.002-0.005	3.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	78.5
1.00	#18	69.8
0.50	#35	53.6
0.25	#60	34.5
0.10	#140	24.6
0.053	#270	21.0
0.02	20 um	14.1
0.005	5 um	8.4
0.002	2 um	5.9

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 21.5

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

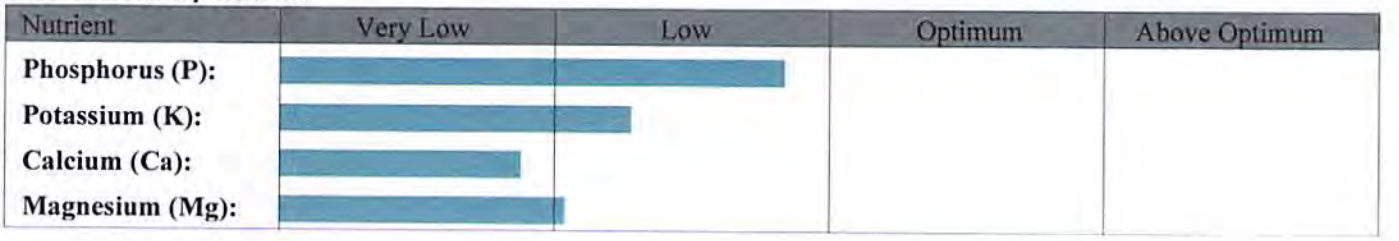
Sample ID: Cambridge Loc #9 24-36"
Order Number: 40083
Lab Number: S180904-328
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.9		**Cation Exch. Capacity, meq/100g**	12.2	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	9.7	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	3.7	4-14	Calcium Base Saturation	18	50-80
Potassium (K)	65	100-160	Magnesium Base Saturation	2	10-30
Calcium (Ca)	432	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	26	50-120	**Scoop Density, g/cc**	1.35	
Sulfur (S)	19.1	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.3	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.19	<0.6
Manganese (Mn)	2.6	1.1-6.3			
Zinc (Zn)	4.4	1.0-7.6			
Copper (Cu)	0.6	0.3-0.6			
Iron (Fe)	6.5	2.7-9.4			
Aluminum (Al)	39	<75			
Lead (Pb)	8.3	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Particle Size Analysis - Comprehensive

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:
Sample ID: Cambridge Loc 9 24-36"
Order Number: 40264
Lab Number: X180914-109
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	77.1
Silt	0.002-0.05	14.7
Clay	<0.002	8.2

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.8
Coarse	0.5-1.0	20.1
Medium	0.25-0.5	28.5
Fine	0.10-0.25	15.1
Very Fine	0.05-0.10	5.7

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	6.0
Medium	0.005-0.02	7.0
Fine	0.002-0.005	1.7

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	82.3
1.00	#18	75.9
0.50	#35	59.4
0.25	#60	35.9
0.10	#140	23.5
0.053	#270	18.9
0.02	20 um	13.9
0.005	5 um	8.1
0.002	2 um	6.7

USDA Textural Class: coarse sandy loam

Gravel Content: (%) **17.7**

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11899
Unique ID: Cambridge Loc 10
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.88**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**21.58**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**245.05**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.50	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	38.79	µg/g	> 30.00	Bacterial activity within normal levels.
Total Bacteria	1,017.45	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.24**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.09**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.04**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.56**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**1,575.92**	number/g	> 20,000.00	High ciliate numbers indicate possible anaerobic conditions.
Amoebae	**653.79**	number/g	> 20,000.00	
Ciliates	**52.30**	number/g	< 22.00	
Nitrogen Cycling Potential	<25	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**2.64**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.69**	number/g	> 4.00	
Fungal	**0.74**	number/g	> 4.00	
Fungal/Root	0.11	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	**1.11**	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	**23.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11899
Unique ID: Cambridge Loc 10
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Acrobeles	0.32	number/g	Bacterial Feeders	
Heterocephalobus	0.26	number/g	Bacterial Feeders	
Plectus	0.11	number/g	Bacterial Feeders	
Aporcelaimium	0.42	number/g	Fungal Feeders	
Eudorylaimus	0.16	number/g	Fungal Feeders	
Pungentus	0.16	number/g	Fungal Feeders	
Aphelenchoides	0.11	number/g	Fungal/Root Feeders	Foliar nematode
Gracilacus	0.21	number/g	Root Feeders	Pin nematode
Meloidogyne	0.53	number/g	Root Feeders	Root-Knot nematode
Xiphinema	0.37	number/g	Root Feeders	Dagger nematode

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #10 0-12"

Order Number: 40083
Lab Number: S180904-329
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.4		**Cation Exch. Capacity, meq/100g**	12.6	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	9.7	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	3.6	4-14	Calcium Base Saturation	16	50-80
Potassium (K)	98	100-160	Magnesium Base Saturation	5	10-30
Calcium (Ca)	413	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	72	50-120	**Scoop Density, g/cc**	0.96	
Sulfur (S)	16.0	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	5.8	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.11	<0.6
Manganese (Mn)	2.9	1.1-6.3			
Zinc (Zn)	3.7	1.0-7.6			
Copper (Cu)	0.7	0.3-0.6			
Iron (Fe)	17.4	2.7-9.4			
Aluminum (Al)	156	<75			
Lead (Pb)	25.0	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 10 0-12"
Order Number: 40264
Lab Number: X180914-110
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	59.7
Silt	0.002-0.05	28.3
Clay	<0.002	12.0

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	6.4
Coarse	0.5-1.0	15.2
Medium	0.25-0.5	17.8
Fine	0.10-0.25	13.7
Very Fine	0.05-0.10	6.6

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	12.6
Medium	0.005-0.02	13.5
Fine	0.002-0.005	2.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	90.0
1.00	#18	84.2
0.50	#35	70.5
0.25	#60	54.5
0.10	#140	42.2
0.053	#270	36.2
0.02	20 um	24.9
0.005	5 um	12.7
0.002	2 um	10.8

USDA Textural Class: sandy loam

Gravel Content: (%) 10.0

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Soil Test Report

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:
Sample ID: Cambridge Loc #10 12-24"
Order Number: 40083
Lab Number: S180904-330
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.2	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	2.5	4-14
Potassium (K)	42	100-160
Calcium (Ca)	236	1000-1500
Magnesium (Mg)	28	50-120
Sulfur (S)	17.7	>10
Micronutrients *		
Boron (B)	0.0	0.1-0.5
Manganese (Mn)	1.2	1.1-6.3
Zinc (Zn)	3.0	1.0-7.6
Copper (Cu)	0.5	0.3-0.6
Iron (Fe)	10.8	2.7-9.4
Aluminum (Al)	123	<75
Lead (Pb)	14.6	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	8.5	
Exch. Acidity, meq/100g	7.0	
Base Saturation, %		
Calcium Base Saturation	14	50-80
Magnesium Base Saturation	3	10-30
Potassium Base Saturation	1	2.0-7.0
Scoop Density, g/cc	1.04	
Optional tests		
Soil Organic Matter (LOI), %	3.0	
Soluble Salts (1:2), dS/m	0.06	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 10 12-24"
Order Number: 40264
Lab Number: X180914-111
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	70.9
Silt	0.002-0.05	20.4
Clay	<0.002	8.7

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.1
Coarse	0.5-1.0	19.4
Medium	0.25-0.5	23.0
Fine	0.10-0.25	14.4
Very Fine	0.05-0.10	6.0

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	8.8
Medium	0.005-0.02	9.2
Fine	0.002-0.005	2.4

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	84.6
1.00	#18	77.7
0.50	#35	61.3
0.25	#60	41.9
0.10	#140	29.7
0.053	#270	24.7
0.02	20 um	17.2
0.005	5 um	9.4
0.002	2 um	7.4

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 15.4

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Soil Test Report

Prepared For:

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PO Box 292
Pottersville, NJ 07979

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908-413-1957

Sample Information:

Sample ID: Cambridge Loc #10 24-36"
Order Number: 40083
Lab Number: S180904-331
Area Sampled:
Received: 9/4/2018
Reported: 9/12/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.2	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	1.8	4-14
Potassium (K)	20	100-160
Calcium (Ca)	124	1000-1500
Magnesium (Mg)	16	50-120
Sulfur (S)	19.4	>10
Micronutrients *		
Boron (B)	0.0	0.1-0.5
Manganese (Mn)	1.4	1.1-6.3
Zinc (Zn)	2.4	1.0-7.6
Copper (Cu)	0.3	0.3-0.6
Iron (Fe)	6.9	2.7-9.4
Aluminum (Al)	90	<75
Lead (Pb)	6.4	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	4.8	
Exch. Acidity, meq/100g	4.0	
Base Saturation, %		
Calcium Base Saturation	13	50-80
Magnesium Base Saturation	3	10-30
Potassium Base Saturation	1	2.0-7.0
Scoop Density, g/cc	1.19	
Optional tests		
Soil Organic Matter (LOI), %	1.5	
Soluble Salts (1:2), dS/m	0.04	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 10 24-36"
Order Number: 40264
Lab Number: X180914-112
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	80.5
Silt	0.002-0.05	13.5
Clay	<0.002	6.0

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	12.7
Coarse	0.5-1.0	24.9
Medium	0.25-0.5	24.5
Fine	0.10-0.25	14.5
Very Fine	0.05-0.10	4.0

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	7.8
Medium	0.005-0.02	3.2
Fine	0.002-0.005	2.5

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.2
1.00	#18	67.4
0.50	#35	48.2
0.25	#60	29.3
0.10	#140	18.1
0.053	#270	15.1
0.02	20 um	9.0
0.005	5 um	6.5
0.002	2 um	4.6

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 22.8

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11900
Unique ID: Cambridge Loc 11
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
			Organism Biomass Data	
Dry Weight	**0.89**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**66.47**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	1,753.76	µg/g	> 1,500.00	Good fungal biomass. -
Hyphal Diameter	4.00	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**23.01**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	891.30	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
			Organism Biomass Ratios	
TF:TB	**1.97**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.04**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.03**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**2.89**		5.00 to 10.00	Fungal dominated, becoming more fungal.
			Protozoa (Protists)	
Flagellates	**6,434.66**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	51,508.60	number/g	> 20,000.00	
Ciliates	155.44	number/g	< 579.00	
Nitrogen Cycling Potential	100-150	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
			Nematodes	
Nematodes	**2.41**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**1.59**	number/g	> 4.00	
Fungal	**0.00**	number/g	> 4.00	
Fungal/Root	0.18	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.65	number/g	< 1.00	
			Mycorrhizal Fungi	
ENDO		%	> 40	-
ECTO	**18.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
			Miscellaneous Testing	
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11900
Unique ID: Cambridge Loc 11
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Acrobeloides	0.35	number/g	Bacterial Feeders	
Cephalobus	0.41	number/g	Bacterial Feeders	
Heterocephalobus	0.29	number/g	Bacterial Feeders	
Panagrolaimus	0.53	number/g	Bacterial Feeders	
Filenchus	0.18	number/g	Fungal/Root Feeders	
Heterodora	0.18	number/g	Root Feeders	Cyst nematode
Xiphinema	0.47	number/g	Root Feeders	Dagger nematode

