

SOIL TEST REPORT

AGRICULTURAL & ENVIRONMENTAL TESTING LABORATORY
AND UVM EXTENSION

UNIVERSITY OF VERMONT

LAB NUMBER DATE
L111498 12/12/2011

COUNTY 8
BENNINGTON

FIELD NAME
McWater's mid field

SAMPLE DESCRIPTION

planting: woody ornamentals (specified) HOME GROUNDS
to be planted
soil texture: clay
soil drainage: poor
size of area: < 1 acre

REPORT FOR:

802-753-7288

Avery Wood
116 McCarthy Acres
N Bennington, VT 05257

SOIL TEST RESULTS

		LOW	MEDIUM	OPTIMUM	EXCESSIVE
Avail. phosphate (ppm P)	2.1	*****			
Potash (ppm K)	27	*****			
Magnesium (ppm Mg)	168	*****			
pH	7.3				
Calcium (ppm Ca)	1129				

organic fertilizer and pH information enclosed **

Please refer to the back side for a more detailed description of the test

Based on your soil test, we recommend:

pH
Most plants do well in the pH range of 5.5 to 7.0. Please refer to the enclosed pH information sheet for recommendations for specific types of plants.

Nitrogen, Phosphorus, and Potassium
Commercially sold fertilizer, manure, and composts are labeled by their nitrogen (N), phosphorus (P2O5), and potassium (K2O) content, in that order. For example, a bag of 5-10-10 is 5% N, 10% P2O5, and 10% K2O.

Your soil tested MEDIUM in phosphorus and LOW in potassium.
Use one of the following fertilizers or similar recommendation from your local supplier. These rates will supply about 1/4 lb per 100 sq ft of phosphorus and potassium.

lbs per 100 sq ft	fertilizer analysis
2-3	10-10-10
2-3	5-10-10
5	5-5-5
5	4-6-4
5	5-6-5

Magnesium and Calcium
You do not need to add magnesium at this time.
Your calcium level is sufficient.

Established evergreens, shade trees and shrubs growing in lawn areas may receive sufficient fertilizer from proper lawn fertilization. Lawn fertilizers containing herbicides to kill weeds should not be used around them.

For trees in non-lawn areas, apply fertilizer starting 2 1/2 ft. out from the trunk to a distance extending 25% beyond the spread of the branches. Where roads or sidewalks take up a portion of the area, reduce the amount of fertilizer accordingly. If the rate indicated is in excess of 10 lbs per 100 sq. ft. of area, apply one-half the amount in 2 equal portions at four- to six-week intervals, the first application being early spring. For shrubs in non-lawn areas, broadcast fertilizer around evenly, in 2 intervals as for trees. Alternatively, fertilizer stakes can be used according to package directions.

=> If you have questions about your soil test, please read both sides of this report carefully
If you still have questions, call the UVM Extension Master Gardening Helpline;
from Burlington: 656-5421; from all other parts of the state: 1-800-639-2230

INTERPRETATION OF SOIL TEST RESULTS

Test Level

LOW: A low test result indicates a need for substantial addition of fertilizer, compost, or manure to raise soil test levels. Added nutrients are required for proper plant growth and health. Low pH indicates a need for lime, unless you are growing acid-loving plants such as blueberries or azaleas.

MEDIUM: A medium test result suggests that a moderate amount of added fertilizer, compost, or manure is needed for best results. Nutrient levels are lower than optimum for most types of plants.

OPTIMUM: Your soil test result is good. Small additions of fertilizer, compost, or manure may be necessary to maintain these levels or for demanding crops. Small amounts of phosphorus in the plant row may be helpful in early spring plantings.

EXCESSIVE: Soil test levels are higher than needed for optimum growth. Excess nutrients are a potential source for environmental problems such as accelerated algal growth in ponds and lakes. Occasionally there will be plant growth problems due to nutrient imbalance.

Result category descriptions

pH is a measure of soil acidity, with lower numbers being more acid. Most plants grow well between pH 6.0 and 7.5, although acid-loving plants such as azalea or blueberry prefer a lower pH. Soil pH is naturally lowered slowly over time but can be corrected with application of ground limestone or wood ash. If magnesium (Mg) is low, high magnesium (or “dolomitic”) limestone should be used.

Available phosphorus (P) reflects the amount of P that can easily be utilized for plant growth. Phosphorus is readily tied up in soils, especially acid soils and those with pH's above 7.0. Because plants are not efficient at taking up P when soils are cold, placing P near the roots where it's needed can be beneficial to early season plant growth.

Potassium (K or potash), Magnesium (Mg), and Calcium (Ca) are all plant nutrients that exist in the soil as positively charged ions or “cations.” Potassium is frequently deficient in non-clay soils and, therefore, is a common ingredient in mixed fertilizers. Most soils that are limed to the proper pH provide adequate calcium. Magnesium can be low in sandy soils but often quite high in “heavier,” clay soils.

Nitrogen (N) recommendations are based on general N needs of various plants, rather than on a soil test. Nitrogen soil tests are not reliable for most plants.

Commercial grower results

Effective CEC (cation exchange capacity) is based on the soil test quantities of Ca, Mg, and K. CEC reflects the ability of soil to “hold” these cations. A normal range is from below 5 in sandy soils low in organic matter to over 20 in clayey soils or those high in organic matter. **Base Saturation Ratio** describes the relative proportions of Ca, Mg, and K that are held by soil particles. A wide range is acceptable, but an ideal ratio is 20:4:1 in soils above pH 6.0. **Aluminum** is not a plant nutrient but is used as an indicator of both lime and phosphorus needs.

