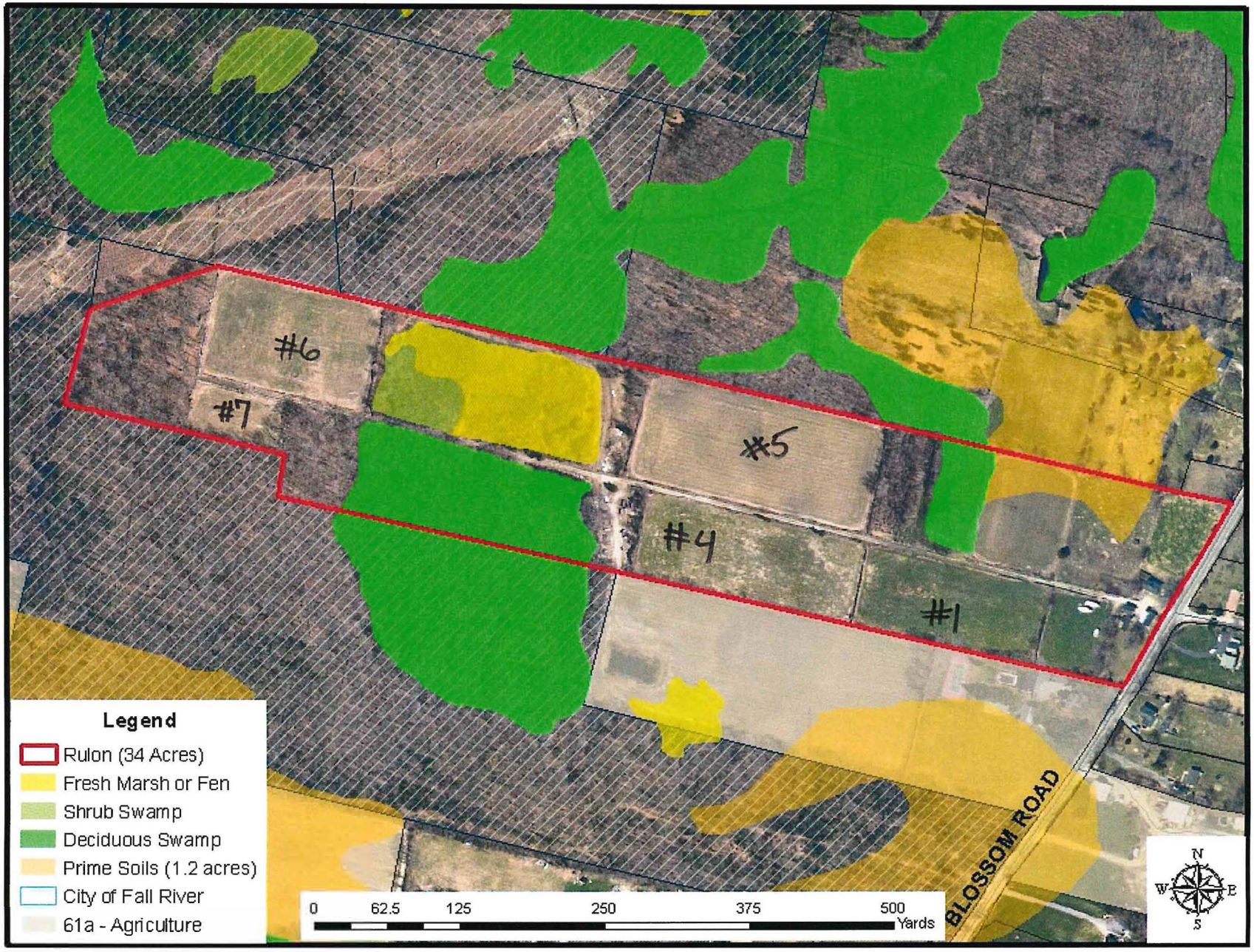
Rulon Property - Soil Sample Locations

note: Numbers on this map correspond to attached Sample ID#s. There are no samples or results for #2 and #3, which are also not included on the map.