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #11 0-12"
Order Number: 40085
Lab Number: S180904-402
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.7		**Cation Exch. Capacity, meq/100g**	12.1	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	8.2	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	5.7	4-14	Calcium Base Saturation	26	50-80
Potassium (K)	111	100-160	Magnesium Base Saturation	4	10-30
Calcium (Ca)	632	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	66	50-120	**Scoop Density, g/cc**	0.99	
Sulfur (S)	8.7	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	4.5	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.15	<0.6
Manganese (Mn)	5.1	1.1-6.3			
Zinc (Zn)	14.6	1.0-7.6			
Copper (Cu)	0.5	0.3-0.6			
Iron (Fe)	16.3	2.7-9.4			
Aluminum (Al)	79	<75			
Lead (Pb)	36.2	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Soil and Plant Nutrient Testing Laboratory
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e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 11 0-12"
Order Number: 40264
Lab Number: X180914-113
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	71.5
Silt	0.002-0.05	21.9
Clay	<0.002	6.6

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	12.7
Coarse	0.5-1.0	16.2
Medium	0.25-0.5	20.2
Fine	0.10-0.25	15.5
Very Fine	0.05-0.10	7.0

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	10.3
Medium	0.005-0.02	7.7
Fine	0.002-0.005	3.9

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	81.0
1.00	#18	70.7
0.50	#35	57.6
0.25	#60	41.3
0.10	#140	28.7
0.053	#270	23.1
0.02	20 um	14.7
0.005	5 um	8.5
0.002	2 um	5.3

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 19.0

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #11 12-24"
Order Number: 40085
Lab Number: S180904-403
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.8	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	2.7	4-14
Potassium (K)	86	100-160
Calcium (Ca)	330	1000-1500
Magnesium (Mg)	51	50-120
Sulfur (S)	13.4	>10
Micronutrients *		
Boron (B)	0.1	0.1-0.5
Manganese (Mn)	4.1	1.1-6.3
Zinc (Zn)	10.9	1.0-7.6
Copper (Cu)	0.5	0.3-0.6
Iron (Fe)	22.0	2.7-9.4
Aluminum (Al)	94	<75
Lead (Pb)	59.1	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	9.5	
Exch. Acidity, meq/100g	7.3	
Base Saturation, %		
Calcium Base Saturation	17	50-80
Magnesium Base Saturation	4	10-30
Potassium Base Saturation	2	2.0-7.0
Scoop Density, g/cc	0.97	
Optional tests		
Soil Organic Matter (LOI), %	3.9	
Soluble Salts (1:2), dS/m	0.16	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 11 12-24"
Order Number: 40264
Lab Number: X180914-114
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	69.8
Silt	0.002-0.05	22.5
Clay	<0.002	7.7

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.8
Coarse	0.5-1.0	16.6
Medium	0.25-0.5	22.9
Fine	0.10-0.25	15.6
Very Fine	0.05-0.10	5.9

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	11.3
Medium	0.005-0.02	8.1
Fine	0.002-0.005	3.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.9
1.00	#18	71.0
0.50	#35	58.1
0.25	#60	40.3
0.10	#140	28.1
0.053	#270	23.5
0.02	20 um	14.7
0.005	5 um	8.4
0.002	2 um	6.0

USDA Textural Class: coarse sandy loam

Gravel Content: (%) **22.1**

Soil and Plant Nutrient Testing Laboratory
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website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #11 24-36"
Order Number: 40085
Lab Number: S180904-404
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.5		**Cation Exch. Capacity, meq/100g**	6.1	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.8	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	3.8	4-14	Calcium Base Saturation	29	50-80
Potassium (K)	79	100-160	Magnesium Base Saturation	6	10-30
Calcium (Ca)	349	1000-1500	Potassium Base Saturation	3	2.0-7.0
Magnesium (Mg)	43	50-120	**Scoop Density, g/cc**	1.11	
Sulfur (S)	6.1	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.3	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.07	<0.6
Manganese (Mn)	3.2	1.1-6.3			
Zinc (Zn)	16.5	1.0-7.6			
Copper (Cu)	0.8	0.3-0.6			
Iron (Fe)	9.2	2.7-9.4			
Aluminum (Al)	52	<75			
Lead (Pb)	35.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Soil and Plant Nutrient Testing Laboratory
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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:
Sample ID: Cambridge Loc 11 24-36"
Order Number: 40264
Lab Number: X180914-115
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	70.1
Silt	0.002-0.05	21.3
Clay	<0.002	8.6

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	11.1
Coarse	0.5-1.0	17.9
Medium	0.25-0.5	29.9
Fine	0.10-0.25	5.8
Very Fine	0.05-0.10	5.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	4.6
Medium	0.005-0.02	12.3
Fine	0.002-0.005	4.4

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	74.4
1.00	#18	66.1
0.50	#35	52.8
0.25	#60	30.5
0.10	#140	26.3
0.053	#270	22.2
0.02	20 um	18.8
0.005	5 um	9.7
0.002	2 um	6.4

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 25.6

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11901
Unique ID: Cambridge Loc 12
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.91**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**35.32**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**266.59**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.50	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	30.76	µg/g	> 30.00	Bacterial activity within normal levels.
Total Bacteria	690.46	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.39**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	0.13		> 0.10	Good fungal activity.
AB:TB	**0.04**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**1.15**		5.00 to 10.00	Bacterial dominated, becoming more fungal.
Protozoa (Protists)				
Flagellates	**507.67**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**634.59**	number/g	> 20,000.00	
Ciliates	0.00	number/g	< 11.00	
Nitrogen Cycling Potential	<25	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**1.30**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.54**	number/g	> 4.00	
Fungal	**0.60**	number/g	> 4.00	
Fungal/Root	0.15	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.00	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	**21.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11901
Unique ID: Cambridge Loc 12
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.15	number/g	Bacterial Feeders	
Heterocephalobus	0.24	number/g	Bacterial Feeders	
Panagrolaimus	0.12	number/g	Bacterial Feeders	
Rhabditidae	0.03	number/g	Bacterial Feeders	
Aporcelaimium	0.42	number/g	Fungal Feeders	
Eudorylaimus	0.06	number/g	Fungal Feeders	
Pungentus	0.12	number/g	Fungal Feeders	
Aphelenchus	0.09	number/g	Fungal/Root Feeders	
Filenchus	0.06	number/g	Fungal/Root Feeders	

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #12 0-12"
Order Number: 40085
Lab Number: S180904-405
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.5		**Cation Exch. Capacity, meq/100g**	13.0	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	8.5	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	4.9	4-14	Calcium Base Saturation	30	50-80
Potassium (K)	64	100-160	Magnesium Base Saturation	3	10-30
Calcium (Ca)	794	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	44	50-120	**Scoop Density, g/cc**	1.07	
Sulfur (S)	14.8	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	4.6	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.04	<0.6
Manganese (Mn)	3.7	1.1-6.3			
Zinc (Zn)	15.8	1.0-7.6			
Copper (Cu)	0.7	0.3-0.6			
Iron (Fe)	12.3	2.7-9.4			
Aluminum (Al)	94	<75			
Lead (Pb)	9.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 12 0-12"
Order Number: 40264
Lab Number: X180914-116
Received: 9/14/2018
Reported: 9/25/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	58.3
Silt	0.002-0.05	31.6
Clay	<0.002	10.0

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	9.2
Coarse	0.5-1.0	13.1
Medium	0.25-0.5	16.5
Fine	0.10-0.25	14.1
Very Fine	0.05-0.10	5.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	14.9
Medium	0.005-0.02	14.1
Fine	0.002-0.005	2.5

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	74.6
1.00	#18	67.8
0.50	#35	58.0
0.25	#60	45.7
0.10	#140	35.1
0.053	#270	31.1
0.02	20 um	19.9
0.005	5 um	9.4
0.002	2 um	7.5

USDA Textural Class: sandy loam

Gravel Content: (%) 25.4

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #12 12-24"
Order Number: 40085
Lab Number: S180904-406
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.4		**Cation Exch. Capacity, meq/100g**	12.6	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	9.1	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	3.6	4-14	Calcium Base Saturation	25	50-80
Potassium (K)	48	100-160	Magnesium Base Saturation	2	10-30
Calcium (Ca)	625	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	32	50-120	**Scoop Density, g/cc**	1.09	
Sulfur (S)	19.1	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.7	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.04	<0.6
Manganese (Mn)	3.0	1.1-6.3			
Zinc (Zn)	10.1	1.0-7.6			
Copper (Cu)	1.7	0.3-0.6			
Iron (Fe)	15.0	2.7-9.4			
Aluminum (Al)	106	<75			
Lead (Pb)	10.6	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Soil and Plant Nutrient Testing Laboratory
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161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 12 12-24"
Order Number: 40424
Lab Number: X180921-101
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	64.0
Silt	0.002-0.05	26.4
Clay	<0.002	9.7

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	10.7
Coarse	0.5-1.0	15.1
Medium	0.25-0.5	20.2
Fine	0.10-0.25	12.9
Very Fine	0.05-0.10	5.0

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	12.7
Medium	0.005-0.02	10.2
Fine	0.002-0.005	3.5

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	86.1
1.00	#18	76.9
0.50	#35	63.8
0.25	#60	46.4
0.10	#140	35.3
0.053	#270	31.0
0.02	20 um	20.1
0.005	5 um	11.3
0.002	2 um	8.3

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 13.9

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #12 24-36"
Order Number: 40085
Lab Number: S180904-407
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	4.8		**Cation Exch. Capacity, meq/100g**	9.7	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	8.9	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	2.8	4-14	Calcium Base Saturation	7	50-80
Potassium (K)	23	100-160	Magnesium Base Saturation	1	10-30
Calcium (Ca)	132	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	12	50-120	**Scoop Density, g/cc**	1.32	
Sulfur (S)	56.0	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.4	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.05	<0.6
Manganese (Mn)	3.4	1.1-6.3			
Zinc (Zn)	2.7	1.0-7.6			
Copper (Cu)	1.5	0.3-0.6			
Iron (Fe)	23.3	2.7-9.4			
Aluminum (Al)	139	<75			
Lead (Pb)	4.3	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 12 24-36"
Order Number: 40424
Lab Number: X180921-102
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction		
Main Fractions	**Size (mm)**	**Percent**
Sand	0.05-2.0	71.5
Silt	0.002-0.05	18.7
Clay	<0.002	9.7
Sand Fractions	**Size (mm)**	**Percent**
Very Coarse	1.0-2.0	9.3
Coarse	0.5-1.0	16.9
Medium	0.25-0.5	22.3
Fine	0.10-0.25	17.3
Very Fine	0.05-0.10	5.8
Silt Fractions	**Size (mm)**	**Percent**
Coarse	0.02-0.05	8.4
Medium	0.005-0.02	8.1
Fine	0.002-0.005	2.2

Percent of Whole Sample Passing		
Size (mm)	**Sieve #**	**Whole Sample % of Sample Passing**
2.00	#10	76.9
1.00	#18	69.8
0.50	#35	56.8
0.25	#60	39.6
0.10	#140	26.4
0.053	#270	21.9
0.02	20 um	15.4
0.005	5 um	9.2
0.002	2 um	7.5

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 23.1

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11902
Unique ID: Cambridge Loc 13
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	0.96	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	11.81	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	258.25	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.25	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	34.13	µg/g	> 30.00	Bacterial activity within normal levels.
Total Bacteria	834.49	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	0.31		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	0.05		> 0.10	Low fungal activity, foods may be required.
AB:TB	0.04		> 0.10	Low bacterial activity, foods may be required.
AF:AB	0.35		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	5,984.05	number/g	> 20,000.00	Lacking species diversity.
Amoebae	14,417.26	number/g	> 20,000.00	
Ciliates	60.32	number/g	< 204.00	
Nitrogen Cycling Potential	75-100	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	1.72	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	0.74	number/g	> 4.00	
Fungal	0.00	number/g	> 4.00	
Fungal/Root	0.23	number/g	< 1.00	
Predatory	0.00	number/g	> 2.00	
Root	0.74	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	19.00	%	> 40	Low colonization, foods may be required. -
ECTO		%	> 40	
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11902
Unique ID: Cambridge Loc 13
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.16	number/g	Bacterial Feeders	
Eumonhystera	0.16	number/g	Bacterial Feeders	
Heterocephalobus	0.16	number/g	Bacterial Feeders	
Plectus	0.27	number/g	Bacterial Feeders	
Aphelenchus	0.12	number/g	Fungal/Root Feeders	
Filenchus	0.12	number/g	Fungal/Root Feeders	
Pratylenchus	0.51	number/g	Root Feeders	Lesion nematode
Xiphinema	0.23	number/g	Root Feeders	Dagger nematode

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #13 0-12"
Order Number: 40085
Lab Number: S180904-408
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.2		**Cation Exch. Capacity, meq/100g**	7.3	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.7	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	5.5	4-14	Calcium Base Saturation	43	50-80
Potassium (K)	63	100-160	Magnesium Base Saturation	5	10-30
Calcium (Ca)	622	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	41	50-120	**Scoop Density, g/cc**	1.34	
Sulfur (S)	9.9	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.3	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.08	<0.6
Manganese (Mn)	4.5	1.1-6.3			
Zinc (Zn)	3.8	1.0-7.6			
Copper (Cu)	0.5	0.3-0.6			
Iron (Fe)	5.5	2.7-9.4			
Aluminum (Al)	30	<75			
Lead (Pb)	6.7	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 13 0-12"
Order Number: 40424
Lab Number: X180921-103
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	82.4
Silt	0.002-0.05	11.2
Clay	<0.002	6.4

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	25.1
Coarse	0.5-1.0	27.2
Medium	0.25-0.5	17.6
Fine	0.10-0.25	9.5
Very Fine	0.05-0.10	3.0

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	4.7
Medium	0.005-0.02	5.4
Fine	0.002-0.005	1.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	64.4
1.00	#18	48.3
0.50	#35	30.8
0.25	#60	19.4
0.10	#140	13.3
0.053	#270	11.4
0.02	20 um	8.3
0.005	5 um	4.8
0.002	2 um	4.1

USDA Textural Class: gravelly loamy coarse sand

Gravel Content: (%) 35.6

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #13 12-24"
Order Number: 40085
Lab Number: S180904-409
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.4		**Cation Exch. Capacity, meq/100g**	6.5	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.1	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	6.8	4-14	Calcium Base Saturation	45	50-80
Potassium (K)	63	100-160	Magnesium Base Saturation	4	10-30
Calcium (Ca)	587	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	34	50-120	**Scoop Density, g/cc**	1.28	
Sulfur (S)	7.7	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.1	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.10	<0.6
Manganese (Mn)	3.3	1.1-6.3			
Zinc (Zn)	2.3	1.0-7.6			
Copper (Cu)	0.5	0.3-0.6			
Iron (Fe)	4.7	2.7-9.4			
Aluminum (Al)	24	<75			
Lead (Pb)	11.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 13 12-24"
Order Number: 40424
Lab Number: X180921-104
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	82.5
Silt	0.002-0.05	11.6
Clay	<0.002	5.9

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	19.1
Coarse	0.5-1.0	28.1
Medium	0.25-0.5	20.8
Fine	0.10-0.25	10.9
Very Fine	0.05-0.10	3.7

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	5.4
Medium	0.005-0.02	4.9
Fine	0.002-0.005	1.3

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	69.7
1.00	#18	56.4
0.50	#35	36.8
0.25	#60	22.4
0.10	#140	14.8
0.053	#270	12.2
0.02	20 um	8.4
0.005	5 um	5.0
0.002	2 um	4.1

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 30.3

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Soil Test Report

Prepared For:

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PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #13 24-36"
Order Number: 40085
Lab Number: S180904-410
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

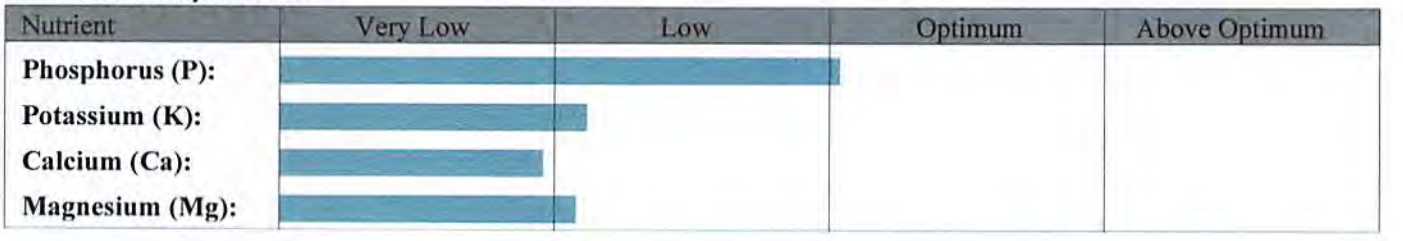
Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.7	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	4.3	4-14
Potassium (K)	55	100-160
Calcium (Ca)	474	1000-1500
Magnesium (Mg)	27	50-120
Sulfur (S)	9.6	>10
Micronutrients *		
Boron (B)	0.1	0.1-0.5
Manganese (Mn)	3.0	1.1-6.3
Zinc (Zn)	1.1	1.0-7.6
Copper (Cu)	0.5	0.3-0.6
Iron (Fe)	4.2	2.7-9.4
Aluminum (Al)	35	<75
Lead (Pb)	6.5	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	5.1	
Exch. Acidity, meq/100g	2.4	
Base Saturation, %		
Calcium Base Saturation	46	50-80
Magnesium Base Saturation	4	10-30
Potassium Base Saturation	3	2.0-7.0
Scoop Density, g/cc	1.26	
Optional tests		
Soil Organic Matter (LOI), %	1.7	
Soluble Salts (1:2), dS/m	0.05	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 13 24-36"
Order Number: 40424
Lab Number: X180921-105
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	83.0
Silt	0.002-0.05	11.4
Clay	<0.002	5.6

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	20.4
Coarse	0.5-1.0	26.9
Medium	0.25-0.5	22.2
Fine	0.10-0.25	10.7
Very Fine	0.05-0.10	2.8

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	4.1
Medium	0.005-0.02	5.9
Fine	0.002-0.005	1.4

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	72.1
1.00	#18	57.4
0.50	#35	38.1
0.25	#60	22.0
0.10	#140	14.3
0.053	#270	12.3
0.02	20 um	9.3
0.005	5 um	5.1
0.002	2 um	4.1

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 27.9

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11903
Unique ID: Cambridge Loc 14
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.95**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**19.89**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**424.07**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.25	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**17.25**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	810.20	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.52**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.05**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.02**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**1.15**		5.00 to 10.00	Bacterial dominated, becoming more fungal.
Protozoa (Protists)				
Flagellates	**290.86**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**2,248.17**	number/g	> 20,000.00	
Ciliates	14.70	number/g	< 25.00	
Nitrogen Cycling Potential	<25	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**0.83**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.38**	number/g	> 4.00	
Fungal	**0.19**	number/g	> 4.00	
Fungal/Root	0.06	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.19	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	63.00	%	> 40	Normal colonization.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11903
Unique ID: Cambridge Loc 14
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Acrobeles	0.06	number/g	Bacterial Feeders	
Cephalobus	0.17	number/g	Bacterial Feeders	
Eucephalobus	0.09	number/g	Bacterial Feeders	
Panagrolaimus	0.06	number/g	Bacterial Feeders	
Aporcelaimium	0.11	number/g	Fungal Feeders	
Epidorylaimus	0.09	number/g	Fungal Feeders	
Ditylenchus	0.06	number/g	Fungal/Root Feeders	Stem & Bulb nematode
Paratylenchus	0.11	number/g	Root Feeders	Pin nematode
Xiphinema	0.09	number/g	Root Feeders	Dagger nematode

Soil and Plant Nutrient Testing Laboratory
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Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #14 0-12"
Order Number: 40085
Lab Number: S180904-411
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.7		**Cation Exch. Capacity, meq/100g**	9.4	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	6.2	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	7.8	4-14	Calcium Base Saturation	28	50-80
Potassium (K)	52	100-160	Magnesium Base Saturation	4	10-30
Calcium (Ca)	522	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	51	50-120	**Scoop Density, g/cc**	1.23	
Sulfur (S)	8.2	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.9	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.08	<0.6
Manganese (Mn)	2.5	1.1-6.3			
Zinc (Zn)	7.8	1.0-7.6			
Copper (Cu)	1.3	0.3-0.6			
Iron (Fe)	7.0	2.7-9.4			
Aluminum (Al)	44	<75			
Lead (Pb)	16.9	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 14 0-12"
Order Number: 40424
Lab Number: X180921-106
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	77.7
Silt	0.002-0.05	16.4
Clay	<0.002	5.9

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	13.4
Coarse	0.5-1.0	20.6
Medium	0.25-0.5	25.1
Fine	0.10-0.25	14.2
Very Fine	0.05-0.10	4.5

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	9.7
Medium	0.005-0.02	5.6
Fine	0.002-0.005	1.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	79.8
1.00	#18	69.1
0.50	#35	52.7
0.25	#60	32.7
0.10	#140	21.4
0.053	#270	17.8
0.02	20 um	10.1
0.005	5 um	5.6
0.002	2 um	4.7