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:

Brendan Buckless
Westport Land Conservation Trust
830 Drift Rd
Westport, MA 02790

brendan@westportlandtrust.org
508-636-9228

Sample Information:

Sample ID: Rulon #1

Order Number: 33995
Lab Number: S171101-106
Area Sampled: 1.7 acres
Received: 11/1/2017
Reported: 11/8/2017

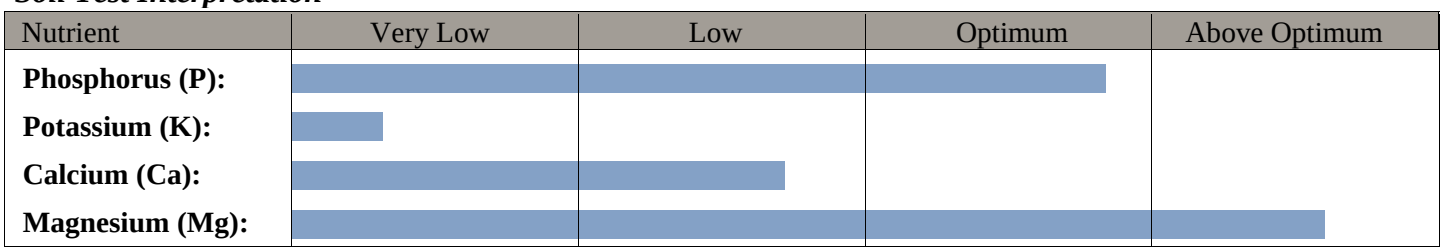
Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.5	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	12.3	4-14
Potassium (K)	15	100-160
Calcium (Ca)	860	1000-1500
Magnesium (Mg)	167	50-120
Sulfur (S)	7.3	>10
Micronutrients *		
Boron (B)	0.1	0.1-0.5
Manganese (Mn)	1.3	1.1-6.3
Zinc (Zn)	0.4	1.0-7.6
Copper (Cu)	2.2	0.3-0.6
Iron (Fe)	40.6	2.7-9.4
Aluminum (Al)	105	<75
Lead (Pb)	0.7	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	9.6	
Exch. Acidity, meq/100g	3.9	
Base Saturation, %		
Calcium Base Saturation	45	50-80
Magnesium Base Saturation	14	10-30
Potassium Base Saturation	0	2.0-7.0
Scoop Density, g/cc	0.98	

* *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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Recommendations for Grass Pasture - Maintenance

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	50	20	120

Comments:

Recommendations for Apples - Establishment

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	50 - 60	0	225

Comments:

-Prior to planting, incorporate recommended P2O5 and K2O into the top 6 to 8 inches over the anticipated root zone of trees. After newly planted trees have set, broadcast nitrogen in a wide circle around trees.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.

References:

New England Tree Fruit Management Guide http://extension.umass.edu/fruitadvisor/publications/new-england-tree-fruit-management-guide

Recommendations for Apples - Maintenance

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	30 - 40	0	175

Comments:

-Broadcast recommended nitrogen, P205, and K2O three to four weeks prior to bloom. Increase nitrogen recommendation slightly if planting in sod.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.
-Soil testing can only provide a rough approximation of nutrient availability to tree root systems. The recommendations provided are a first step in improving soil fertility. To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

New England Tree Fruit Management Guide http://extension.umass.edu/fruitadvisor/publications/new-england-tree-fruit-management-guide

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Recommendations for Blueberries - Establishment

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	10 - 15	0	125

Comments:

-Soil pH is too high for blueberries. Consider growing a different crop in this soil.
-Do not fertilize when planting.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

Recommendations for Blueberries - Maintenance

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	40 - 60	0	100

Comments:

-Split the recommended nitrogen application between May and June. Adding nitrogen fertilizer after early July can increase winter injury and result in disease problems.
-Soil pH is too high for blueberries. It may be difficult to adjust the pH of this soil, especially if it is heavily mulched.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.
-To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

Recommendations for Pumpkins

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	110 - 140	25	200

Comments:

-If planting under cool soil conditions, apply 20 to 30 lbs P2O5/acre as a starter.
-Total N and K2O in the band should not exceed 5.5 lb./1000 ft of row. Banded P2O5 may not be of benefit in warm soils.
-Consult the New England Vegetable Management Guide for more information regarding timing and placement of amendments.