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 20.2

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #14 12-24"
Order Number: 40085
Lab Number: S180904-413
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.6		**Cation Exch. Capacity, meq/100g**	5.9	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	4.2	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	2.5	4-14	Calcium Base Saturation	24	50-80
Potassium (K)	41	100-160	Magnesium Base Saturation	4	10-30
Calcium (Ca)	282	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	32	50-120	**Scoop Density, g/cc**	1.28	
Sulfur (S)	9.5	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	1.7	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.08	<0.6
Manganese (Mn)	1.2	1.1-6.3			
Zinc (Zn)	3.1	1.0-7.6			
Copper (Cu)	0.5	0.3-0.6			
Iron (Fe)	6.8	2.7-9.4			
Aluminum (Al)	57	<75			
Lead (Pb)	13.4	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 14 12-24"
Order Number: 40424
Lab Number: X180921-107
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	80.6
Silt	0.002-0.05	12.1
Clay	<0.002	7.3

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	9.1
Coarse	0.5-1.0	19.5
Medium	0.25-0.5	33.3
Fine	0.10-0.25	15.2
Very Fine	0.05-0.10	3.5

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	6.0
Medium	0.005-0.02	4.5
Fine	0.002-0.005	1.6

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	86.7
1.00	#18	78.8
0.50	#35	61.9
0.25	#60	33.0
0.10	#140	19.8
0.053	#270	16.8
0.02	20 um	11.6
0.005	5 um	7.7
0.002	2 um	6.3

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 13.3

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Soil Test Report

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:
Sample ID: Cambridge Loc #14 24-36"
Order Number: 40085
Lab Number: S180904-414
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.3		**Cation Exch. Capacity, meq/100g**	4.7	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.4	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	1.3	4-14	Calcium Base Saturation	23	50-80
Potassium (K)	31	100-160	Magnesium Base Saturation	3	10-30
Calcium (Ca)	221	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	19	50-120	**Scoop Density, g/cc**	1.32	
Sulfur (S)	14.9	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	1.4	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.16	<0.6
Manganese (Mn)	1.2	1.1-6.3			
Zinc (Zn)	1.8	1.0-7.6			
Copper (Cu)	0.4	0.3-0.6			
Iron (Fe)	6.4	2.7-9.4			
Aluminum (Al)	60	<75			
Lead (Pb)	9.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Soil and Plant Nutrient Testing Laboratory
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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 14 24-36"
Order Number: 40424
Lab Number: X180921-108
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	87.4
Silt	0.002-0.05	7.0
Clay	<0.002	5.6

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	13.9
Coarse	0.5-1.0	24.8
Medium	0.25-0.5	34.6
Fine	0.10-0.25	11.6
Very Fine	0.05-0.10	2.5

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	2.3
Medium	0.005-0.02	3.6
Fine	0.002-0.005	1.2

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	78.5
1.00	#18	67.6
0.50	#35	48.1
0.25	#60	20.9
0.10	#140	11.8
0.053	#270	9.9
0.02	20 um	8.1
0.005	5 um	5.3
0.002	2 um	4.4

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 21.5

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11905
Unique ID: Cambridge Loc 15
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.89**	N/A	0.45 to 0.85	Within normal moisture levels.
Active Fungi	**27.91**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**484.59**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.50	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	43.72	µg/g	> 30.00	Bacterial activity within normal levels.
Total Bacteria	1,006.02	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.48**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.06**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.04**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.64**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**4,769.31**	number/g	> 20,000.00	High ciliate numbers indicate possible anaerobic conditions.
Amoebae	**514.51**	number/g	> 20,000.00	
Ciliates	**64.87**	number/g	< 53.00	
Nitrogen Cycling Potential	25-50	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**3.10**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**1.67**	number/g	> 4.00	
Fungal	**0.00**	number/g	> 4.00	
Fungal/Root	0.19	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	**1.24**	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	**14.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11905
Unique ID: Cambridge Loc 15
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Acrobeles	0.56	number/g	Bacterial Feeders	
Prismatolaimus	0.74	number/g	Bacterial Feeders	
Rhabditidae	0.37	number/g	Bacterial Feeders	
Aphelenchus	0.19	number/g	Fungal/Root Feeders	
Gracilacus	0.31	number/g	Root Feeders	Pin nematode
Paratylenchus	0.50	number/g	Root Feeders	Pin nematode
Scutellonema	0.19	number/g	Root Feeders	
Xiphinema	0.25	number/g	Root Feeders	Dagger nematode

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

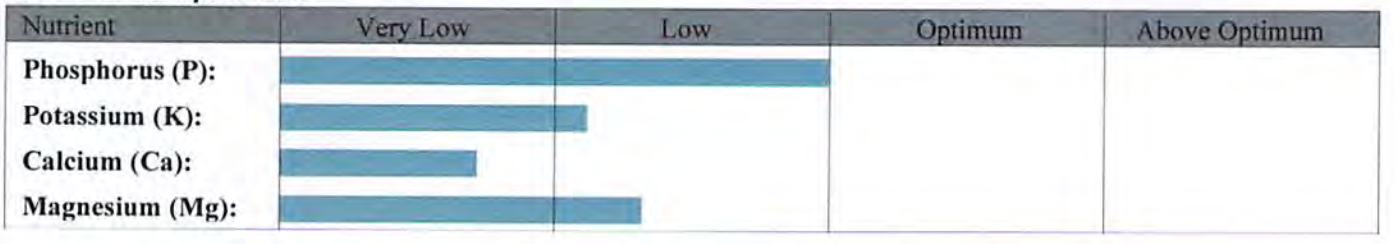
Sample ID: Cambridge Loc #15 0-12"
Order Number: 40085
Lab Number: S180904-415
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.3		**Cation Exch. Capacity, meq/100g**	10.2	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	8.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	4.1	4-14	Calcium Base Saturation	17	50-80
Potassium (K)	56	100-160	Magnesium Base Saturation	3	10-30
Calcium (Ca)	351	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	33	50-120	**Scoop Density, g/cc**	1.05	
Sulfur (S)	12.9	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.3	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.06	<0.6
Manganese (Mn)	2.3	1.1-6.3			
Zinc (Zn)	4.1	1.0-7.6			
Copper (Cu)	0.5	0.3-0.6			
Iron (Fe)	10.2	2.7-9.4			
Aluminum (Al)	108	<75			
Lead (Pb)	13.5	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambrirdge Loc 15 0-12"
Order Number: 40424
Lab Number: X180921-109
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	71.4
Silt	0.002-0.05	20.2
Clay	<0.002	8.3

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	10.8
Coarse	0.5-1.0	16.4
Medium	0.25-0.5	24.4
Fine	0.10-0.25	15.3
Very Fine	0.05-0.10	4.6

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	10.9
Medium	0.005-0.02	7.7
Fine	0.002-0.005	1.7

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	82.9
1.00	#18	73.9
0.50	#35	60.3
0.25	#60	40.1
0.10	#140	27.5
0.053	#270	23.7
0.02	20 um	14.7
0.005	5 um	8.3
0.002	2 um	6.9

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 17.1

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #15 12-24"
Order Number: 40085
Lab Number: S180904-416
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.7		**Cation Exch. Capacity, meq/100g**	5.7	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	4.2	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	1.8	4-14	Calcium Base Saturation	20	50-80
Potassium (K)	39	100-160	Magnesium Base Saturation	4	10-30
Calcium (Ca)	232	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	28	50-120	**Scoop Density, g/cc**	1.31	
Sulfur (S)	9.5	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	1.5	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.05	<0.6
Manganese (Mn)	0.7	1.1-6.3			
Zinc (Zn)	1.4	1.0-7.6			
Copper (Cu)	0.6	0.3-0.6			
Iron (Fe)	5.5	2.7-9.4			
Aluminum (Al)	72	<75			
Lead (Pb)	11.7	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Soil and Plant Nutrient Testing Laboratory
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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 15 12-24"
Order Number: 40424
Lab Number: X180921-110
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	80.4
Silt	0.002-0.05	12.9
Clay	<0.002	6.8

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	9.0
Coarse	0.5-1.0	20.6
Medium	0.25-0.5	31.3
Fine	0.10-0.25	15.1
Very Fine	0.05-0.10	4.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	6.2
Medium	0.005-0.02	5.3
Fine	0.002-0.005	1.4

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.7
1.00	#18	70.7
0.50	#35	54.7
0.25	#60	30.4
0.10	#140	18.6
0.053	#270	15.2
0.02	20 um	10.4
0.005	5 um	6.3
0.002	2 um	5.3

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 22.3

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #15 24-36"
Order Number: 40085
Lab Number: S180904-417
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.4		**Cation Exch. Capacity, meq/100g**	5.1	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	4.3	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	1.5	4-14	Calcium Base Saturation	11	50-80
Potassium (K)	33	100-160	Magnesium Base Saturation	3	10-30
Calcium (Ca)	113	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	16	50-120	**Scoop Density, g/cc**	1.24	
Sulfur (S)	13.2	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	1.3	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.05	<0.6
Manganese (Mn)	0.9	1.1-6.3			
Zinc (Zn)	0.4	1.0-7.6			
Copper (Cu)	0.4	0.3-0.6			
Iron (Fe)	6.2	2.7-9.4			
Aluminum (Al)	89	<75			
Lead (Pb)	7.6	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 15 24-36"
Order Number: 40424
Lab Number: X180921-111
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	83.0
Silt	0.002-0.05	10.9
Clay	<0.002	6.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.6
Coarse	0.5-1.0	22.6
Medium	0.25-0.5	37.4
Fine	0.10-0.25	12.1
Very Fine	0.05-0.10	2.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	5.2
Medium	0.005-0.02	4.6
Fine	0.002-0.005	1.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.6
1.00	#18	70.9
0.50	#35	53.4
0.25	#60	24.4
0.10	#140	15.0
0.053	#270	13.2
0.02	20 um	9.1
0.005	5 um	5.6
0.002	2 um	4.8

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 22.4

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11906
Unique ID: Cambridge Loc 16
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	0.82	N/A	0.45 to 0.85	Within normal moisture levels.
Active Fungi	**69.81**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	1,631.55	µg/g	> 1,500.00	Good fungal biomass. -
Hyphal Diameter	4.00	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	37.05	µg/g	> 30.00	Bacterial activity within normal levels.
Total Bacteria	948.23	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**1.72**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.04**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.04**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**1.88**		5.00 to 10.00	Fungal dominated, becoming more fungal.
Protozoa (Protists)				
Flagellates	**16,995.62**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**3,399.61**	number/g	> 20,000.00	
Ciliates	170.41	number/g	< 204.00	
Nitrogen Cycling Potential	75-100	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**1.24**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.76**	number/g	> 4.00	
Fungal	**0.00**	number/g	> 4.00	
Fungal/Root	0.12	number/g	< 1.00	
Predatory	**0.36**	number/g	> 2.00	
Root	0.00	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	Processing	%	> 40	Low colonization, foods may be required. -
ECTO	Processing	%	> 40	
Ericoid	Processing	%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11906
Unique ID: Cambridge Loc 16
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Heterocephalobus	0.36	number/g	Bacterial Feeders	
Prismatolaimus	0.20	number/g	Bacterial Feeders	
Rhabditidae	0.20	number/g	Bacterial Feeders	
Tylenchus	0.12	number/g	Fungal/Root Feeders	
Mylonchulus	0.36	number/g	Predatory	

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

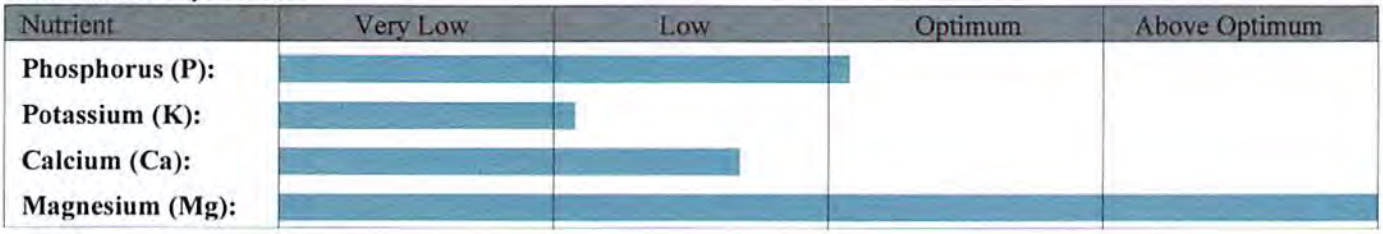
Sample ID: Cambridge Loc #16 0-12"
Order Number: 40085
Lab Number: S180904-418
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.3		**Cation Exch. Capacity, meq/100g**	6.9	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	4.8	4-14	Calcium Base Saturation	61	50-80
Potassium (K)	54	100-160	Magnesium Base Saturation	37	10-30
Calcium (Ca)	841	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	310	50-120	**Scoop Density, g/cc**	0.97	
Sulfur (S)	6.0	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.5	
Boron (B)	0.3	0.1-0.5	Soluble Salts (1:2), dS/m	0.05	<0.6
Manganese (Mn)	2.1	1.1-6.3			
Zinc (Zn)	7.2	1.0-7.6			
Copper (Cu)	0.4	0.3-0.6			
Iron (Fe)	3.3	2.7-9.4			
Aluminum (Al)	19	<75			
Lead (Pb)	4.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 16 0-12"
Order Number: 40424
Lab Number: X180921-112
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	76.3
Silt	0.002-0.05	19.2
Clay	<0.002	4.6

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	11.5
Coarse	0.5-1.0	17.4
Medium	0.25-0.5	19.5
Fine	0.10-0.25	18.5
Very Fine	0.05-0.10	9.3

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	12.9
Medium	0.005-0.02	4.4
Fine	0.002-0.005	1.8

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	73.7
1.00	#18	65.2
0.50	#35	52.4
0.25	#60	38.0
0.10	#140	24.3
0.053	#270	17.5
0.02	20 um	8.0
0.005	5 um	4.7
0.002	2 um	3.4

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 26.3

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #16 12-24"
Order Number: 40085
Lab Number: S180904-419
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.5		**Cation Exch. Capacity, meq/100g**	4.8	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	4.6	4-14	Calcium Base Saturation	68	50-80
Potassium (K)	46	100-160	Magnesium Base Saturation	29	10-30
Calcium (Ca)	653	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	173	50-120	**Scoop Density, g/cc**	1.08	
Sulfur (S)	6.4	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.8	
Boron (B)	0.5	0.1-0.5	Soluble Salts (1:2), dS/m	0.06	<0.6
Manganese (Mn)	1.9	1.1-6.3			
Zinc (Zn)	9.2	1.0-7.6			
Copper (Cu)	0.5	0.3-0.6			
Iron (Fe)	4.2	2.7-9.4			
Aluminum (Al)	27	<75			
Lead (Pb)	6.3	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Soil and Plant Nutrient Testing Laboratory
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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 16 12-24"
Order Number: 40424
Lab Number: X180921-113
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction		
Main Fractions	**Size (mm)**	**Percent**
Sand	0.05-2.0	75.7
Silt	0.002-0.05	18.9
Clay	<0.002	5.4
Sand Fractions	**Size (mm)**	**Percent**
Very Coarse	1.0-2.0	14.1
Coarse	0.5-1.0	18.0
Medium	0.25-0.5	21.1
Fine	0.10-0.25	17.6
Very Fine	0.05-0.10	4.9
Silt Fractions	**Size (mm)**	**Percent**
Coarse	0.02-0.05	10.8
Medium	0.005-0.02	6.1
Fine	0.002-0.005	2.0

Percent of Whole Sample Passing		
Size (mm)	**Sieve #**	**Whole Sample % of Sample Passing**
2.00	#10	73.2
1.00	#18	62.9
0.50	#35	49.8
0.25	#60	34.3
0.10	#140	21.4
0.053	#270	17.8
0.02	20 um	9.8
0.005	5 um	5.4
0.002	2 um	4.0

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 26.8

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #16 24-36"
Order Number: 40085
Lab Number: S180904-420
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

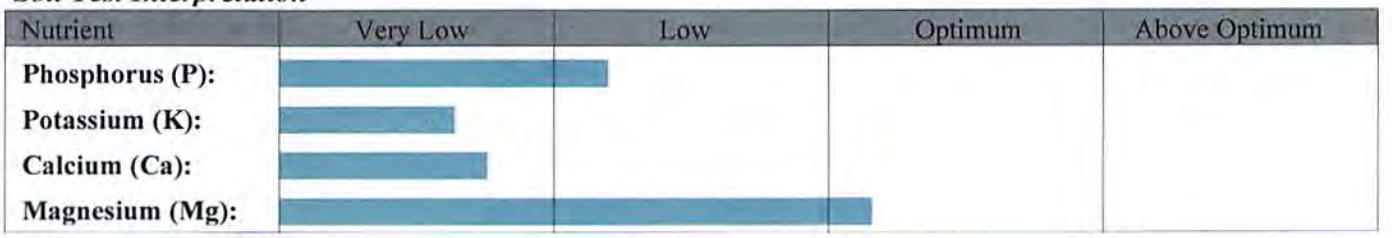
Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.5	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	2.4	4-14
Potassium (K)	32	100-160
Calcium (Ca)	373	1000-1500
Magnesium (Mg)	61	50-120
Sulfur (S)	4.8	>10
Micronutrients *		
Boron (B)	0.3	0.1-0.5
Manganese (Mn)	2.3	1.1-6.3
Zinc (Zn)	5.2	1.0-7.6
Copper (Cu)	0.6	0.3-0.6
Iron (Fe)	5.0	2.7-9.4
Aluminum (Al)	32	<75
Lead (Pb)	6.8	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	2.4	
Exch. Acidity, meq/100g	0.0	
Base Saturation, %		
Calcium Base Saturation	76	50-80
Magnesium Base Saturation	20	10-30
Potassium Base Saturation	3	2.0-7.0
Scoop Density, g/cc	1.13	
Optional tests		
Soil Organic Matter (LOI), %	1.5	
Soluble Salts (1:2), dS/m	0.06	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Amherst, MA 01003
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e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 16 24-36"
Order Number: 40424
Lab Number: X180921-114
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	78.3
Silt	0.002-0.05	16.6
Clay	<0.002	5.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	9.0
Coarse	0.5-1.0	13.2
Medium	0.25-0.5	21.2
Fine	0.10-0.25	24.6
Very Fine	0.05-0.10	10.3

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	9.0
Medium	0.005-0.02	5.4
Fine	0.002-0.005	2.2

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.4
1.00	#18	70.5
0.50	#35	60.3
0.25	#60	43.8
0.10	#140	24.8
0.053	#270	16.8
0.02	20 um	9.8
0.005	5 um	5.6
0.002	2 um	3.9

USDA Textural Class: loamy sand

Gravel Content: (%) 22.6

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11907
Unique ID: Cambridge Loc 17
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	0.93	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	14.14	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	280.18	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.50	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	14.31	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	700.95	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	0.40		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	0.05		> 0.10	Low fungal activity, foods may be required.
AB:TB	0.02		> 0.10	Low bacterial activity, foods may be required.
AF:AB	0.99		5.00 to 10.00	Bacterial dominated, likely to remain bacterial.
Protozoa (Protists)				
Flagellates	1,498.13	number/g	> 20,000.00	Lacking species diversity.
Amoebae	299.41	number/g	> 20,000.00	
Ciliates	0.00	number/g	< 18.00	
Nitrogen Cycling Potential	<25	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	2.44	number/g	> 10.00	Low numbers, but good diversity.
Bacterial	1.14	number/g	> 4.00	
Fungal	0.38	number/g	> 4.00	
Fungal/Root	0.27	number/g	< 1.00	
Predatory	0.22	number/g	> 2.00	
Root	0.43	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	7.00	%	> 40	Low colonization, foods may be required. -
ECTO		%	> 40	
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11907
Unique ID: Cambridge Loc 17
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.65	number/g	Bacterial Feeders	
Eucephalobus	0.11	number/g	Bacterial Feeders	
Rhabditidae	0.38	number/g	Bacterial Feeders	
Aporcelaimium	0.38	number/g	Fungal Feeders	
Filenchus	0.27	number/g	Fungal/Root Feeders	
Pratylenchus	0.43	number/g	Root Feeders	Lesion nematode
Mylonchulus	0.22	number/g	Predatory	

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

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andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #17 0-12"
Order Number: 40085
Lab Number: S180904-421
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.1		**Cation Exch. Capacity, meq/100g**	10.0	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	6.9	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	3.0	4-14	Calcium Base Saturation	26	50-80
Potassium (K)	70	100-160	Magnesium Base Saturation	3	10-30
Calcium (Ca)	524	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	35	50-120	**Scoop Density, g/cc**	1.04	
Sulfur (S)	7.2	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	4.7	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.08	<0.6
Manganese (Mn)	3.8	1.1-6.3			
Zinc (Zn)	3.9	1.0-7.6			
Copper (Cu)	0.4	0.3-0.6			
Iron (Fe)	17.2	2.7-9.4			
Aluminum (Al)	90	<75			
Lead (Pb)	4.3	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 17 0-12"
Order Number: 40424
Lab Number: X180921-115
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	59.8
Silt	0.002-0.05	30.9
Clay	<0.002	9.3

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.1
Coarse	0.5-1.0	11.7
Medium	0.25-0.5	17.8
Fine	0.10-0.25	17.4
Very Fine	0.05-0.10	5.8

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	18.5
Medium	0.005-0.02	10.3
Fine	0.002-0.005	2.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.5
1.00	#18	72.0
0.50	#35	63.0
0.25	#60	49.1
0.10	#140	35.7
0.053	#270	31.1
0.02	20 um	16.8
0.005	5 um	8.8
0.002	2 um	7.2