References:

New England Vegetable Management Guide http://www.nevegetable.org

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UMass Extension Nutrient Management	http://ag.umass.edu/agriculture-resources/nutrient-management

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Soil Test Report

Prepared For:

Brendan Buckless
Westport Land Conservation Trust
830 Drift Rd
Westport, MA 02790

brendan@westportlandtrust.org
508-636-9228

Sample Information:
Sample ID: Rulon #4

Order Number: 33995
Lab Number: S171101-107
Area Sampled: 1.2 acres
Received: 11/1/2017
Reported: 11/8/2017

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.5		**Cation Exch. Capacity, meq/100g**	5.0	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	2.0	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	1.5	4-14	Calcium Base Saturation	46	50-80
Potassium (K)	10	100-160	Magnesium Base Saturation	14	10-30
Calcium (Ca)	462	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	86	50-120	**Scoop Density, g/cc**	1.12	
Sulfur (S)	5.1	>10			
Micronutrients *					
Boron (B)	0.1	0.1-0.5			
Manganese (Mn)	0.5	1.1-6.3			
Zinc (Zn)	0.3	1.0-7.6			
Copper (Cu)	0.2	0.3-0.6			
Iron (Fe)	2.6	2.7-9.4			
Aluminum (Al)	63	<75			
Lead (Pb)	0.4	<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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Recommendations for Grass/Alfalfa Hay; 60-100% legume-Establishment

Limestone (Target pH of 7.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
2000	0	130	240

Comments:

-Calcitic limestone is acceptable since soil magnesium levels are sufficient.
-Apply half the recommended K2O at seeding, and the remainder after the second cut.
-Use a fertilizer containg boron to supply 1-2 lb/acre of boron annually.

Recommendations for Grass/Alfalfa Hay; 60-100% legume-Maintenance

Limestone (Target pH of 7.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
2000	0	90	280

Comments:

-Calcitic limestone is acceptable since soil magnesium levels are sufficient.
-Apply half the recommended K2O after the first cut, and the remainder after the second or third cut.
-Use a fertilizer containg boron to supply 1-2 lb/acre of boron annually.

Recommendations for Apples - Establishment

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	50 - 60	120	225

Comments:

-Prior to planting, incorporate recommended P2O5 and K2O into the top 6 to 8 inches over the anticipated root zone of trees. After newly planted trees have set, broadcast nitrogen in a wide circle around trees.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.

References:

New England Tree Fruit Management Guide http://extension.umass.edu/fruitadvisor/publications/new-england-tree-fruit-management-guide

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Recommendations for Apples - Maintenance

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	30 - 40	90	175

Comments:

-Broadcast recommended nitrogen, P205, and K2O three to four weeks prior to bloom. Increase nitrogen recommendation slightly if planting in sod.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.
-Soil testing can only provide a rough approximation of nutrient availability to tree root systems. The recommendations provided are a first step in improving soil fertility. To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

New England Tree Fruit Management Guide http://extension.umass.edu/fruitadvisor/publications/new-england-tree-fruit-management-guide

Recommendations for Blueberries - Establishment

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	10 - 15	60	125

Comments:

-Soil pH is too high for blueberries. Consider growing a different crop in this soil.
-Do not fertilize when planting.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

Recommendations for Blueberries - Maintenance

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	40 - 60	0	100

Comments:

-Split the recommended nitrogen application between May and June. Adding nitrogen fertilizer after early July can increase winter injury and result in disease problems.
-Soil pH is too high for blueberries. It may be difficult to adjust the pH of this soil, especially if it is heavily mulched.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.
-To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

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Recommendations for Pumpkins

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	110 - 140	150	200

Comments:

-Total N and K2O in the band should not exceed 5.5 lb./1000 ft of row. Banded P2O5 may not be of benefit in warm soils.
-Consult the New England Vegetable Management Guide for more information regarding timing and placement of amendments.

References:

New England Vegetable Management Guide	http://www.nevegetable.org

General References:

Interpreting Your Soil Test Results	http://soiltest.umass.edu/fact-sheets/interpreting-your-soil-test-results
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UMass Extension Nutrient Management	http://ag.umass.edu/agriculture-resources/nutrient-management

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Soil Test Report

Prepared For:

Brendan Buckless
Westport Land Conservation Trust
830 Drift Rd
Westport, MA 02790

brendan@westportlandtrust.org
508-636-9228

Sample Information:

Sample ID: Rulon #5

Order Number: 33995
Lab Number: S171101-108
Area Sampled: 3.4 acres
Received: 11/1/2017
Reported: 11/8/2017

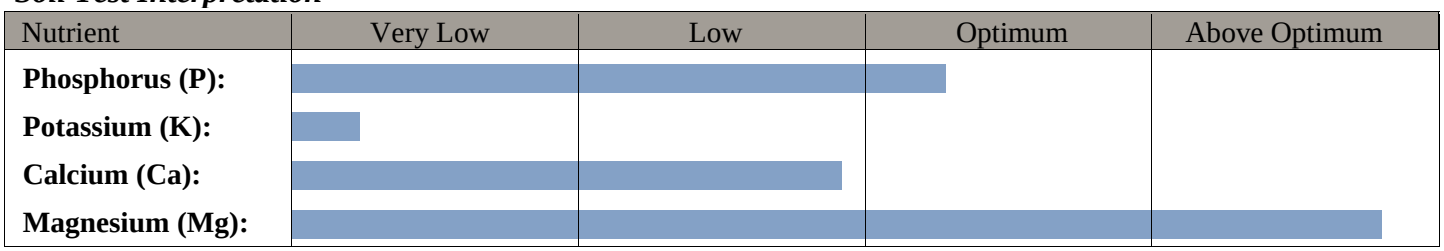
Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	6.8	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	7.0	4-14
Potassium (K)	13	100-160
Calcium (Ca)	959	1000-1500
Magnesium (Mg)	184	50-120
Sulfur (S)	8.3	>10
Micronutrients *		
Boron (B)	0.1	0.1-0.5
Manganese (Mn)	0.7	1.1-6.3
Zinc (Zn)	0.2	1.0-7.6
Copper (Cu)	0.2	0.3-0.6
Iron (Fe)	3.8	2.7-9.4
Aluminum (Al)	79	<75
Lead (Pb)	0.6	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	7.6	
Exch. Acidity, meq/100g	1.2	
Base Saturation, %		
Calcium Base Saturation	63	50-80
Magnesium Base Saturation	20	10-30
Potassium Base Saturation	0	2.0-7.0
Scoop Density, g/cc	0.98	

* *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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Recommendations for Grass/Clover or Trefoil; 20-60% legume-Maintenance

Yield Goal: 14.0 tons / Acre

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	60	30	240

Comments:

-Alsike Clover is not recommended for seeding in Massachusetts due to adverse health issues for animals ingesting these plants. Birdsfoot Trefoil is not recommended in Massachusetts due to its aggressive growth characteristics in poorly drained soils.
-Apply half the recommended K2O after the first cut, and the remainder after the second or third cut.

Recommendations for Apples - Establishment

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	50 - 60	40	225

Comments:

-Prior to planting, incorporate recommended P2O5 and K2O into the top 6 to 8 inches over the anticipated root zone of trees. After newly planted trees have set, broadcast nitrogen in a wide circle around trees.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.

References:

New England Tree Fruit Management Guide http://extension.umass.edu/fruitadvisor/publications/new-england-tree-fruit-management-guide

Recommendations for Apples - Maintenance

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	30 - 40	0	175

Comments:

-Broadcast recommended nitrogen, P205, and K2O three to four weeks prior to bloom. Increase nitrogen recommendation slightly if planting in sod.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.
-Soil testing can only provide a rough approximation of nutrient availability to tree root systems. The recommendations provided are a first step in improving soil fertility. To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

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Recommendations for Blueberries - Establishment

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	10 - 15	20	125

Comments:

-Soil pH is too high for blueberries. Consider growing a different crop in this soil.
-Do not fertilize when planting.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

Recommendations for Blueberries - Maintenance

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	40 - 60	0	100

Comments:

-Split the recommended nitrogen application between May and June. Adding nitrogen fertilizer after early July can increase winter injury and result in disease problems.
-Soil pH is too high for blueberries. It may be difficult to adjust the pH of this soil, especially if it is heavily mulched.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.
-To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

Recommendations for Potatoes

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	120 - 180	90	300

Comments:

-Soil pH is relatively high for potatoes. Consider planting scab resistant varieties.
-Consult the New England Vegetable Management Guide for more information regarding timing and placement of amendments.

References:

New England Vegetable Management Guide http://www.nevegetable.org

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Soil Test Report

Prepared For:

Brendan Buckless
Westport Land Conservation Trust
830 Drift Rd
Westport, MA 02790

brendan@westportlandtrust.org
508-636-9228

Sample Information:

Sample ID: Rulon #6

Order Number: 33995
Lab Number: S171101-109
Area Sampled: 2.4 acres
Received: 11/1/2017
Reported: 11/8/2017