USDA Textural Class: sandy loam

Gravel Content: (%) 22.5

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #17 12-24"
Order Number: 40085
Lab Number: S180904-422
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.1		**Cation Exch. Capacity, meq/100g**	6.6	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	4.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	1.7	4-14	Calcium Base Saturation	32	50-80
Potassium (K)	50	100-160	Magnesium Base Saturation	5	10-30
Calcium (Ca)	421	1000-1500	Potassium Base Saturation	2	2.0-7.0
Magnesium (Mg)	39	50-120	**Scoop Density, g/cc**	1.24	
Sulfur (S)	5.5	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.5	
Boron (B)	0.0	0.1-0.5	Soluble Salts (1:2), dS/m	0.06	<0.6
Manganese (Mn)	2.2	1.1-6.3			
Zinc (Zn)	8.8	1.0-7.6			
Copper (Cu)	0.9	0.3-0.6			
Iron (Fe)	9.0	2.7-9.4			
Aluminum (Al)	62	<75			
Lead (Pb)	4.0	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 17 12-24"
Order Number: 40424
Lab Number: X180921-116
Received: 9/21/2018
Reported: 9/26/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	73.7
Silt	0.002-0.05	19.0
Clay	<0.002	7.3

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	14.2
Coarse	0.5-1.0	22.1
Medium	0.25-0.5	18.1
Fine	0.10-0.25	13.2
Very Fine	0.05-0.10	6.1

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	11.2
Medium	0.005-0.02	5.8
Fine	0.002-0.005	2.0

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	72.5
1.00	#18	62.2
0.50	#35	46.2
0.25	#60	33.1
0.10	#140	23.5
0.053	#270	19.1
0.02	20 um	11.0
0.005	5 um	6.7
0.002	2 um	5.3

USDA Textural Class: coarse sandy loam

Gravel Content: (%) **27.5**

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

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908-413-1957

Sample Information:

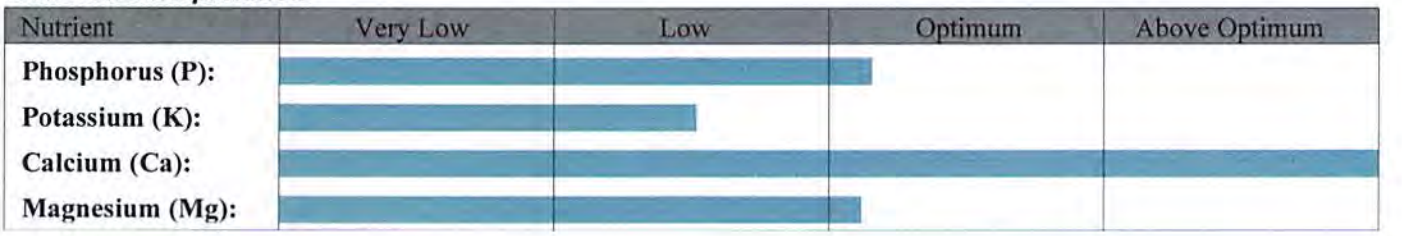
Sample ID: Cambridge Loc #17 24-36"
Order Number: 40085
Lab Number: S180904-424
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.5		**Cation Exch. Capacity, meq/100g**	19.8	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	7.6	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	5.8	4-14	Calcium Base Saturation	58	50-80
Potassium (K)	77	100-160	Magnesium Base Saturation	2	10-30
Calcium (Ca)	2295	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	58	50-120	**Scoop Density, g/cc**	1.11	
Sulfur (S)	49.2	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.1	
Boron (B)	0.2	0.1-0.5	Soluble Salts (1:2), dS/m	0.19	<0.6
Manganese (Mn)	4.5	1.1-6.3			
Zinc (Zn)	132.7	1.0-7.6			
Copper (Cu)	115.2	0.3-0.6			
Iron (Fe)	10.6	2.7-9.4			
Aluminum (Al)	48	<75			
Lead (Pb)	979.6	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 17 24-36"
Order Number: 40600
Lab Number: X180928-101
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	71.5
Silt	0.002-0.05	19.5
Clay	<0.002	9.0

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	17.4
Coarse	0.5-1.0	18.6
Medium	0.25-0.5	19.6
Fine	0.10-0.25	11.6
Very Fine	0.05-0.10	4.4

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	7.9
Medium	0.005-0.02	9.3
Fine	0.002-0.005	2.3

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	62.8
1.00	#18	51.9
0.50	#35	40.3
0.25	#60	28.0
0.10	#140	20.6
0.053	#270	17.9
0.02	20 um	12.9
0.005	5 um	7.1
0.002	2 um	5.6

USDA Textural Class: gravelly coarse sandy loam

Gravel Content: (%) 37.2

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11908
Unique ID: Cambridge Loc 18
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.89**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**2.51**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**64.39**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	2.50	µm	> 2.50	Good balance of fungi. -
Active Bacteria	**17.26**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	856.00	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.08**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.04**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.02**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.15**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	**1,555.09**	number/g	> 20,000.00	High ciliate numbers indicate possible anaerobic conditions.
Amoebae	**1,518.06**	number/g	> 20,000.00	
Ciliates	**477.97**	number/g	< 31.00	
Nitrogen Cycling Potential	<25	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**0.38**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.28**	number/g	> 4.00	
Fungal	**0.00**	number/g	> 4.00	
Fungal/Root	0.00	number/g	< 1.00	
Predatory	**0.07**	number/g	> 2.00	
Root	0.04	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO	**9.00**	%	> 40	Low colonization, foods may be required. -
ECTO		%	> 40	
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11908
Unique ID: Cambridge Loc 18
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Butlerius	0.04	number/g	Bacterial Feeders	
Cephalobus	0.16	number/g	Bacterial Feeders	
Heterocephalobus	0.05	number/g	Bacterial Feeders	
Rhabditidae	0.03	number/g	Bacterial Feeders	
Meloidogyne	0.04	number/g	Root Feeders	Root-Knot nematode
Clarkus	0.07	number/g	Predatory	

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

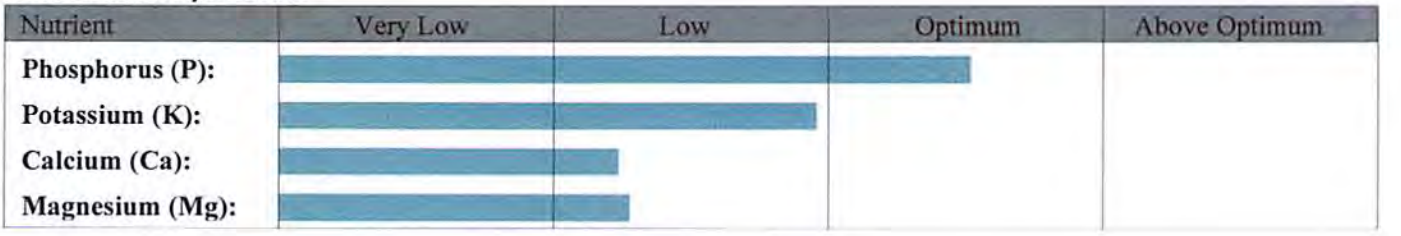
Sample ID: Cambridge Loc #18 0-12"
Order Number: 40085
Lab Number: S180904-425
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.2		**Cation Exch. Capacity, meq/100g**	3.6	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	9.2	4-14	Calcium Base Saturation	86	50-80
Potassium (K)	97	100-160	Magnesium Base Saturation	7	10-30
Calcium (Ca)	611	1000-1500	Potassium Base Saturation	7	2.0-7.0
Magnesium (Mg)	32	50-120	**Scoop Density, g/cc**	0.99	
Sulfur (S)	10.7	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	4.4	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.29	<0.6
Manganese (Mn)	4.4	1.1-6.3			
Zinc (Zn)	4.7	1.0-7.6			
Copper (Cu)	4.8	0.3-0.6			
Iron (Fe)	12.2	2.7-9.4			
Aluminum (Al)	69	<75			
Lead (Pb)	12.8	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 18 0-12"
Order Number: 40600
Lab Number: X180928-102
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	70.5
Silt	0.002-0.05	22.5
Clay	<0.002	7.0

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.9
Coarse	0.5-1.0	16.4
Medium	0.25-0.5	22.0
Fine	0.10-0.25	17.1
Very Fine	0.05-0.10	7.1

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	12.6
Medium	0.005-0.02	6.9
Fine	0.002-0.005	3.0

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	73.6
1.00	#18	67.8
0.50	#35	55.7
0.25	#60	39.6
0.10	#140	26.9
0.053	#270	21.7
0.02	20 um	12.5
0.005	5 um	7.3
0.002	2 um	5.2

USDA Textural Class: sandy loam

Gravel Content: (%) 26.4

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Soil Test Report

Prepared For:

Andrea Fillippone
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PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #18 12-24"
Order Number: 40085
Lab Number: S180904-426
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.5		**Cation Exch. Capacity, meq/100g**	7.8	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.9	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	9.6	4-14	Calcium Base Saturation	42	50-80
Potassium (K)	95	100-160	Magnesium Base Saturation	4	10-30
Calcium (Ca)	660	1000-1500	Potassium Base Saturation	3	2.0-7.0
Magnesium (Mg)	41	50-120	**Scoop Density, g/cc**	1.04	
Sulfur (S)	7.6	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	3.0	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.09	<0.6
Manganese (Mn)	1.7	1.1-6.3			
Zinc (Zn)	1.8	1.0-7.6			
Copper (Cu)	0.5	0.3-0.6			
Iron (Fe)	3.4	2.7-9.4			
Aluminum (Al)	45	<75			
Lead (Pb)	39.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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Particle Size Analysis - Comprehensive

Prepared For:

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908-413-1957

Sample Information:

Sample ID: Cambridge Loc 18 12-24"
Order Number: 40600
Lab Number: X180928-103
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	68.5
Silt	0.002-0.05	22.1
Clay	<0.002	9.3

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.6
Coarse	0.5-1.0	15.5
Medium	0.25-0.5	23.8
Fine	0.10-0.25	16.0
Very Fine	0.05-0.10	4.6

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	7.5
Medium	0.005-0.02	11.8
Fine	0.002-0.005	2.8

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	65.7
1.00	#18	60.0
0.50	#35	49.9
0.25	#60	34.2
0.10	#140	23.7
0.053	#270	20.7
0.02	20 um	15.7
0.005	5 um	8.0
0.002	2 um	6.1