Results

Analysis	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.4	
Modified Morgan extractable, ppm		
Macronutrients		
Phosphorus (P)	0.9	4-14
Potassium (K)	25	100-160
Calcium (Ca)	348	1000-1500
Magnesium (Mg)	93	50-120
Sulfur (S)	9.9	>10
Micronutrients *		
Boron (B)	0.0	0.1-0.5
Manganese (Mn)	1.2	1.1-6.3
Zinc (Zn)	0.5	1.0-7.6
Copper (Cu)	0.3	0.3-0.6
Iron (Fe)	14.2	2.7-9.4
Aluminum (Al)	227	<75
Lead (Pb)	1.9	<22

Analysis	*Value Found*	*Optimum Range*
Cation Exch. Capacity, meq/100g	9.6	
Exch. Acidity, meq/100g	7.0	
Base Saturation, %		
Calcium Base Saturation	18	50-80
Magnesium Base Saturation	8	10-30
Potassium Base Saturation	1	2.0-7.0
Scoop Density, g/cc	0.95	

* *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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Recommendations for Grass/Clover or Trefoil; 20-60% legume-Maintenance

Yield Goal: 10.0 tons / Acre

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
5000	60	140	240

Comments:

-Calcitic limestone is acceptable since soil magnesium levels are sufficient.
-Alsike Clover is not recommended for seeding in Massachusetts due to adverse health issues for animals ingesting these plants. Birdsfoot Trefoil is not recommended in Massachusetts due to its aggressive growth characteristics in poorly drained soils.
-Apply half the recommended K2O after the first cut, and the remainder after the second or third cut.

Recommendations for Apples - Establishment

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
5000	50 - 60	120	225

Comments:

-Incorporate ground limestone into the top 6-10 inches of soil as early as possible before planting.
-Prior to planting, incorporate recommended P2O5 and K2O into the top 6 to 8 inches over the anticipated root zone of trees. After newly planted trees have set, broadcast nitrogen in a wide circle around trees.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.

References:

New England Tree Fruit Management Guide http://extension.umass.edu/fruitadvisor/publications/new-england-tree-fruit-management-guide

Recommendations for Apples - Maintenance

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
5000	30 - 40	90	175

Comments:

-Broadcast recommended nitrogen, P205, and K2O three to four weeks prior to bloom. Increase nitrogen recommendation slightly if planting in sod.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.
-Soil testing can only provide a rough approximation of nutrient availability to tree root systems. The recommendations provided are a first step in improving soil fertility. To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

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Recommendations for Blueberries - Establishment

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	10 - 15	60	125

Comments:

-Your soil pH is higher than desired. Consult the New England Small Fruit Management Guide for amount of sulfur required to lower pH.
-Do not fertilize when planting.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

Recommendations for Blueberries - Maintenance

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	40 - 60	0	100

Comments:

-Split the recommended nitrogen application between May and June. Adding nitrogen fertilizer after early July can increase winter injury and result in disease problems.
-Your soil pH is higher than desired. Consult the New England Small Fruit Management Guide for amount of sulfur required to lower pH.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.
-To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

Recommendations for Potatoes

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	120 - 180	200	300

Comments:

-Soil pH is relatively high for potatoes. Consider planting scab resistant varieties.
-Consult the New England Vegetable Management Guide for more information regarding timing and placement of amendments.

References:

New England Vegetable Management Guide http://www.nevegetable.org

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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

General References:

Interpreting Your Soil Test Results	http://soiltest.umass.edu/fact-sheets/interpreting-your-soil-test-results
For current information and order forms, please visit	http://soiltest.umass.edu/
UMass Extension Nutrient Management	http://ag.umass.edu/agriculture-resources/nutrient-management

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Soil Test Report

Prepared For:

Brendan Buckless
Westport Land Conservation Trust
830 Drift Rd
Westport, MA 02790

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508-636-9228

Sample Information:

Sample ID: Rulon #7

Order Number: 33995
Lab Number: S171101-110
Area Sampled: 0.45 acres
Received: 11/1/2017
Reported: 11/8/2017

Results

Analysis	*Value Found*	*Optimum Range*	*Analysis*	*Value Found*	*Optimum Range*
Soil pH (1:1, H2O)	5.8		**Cation Exch. Capacity, meq/100g**	6.6	
Modified Morgan extractable, ppm			**Exch. Acidity, meq/100g**	5.1	
Macronutrients			**Base Saturation, %**		
Phosphorus (P)	0.2	4-14	Calcium Base Saturation	16	50-80
Potassium (K)	14	100-160	Magnesium Base Saturation	7	10-30
Calcium (Ca)	209	1000-1500	Potassium Base Saturation	1	2.0-7.0
Magnesium (Mg)	56	50-120	**Scoop Density, g/cc**	1.01	
Sulfur (S)	12.2	>10			
Micronutrients *					
Boron (B)	0.0	0.1-0.5			
Manganese (Mn)	0.5	1.1-6.3			
Zinc (Zn)	0.3	1.0-7.6			
Copper (Cu)	0.1	0.3-0.6			
Iron (Fe)	14.1	2.7-9.4			
Aluminum (Al)	208	<75			
Lead (Pb)	0.9	<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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Recommendations for Grass/Clover or Trefoil; 60-100% legume-Establishment

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
3000	0	150	220

Comments:

-Calcitic limestone is acceptable since soil magnesium levels are sufficient.
-Alsike Clover is not recommended for seeding in Massachusetts due to adverse health issues for animals ingesting these plants. Birdsfoot Trefoil is not recommended in Massachusetts due to its aggressive growth characteristics in poorly drained soils.
-Apply half the recommended K2O at seeding, and the remainder after the second cut.

Recommendations for Grass/Clover or Trefoil; 60-100% legume-Maintenance

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
3000	0	150	220

Comments:

-Calcitic limestone is acceptable since soil magnesium levels are sufficient.
-Alsike Clover is not recommended for seeding in Massachusetts due to adverse health issues for animals ingesting these plants. Birdsfoot Trefoil is not recommended in Massachusetts due to its aggressive growth characteristics in poorly drained soils.
-Apply half the recommended K2O after the first cut, and the remainder after the second or third cut.

Recommendations for Apples - Establishment

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
3000	50 - 60	120	225

Comments:

-Incorporate ground limestone into the top 6-10 inches of soil as early as possible before planting.
-Prior to planting, incorporate recommended P2O5 and K2O into the top 6 to 8 inches over the anticipated root zone of trees. After newly planted trees have set, broadcast nitrogen in a wide circle around trees.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.

References:

New England Tree Fruit Management Guide http://extension.umass.edu/fruitadvisor/publications/new-england-tree-fruit-management-guide

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Recommendations for Apples - Maintenance

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
3000	30 - 40	90	175

Comments:

-Broadcast recommended nitrogen, P205, and K2O three to four weeks prior to bloom. Increase nitrogen recommendation slightly if planting in sod.
-Consult the New England Tree Fruit Management Guide for more information regarding timing and placement of amendments.
-Soil testing can only provide a rough approximation of nutrient availability to tree root systems. The recommendations provided are a first step in improving soil fertility. To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

New England Tree Fruit Management Guide http://extension.umass.edu/fruitadvisor/publications/new-england-tree-fruit-management-guide

Recommendations for Blueberries - Establishment

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	10 - 15	60	125

Comments:

-Your soil pH is higher than desired. Consult the New England Small Fruit Management Guide for amount of sulfur required to lower pH.
-Do not fertilize when planting.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

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Recommendations for Blueberries - Maintenance

Limestone (Target pH of 5.0)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
0	40 - 60	0	100

Comments:

-Split the recommended nitrogen application between May and June. Adding nitrogen fertilizer after early July can increase winter injury and result in disease problems.
-Your soil pH is higher than desired. Consult the New England Small Fruit Management Guide for amount of sulfur required to lower pH.
-Consult the New England Small Fruit Pest Management Guide for more information regarding timing and placement of amendments.
-To optimize fruit production, obtain leaf samples for tissue analysis. See page 2 of the Plant Tissue Submission Form at soiltest.umass.edu/ordering-information for sampling instructions.

References:

New England Small Fruit Management Guide http://extension.umass.edu/fruitadvisor/ne-small-fruit-management-guide

Recommendations for Peas

Limestone (Target pH of 6.5)	Nitrogen, N	Phosphorus, P2O5	Potassium, K2O
	lbs / acre		
3000	50 - 75	150	150

Comments:

-Do not apply more than 1 ton per acre limestone at one time. Split the above application between early spring and mid-autumn.
-Calcitic limestone is acceptable since soil magnesium level is sufficient.
-Sidedressing with 25 lbs nitrogen on early planted peas grown on light soil will improve color and quality of peas. Trellised sugar snaps should be sidedressed when about 3 feet high.
-Consult the New England Vegetable Management Guide for more information regarding timing and placement of amendments.

References:

New England Vegetable Management Guide http://www.nevegetable.org

General References:

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