USDA Textural Class: gravelly sandy loam

Gravel Content: (%) 34.3

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

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Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #18 24-36"
Order Number: 40085
Lab Number: S180904-427
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.3		**Cation Exch. Capacity, meq/100g**	5.5	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	3.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	4.1	4-14	Calcium Base Saturation	37	50-80
Potassium (K)	87	100-160	Magnesium Base Saturation	4	10-30
Calcium (Ca)	407	1000-1500	Potassium Base Saturation	4	2.0-7.0
Magnesium (Mg)	30	50-120	**Scoop Density, g/cc**	1.00	
Sulfur (S)	7.9	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.1	
Boron (B)	0.1	0.1-0.5	Soluble Salts (1:2), dS/m	0.35	<0.6
Manganese (Mn)	1.8	1.1-6.3			
Zinc (Zn)	1.4	1.0-7.6			
Copper (Cu)	0.3	0.3-0.6			
Iron (Fe)	3.8	2.7-9.4			
Aluminum (Al)	72	<75			
Lead (Pb)	10.1	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Nutrient	Very Low	Low	Optimum	Above Optimum
Phosphorus (P):				
Potassium (K):				
Calcium (Ca):				
Magnesium (Mg):				

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 18 24-36"
Order Number: 40600
Lab Number: X180928-104
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	62.3
Silt	0.002-0.05	25.3
Clay	<0.002	12.4

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	8.0
Coarse	0.5-1.0	13.4
Medium	0.25-0.5	17.6
Fine	0.10-0.25	16.4
Very Fine	0.05-0.10	7.0

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	13.7
Medium	0.005-0.02	8.3
Fine	0.002-0.005	3.4

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.9
1.00	#18	71.7
0.50	#35	61.3
0.25	#60	47.6
0.10	#140	34.8
0.053	#270	29.4
0.02	20 um	18.7
0.005	5 um	12.3
0.002	2 um	9.6

USDA Textural Class: sandy loam

Gravel Content: (%) 22.1

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11909
Unique ID: Cambridge Loc 19
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
			Organism Biomass Data	
Dry Weight	**0.96**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**27.39**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**411.82**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.50	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**19.20**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	670.86	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
			Organism Biomass Ratios	
TF:TB	**0.61**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.07**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.03**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**1.43**		5.00 to 10.00	Bacterial dominated, becoming more fungal.
			Protozoa (Protists)	
Flagellates	**2,875.45**	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**4,776.17**	number/g	> 20,000.00	
Ciliates	14.52	number/g	< 77.00	
Nitrogen Cycling Potential	25-50	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
			Nematodes	
Nematodes	**1.02**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.30**	number/g	> 4.00	
Fungal	**0.45**	number/g	> 4.00	
Fungal/Root	0.15	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.11	number/g	< 1.00	
			Mycorrhizal Fungi	
ENDO		%	> 40	-
ECTO	**8.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
			Miscellaneous Testing	
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11909
Unique ID: Cambridge Loc 19
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.08	number/g	Bacterial Feeders	
Rhabditidae	0.23	number/g	Bacterial Feeders	
Aporcelaimus	0.15	number/g	Fungal Feeders	
Eudorylaimus	0.30	number/g	Fungal Feeders	
Aphelenchus	0.15	number/g	Fungal/Root Feeders	
Heterodora	0.11	number/g	Root Feeders	Cyst nematode

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website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #19 0-12"
Order Number: 40085
Lab Number: S180904-428
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.7	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	3.6	4-14
Potassium (K)	73	100-160
Calcium (Ca)	546	1000-1500
Magnesium (Mg)	52	50-120
Sulfur (S)	6.5	>10
Micronutrients *		
Boron (B)	0.1	0.1-0.5
Manganese (Mn)	1.1	1.1-6.3
Zinc (Zn)	11.9	1.0-7.6
Copper (Cu)	1.1	0.3-0.6
Iron (Fe)	6.1	2.7-9.4
Aluminum (Al)	46	<75
Lead (Pb)	8.5	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	7.0	
Exch. Acidity, meq/100g	3.7	
Base Saturation, %		
Calcium Base Saturation	39	50-80
Magnesium Base Saturation	6	10-30
Potassium Base Saturation	3	2.0-7.0
Scoop Density, g/cc	1.25	
Optional tests		
Soil Organic Matter (LOI), %	3.1	
Soluble Salts (1:2), dS/m	0.04	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 19 0-12"
Order Number: 40600
Lab Number: X180928-105
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	74.6
Silt	0.002-0.05	18.0
Clay	<0.002	7.4

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	10.9
Coarse	0.5-1.0	19.0
Medium	0.25-0.5	27.9
Fine	0.10-0.25	12.6
Very Fine	0.05-0.10	4.2

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	11.4
Medium	0.005-0.02	4.8
Fine	0.002-0.005	1.8

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.9
1.00	#18	69.4
0.50	#35	54.6
0.25	#60	32.9
0.10	#140	23.0
0.053	#270	19.8
0.02	20 um	10.9
0.005	5 um	7.1
0.002	2 um	5.7

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 22.1

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #19 12-24"
Order Number: 40085
Lab Number: S180904-429
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	7.8		**Cation Exch. Capacity, meq/100g**	18.9	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	7.8	4-14	Calcium Base Saturation	97	50-80
Potassium (K)	94	100-160	Magnesium Base Saturation	2	10-30
Calcium (Ca)	3656	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	50	50-120	**Scoop Density, g/cc**	1.34	
Sulfur (S)	37.8	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	2.1	
Boron (B)	0.2	0.1-0.5	Soluble Salts (1:2), dS/m	0.13	<0.6
Manganese (Mn)	2.6	1.1-6.3			
Zinc (Zn)	10.6	1.0-7.6			
Copper (Cu)	2.5	0.3-0.6			
Iron (Fe)	6.8	2.7-9.4			
Aluminum (Al)	34	<75			
Lead (Pb)	17.2	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

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website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:
Sample ID: Cambridge Loc 19 12-24"
Order Number: 40600
Lab Number: X180928-106
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	75.6
Silt	0.002-0.05	16.8
Clay	<0.002	7.7

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	16.2
Coarse	0.5-1.0	18.8
Medium	0.25-0.5	20.0
Fine	0.10-0.25	15.3
Very Fine	0.05-0.10	5.3

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	9.2
Medium	0.005-0.02	5.4
Fine	0.002-0.005	2.1

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	56.2
1.00	#18	47.0
0.50	#35	36.5
0.25	#60	25.3
0.10	#140	16.7
0.053	#270	13.7
0.02	20 um	8.5
0.005	5 um	5.5
0.002	2 um	4.3

USDA Textural Class: gravelly coarse sandy loam

Gravel Content: (%) 43.8

Soil and Plant Nutrient Testing Laboratory
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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

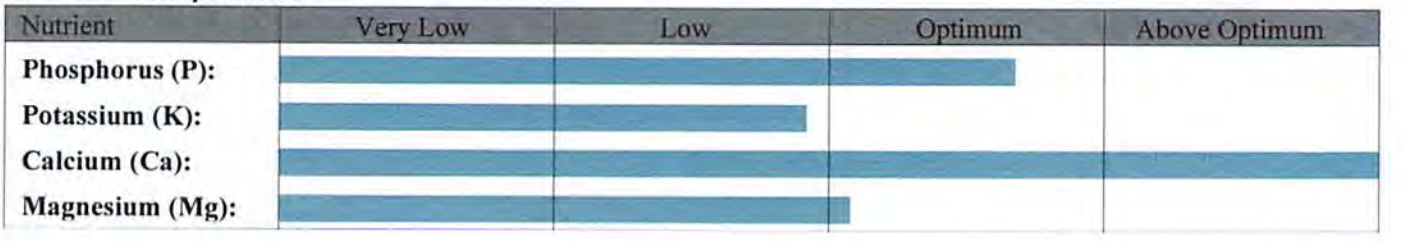
Sample ID: Cambridge Loc #19 24-36"
Order Number: 40085
Lab Number: S180904-430
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	8.4		**Cation Exch. Capacity, meq/100g**	30.8	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	0.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	10.9	4-14	Calcium Base Saturation	98	50-80
Potassium (K)	96	100-160	Magnesium Base Saturation	1	10-30
Calcium (Ca)	6025	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	55	50-120	**Scoop Density, g/cc**	1.36	
Sulfur (S)	72.9	>10	**Optional tests**		
Micronutrients *			Soil Organic Matter (LOI), %	1.9	
Boron (B)	0.4	0.1-0.5	Soluble Salts (1:2), dS/m	0.14	<0.6
Manganese (Mn)	4.0	1.1-6.3			
Zinc (Zn)	11.0	1.0-7.6			
Copper (Cu)	4.0	0.3-0.6			
Iron (Fe)	14.7	2.7-9.4			
Aluminum (Al)	36	<75			
Lead (Pb)	25.0	<22			

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 19-24-36"

Order Number: 40600
Lab Number: X180928-107
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	77.1
Silt	0.002-0.05	15.0
Clay	<0.002	7.9

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	19.3
Coarse	0.5-1.0	20.3
Medium	0.25-0.5	20.2
Fine	0.10-0.25	13.1
Very Fine	0.05-0.10	4.2

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	7.7
Medium	0.005-0.02	5.5
Fine	0.002-0.005	1.8

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	39.6
1.00	#18	32.0
0.50	#35	23.9
0.25	#60	15.9
0.10	#140	10.7
0.053	#270	9.1
0.02	20 um	6.0
0.005	5 um	3.8
0.002	2 um	3.1

USDA Textural Class: gravelly coarse sandy loam

Gravel Content: (%) 60.4

Soil Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11910
Unique ID: Cambridge Loc 20
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Assay Name	Result	Units	Desired Level	Commentary
Organism Biomass Data				
Dry Weight	**0.92**	N/A	0.45 to 0.85	Add organic matter to build soil structure, increase water holding capacity.
Active Fungi	**21.91**	µg/g	> 150.00	Fungal activity low, foods may be required. -
Total Fungi	**387.37**	µg/g	> 1,500.00	Low fungal biomass, foods and biology may be required. -
Hyphal Diameter	3.25	µm	> 2.50	Disease suppressive fungi likely present. -
Active Bacteria	**23.37**	µg/g	> 30.00	Bacterial activity low, foods may be required.
Total Bacteria	571.98	µg/g	> 300.00	Good bacterial biomass. -
Actinobacteria	0.00	µg/g		
Organism Biomass Ratios				
TF:TB	**0.68**		5.00 to 10.00	Too bacterial for indicated plant.
AF:TF	**0.06**		> 0.10	Low fungal activity, foods may be required.
AB:TB	**0.04**		> 0.10	Low bacterial activity, foods may be required.
AF:AB	**0.94**		5.00 to 10.00	Bacterial dominated, becoming more bacterial.
Protozoa (Protists)				
Flagellates	30,058.42	number/g	> 20,000.00	Lacking species diversity.
Amoebae	**4,993.48**	number/g	> 20,000.00	
Ciliates	49.87	number/g	< 351.00	
Nitrogen Cycling Potential	100-150	lbs/acre		Nitrogen levels dependent on plant needs. Estimated availability over a 3 month period
Nematodes				
Nematodes	**1.55**	number/g	> 10.00	Low numbers, low diversity. Root feeding nematodes are present. Improving soil structure, introducing predatory nematodes and increasing mycorrhizal colonization can help suppress root feeders.
Bacterial	**0.46**	number/g	> 4.00	
Fungal	**0.92**	number/g	> 4.00	
Fungal/Root	0.17	number/g	< 1.00	
Predatory	**0.00**	number/g	> 2.00	
Root	0.00	number/g	< 1.00	
Mycorrhizal Fungi				
ENDO		%	> 40	-
ECTO	**29.00**	%	> 40	Low colonization, foods may be required.
Ericoid		%	> 40	
Miscellaneous Testing				
E.coli	Not Ordered	CFU/g	< 800.00	For most areas, the maximum E.coli CFU/g is 800 - 1000. Please check your local regulations for more information. -
pH	Not Ordered			
Organic Matter	Not Ordered			
Electrical Conductivity	Not Ordered	µS/cm	< 1000.00	

Soil Notes:
Varied irrigation method

Nematode Detail

Report prepared for:
F2 Environmental Design
Eric T. Fleisher
PO Box 292
null
Pottersville, NJ 07979 USA

For interpretation of this report please contact your local Soil Steward or the lab.

Report Sent:
Sample #: 03-11910
Unique ID: Cambridge Loc 20
Plant: trees
Season: summer
Invoice Number: 4688
Sample Recieved: 06 Sep 2018

 # per gram
Classified by type and identified to genus.
If section is blank, no nematodes identified.

SOIL FOODWEB NEW YORK
17 Clinton St.
Center Moriches, NY 11934 United States
631-750-1553
soilfoodwebny@aol.com
http://soilfoodwebnewyork.com

Nematode Genus	number/g	Units	Group	Common Name
Cephalobus	0.29	number/g	Bacterial Feeders	
Rhabditidae	0.17	number/g	Bacterial Feeders	
Aporcelaimus	0.35	number/g	Fungal Feeders	
Eudorylaimus	0.40	number/g	Fungal Feeders	
Paraxonchium	0.17	number/g	Fungal Feeders	
Aphelenchus	0.17	number/g	Fungal/Root Feeders	

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #20 0-12"
Order Number: 40085
Lab Number: S180904-431
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.0	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	4.9	4-14
Potassium (K)	66	100-160
Calcium (Ca)	1076	1000-1500
Magnesium (Mg)	56	50-120
Sulfur (S)	11.2	>10
Micronutrients *		
Boron (B)	0.1	0.1-0.5
Manganese (Mn)	4.8	1.1-6.3
Zinc (Zn)	7.0	1.0-7.6
Copper (Cu)	0.7	0.3-0.6
Iron (Fe)	8.9	2.7-9.4
Aluminum (Al)	78	<75
Lead (Pb)	3.7	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	12.4	
Exch. Acidity, meq/100g	6.4	
Base Saturation, %		
Calcium Base Saturation	44	50-80
Magnesium Base Saturation	4	10-30
Potassium Base Saturation	1	2.0-7.0
Scoop Density, g/cc	1.08	
Optional tests		
Soil Organic Matter (LOI), %	5.4	
Soluble Salts (1:2), dS/m	0.09	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
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Phone: (413) 545-2311
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Particle Size Analysis - Comprehensive

Prepared For:
Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:
Sample ID: Cambridge Loc 20 0-12"
Order Number: 40600
Lab Number: X180928-108
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	66.0
Silt	0.002-0.05	22.0
Clay	<0.002	12.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	7.6
Coarse	0.5-1.0	14.4
Medium	0.25-0.5	17.2
Fine	0.10-0.25	11.2
Very Fine	0.05-0.10	15.5

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	13.4
Medium	0.005-0.02	6.7
Fine	0.002-0.005	2.0

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	80.5
1.00	#18	74.4
0.50	#35	62.8
0.25	#60	48.9
0.10	#140	39.9
0.053	#270	27.4
0.02	20 um	16.6
0.005	5 um	11.3
0.002	2 um	9.7

USDA Textural Class: sandy loam

Gravel Content: (%) 19.5

Soil and Plant Nutrient Testing Laboratory
203 Paige Laboratory
161 Holdsworth Way
University of Massachusetts
Amherst, MA 01003
Phone: (413) 545-2311
e-mail: soiltest@umass.edu
website: soiltest.umass.edu

Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #20 12-24"
Order Number: 40085
Lab Number: S180904-432
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

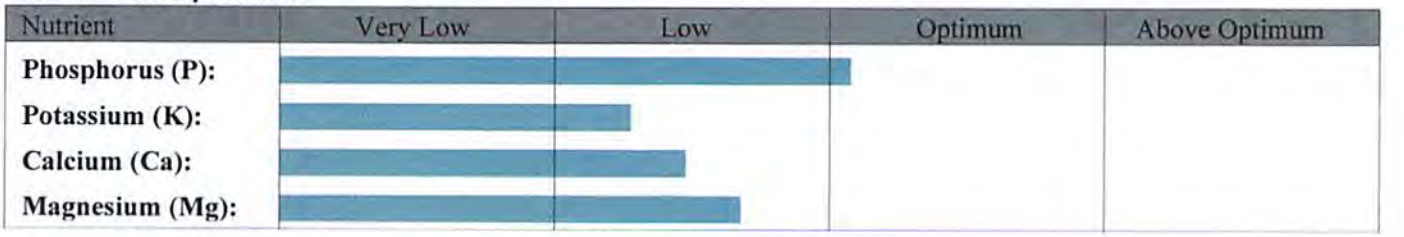
Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.2	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	4.6	4-14
Potassium (K)	63	100-160
Calcium (Ca)	734	1000-1500
Magnesium (Mg)	42	50-120
Sulfur (S)	9.9	>10
Micronutrients *		
Boron (B)	0.1	0.1-0.5
Manganese (Mn)	3.2	1.1-6.3
Zinc (Zn)	3.8	1.0-7.6
Copper (Cu)	0.4	0.3-0.6
Iron (Fe)	7.2	2.7-9.4
Aluminum (Al)	72	<75
Lead (Pb)	2.6	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	9.1	
Exch. Acidity, meq/100g	4.9	
Base Saturation, %		
Calcium Base Saturation	40	50-80
Magnesium Base Saturation	4	10-30
Potassium Base Saturation	2	2.0-7.0
Scoop Density, g/cc	1.14	
Optional tests		
Soil Organic Matter (LOI), %	3.8	
Soluble Salts (1:2), dS/m	0.07	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Particle Size Analysis - Comprehensive

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc 20 12-24"
Order Number: 40600
Lab Number: X180928-109
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	69.5
Silt	0.002-0.05	23.4
Clay	<0.002	7.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	11.9
Coarse	0.5-1.0	17.7
Medium	0.25-0.5	18.8
Fine	0.10-0.25	14.9
Very Fine	0.05-0.10	6.3

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	13.1
Medium	0.005-0.02	7.6
Fine	0.002-0.005	2.6

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.9
1.00	#18	68.6
0.50	#35	54.8
0.25	#60	40.2
0.10	#140	28.6
0.053	#270	23.7
0.02	20 um	13.5
0.005	5 um	7.6
0.002	2 um	5.6

USDA Textural Class: coarse sandy loam

Gravel Content: (%) 22.1

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Soil Test Report

Prepared For:

Andrea Fillippone
F2 Environmental Design
PO Box 292
Pottersville, NJ 07979

andrea@f2environmentaldesign.com
908-413-1957

Sample Information:

Sample ID: Cambridge Loc #20 24-36"
Order Number: 40085
Lab Number: S180904-433
Area Sampled:
Received: 9/4/2018
Reported: 9/13/2018

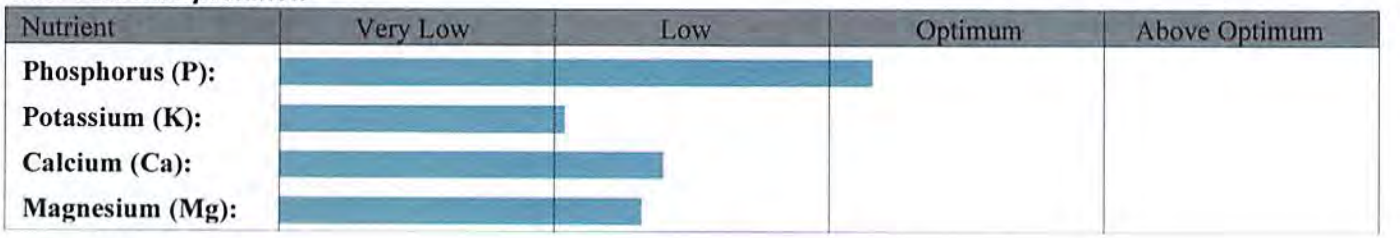
Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.5	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	5.5	4-14
Potassium (K)	51	100-160
Calcium (Ca)	692	1000-1500
Magnesium (Mg)	33	50-120
Sulfur (S)	8.2	>10
Micronutrients *		
Boron (B)	0.1	0.1-0.5
Manganese (Mn)	3.1	1.1-6.3
Zinc (Zn)	3.6	1.0-7.6
Copper (Cu)	0.3	0.3-0.6
Iron (Fe)	5.7	2.7-9.4
Aluminum (Al)	54	<75
Lead (Pb)	2.2	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	7.0	
Exch. Acidity, meq/100g	3.1	
Base Saturation, %		
Calcium Base Saturation	49	50-80
Magnesium Base Saturation	4	10-30
Potassium Base Saturation	2	2.0-7.0
Scoop Density, g/cc	1.16	
Optional tests		
Soil Organic Matter (LOI), %	2.7	
Soluble Salts (1:2), dS/m	0.06	<0.6

* *Micronutrient deficiencies rarely occur in New England soils; therefore, an Optimum Range has never been defined. Values provided represent the normal range found in soils and are for reference only.*

Soil Test Interpretation



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Particle Size Analysis - Comprehensive

Prepared For:

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908-413-1957

Sample Information:

Sample ID: Cambridge Loc 20 24-36"
Order Number: 40600
Lab Number: X180928-110
Received: 9/28/2018
Reported: 10/9/2018

USDA Size Fraction

Main Fractions	Size (mm)	Percent
Sand	0.05-2.0	76.3
Silt	0.002-0.05	17.6
Clay	<0.002	6.1

Sand Fractions	Size (mm)	Percent
Very Coarse	1.0-2.0	15.2
Coarse	0.5-1.0	20.5
Medium	0.25-0.5	19.2
Fine	0.10-0.25	14.8
Very Fine	0.05-0.10	6.5

Silt Fractions	Size (mm)	Percent
Coarse	0.02-0.05	9.2
Medium	0.005-0.02	6.9
Fine	0.002-0.005	1.6

Percent of Whole Sample Passing

Size (mm)	Sieve #	Whole Sample % of Sample Passing
2.00	#10	77.3
1.00	#18	65.6
0.50	#35	49.7
0.25	#60	34.8
0.10	#140	23.4
0.053	#270	18.4
0.02	20 um	11.3
0.005	5 um	5.9
0.002	2 um	4.7

USDA Textural Class: loamy coarse sand

Gravel Content: (%) 22.7