UVM AGRICULTURAL TESTING LAB ANALYSIS RESULTS

L 111498 12/12/2011

LAB # Date Completed

PACKAGE 1 MICRONUTRIENTS * (ppm in soil)

		Your results	Avg. levels in Vermont soils
Sodium	(Na)	17.0	20.0
Iron	(Fe)	1.7	7.0
Boron	(B)	0.2	0.3
Manganese	(Mn)	4.5	14.0
Copper	(Cu)	<.2	0.4
Zinc	(Zn)	<.5	1.0
Sulfur	(S)	4.0	

* Micronutrients are not usually deficient in Vermont soils. The average levels are provided for comparison only and are not necessarily optimum levels for plant growth. Additions of micronutrient fertilizers should be done with caution because of the narrow range between deficiency and toxicity. Organic residues such as manure, are usually good sources of micronutrients.

PACKAGE 2 METALS ** (ppm in soil)

		Your results	Normal levels	High levels
Copper	(Cu)	<.2	0.5	more than 10
Cadmium	(Cd)	<.2	0.2	more than 2
Chromium	(Cr)	<.5	1.0	more than 20
Zinc	(Zn)	<.5	10	more than 80
Nickel	(Ni)	<.5	1.0	more than 20
Lead	(Pb)	<.5	1.0	more than 50

** Normal levels are given for comparisons. Results higher than normal but lower than the "high level" are not considered dangerous for growing vegetables.

% Organic Matter 2.5

%Ca	%K	%Mg
79.3	1.0	19.7

SOIL TEST REPORT

AGRICULTURAL & ENVIRONMENTAL TESTING LABORATORY
AND UVM EXTENSION

UNIVERSITY OF VERMONT

LAB NUMBER

DATE

L111497

12/12/2011

COUNTY

BENNINGTON

13

FIELD NAME

McWater's riverbank

SAMPLE DESCRIPTION

* planting: woody ornamentals (specified) HOME GROUNDS
to be planted
soil texture: sandy
soil drainage: good
size of area: < 1 acre

REPORT FOR:

802-753-7288

Avery Wood
116 McCarthy Acres
N Bennington, VT 05257

SOIL TEST RESULTS

	LOW	MEDIUM	OPTIMUM	EXCESSIVE
Avail. phosphate (ppm P)	2.0	*****		
Potash (ppm K)	23	*****		
Magnesium (ppm Mg)	165	*****		
pH	7.1			
Calcium (ppm Ca)	1408			

organic fertilizer and pH information enclosed **

Please refer to the back side for a more detailed description of the test

Based on your soil test, we recommend:

pH
Most plants do well in the pH range of 5.5 to 7.0. Please refer to the enclosed pH information sheet for recommendations for specific types of plants.

Nitrogen, Phosphorus, and Potassium
Commercially sold fertilizer, manure, and composts are labeled by their nitrogen (N), phosphorus (P2O5), and potassium (K2O) content, in that order. For example, a bag of 5-10-10 is 5% N, 10% P2O5, and 10% K2O.

Your soil tested MEDIUM in phosphorus and LOW in potassium. Use one of the following fertilizers or similar recommendation from your local supplier. These rates will supply about 1/4 lb per 100 sq ft of phosphorus and potassium.

lbs per 100 sq ft	fertilizer analysis
2-3	10-10-10
2-3	5-10-10
5	5-5-5
5	4-6-4
5	5-6-5

Magnesium and Calcium
You do not need to add magnesium at this time. Your calcium level is sufficient.

Established evergreens, shade trees and shrubs growing in lawn areas may receive sufficient fertilizer from proper lawn fertilization. Lawn fertilizers containing herbicides to kill weeds should not be used around them.

For trees in non-lawn areas, apply fertilizer starting 2 1/2 ft. out from the trunk to a distance extending 25% beyond the spread of the branches. Where roads or sidewalks take up a portion of the area, reduce the amount of fertilizer accordingly. If the rate indicated is in excess of 10 lbs per 100 sq. ft. of area, apply one-half the amount in 2 equal portions at four- to six-week intervals, the first application being early spring. For shrubs in non-lawn areas, broadcast fertilizer around evenly, in 2 intervals as for trees. Alternatively, fertilizer stakes can be used according to package directions.

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INTERPRETATION OF SOIL TEST RESULTS

Test Level

LOW: A low test result indicates a need for substantial addition of fertilizer, compost, or manure to raise soil test levels. Added nutrients are required for proper plant growth and health. Low pH indicates a need for lime, unless you are growing acid-loving plants such as blueberries or azaleas.

MEDIUM: A medium test result suggests that a moderate amount of added fertilizer, compost, or manure is needed for best results. Nutrient levels are lower than optimum for most types of plants.

OPTIMUM: Your soil test result is good. Small additions of fertilizer, compost, or manure may be necessary to maintain these levels or for demanding crops. Small amounts of phosphorus in the plant row may be helpful in early spring plantings.

EXCESSIVE: Soil test levels are higher than needed for optimum growth. Excess nutrients are a potential source for environmental problems such as accelerated algal growth in ponds and lakes. Occasionally there will be plant growth problems due to nutrient imbalance.

Result category descriptions

pH is a measure of soil acidity, with lower numbers being more acid. Most plants grow well between pH 6.0 and 7.5, although acid-loving plants such as azalea or blueberry prefer a lower pH. Soil pH is naturally lowered slowly over time but can be corrected with application of ground limestone or wood ash. If magnesium (Mg) is low, high magnesium (or "dolomitic") limestone should be used.

Available phosphorus (P) reflects the amount of P that can easily be utilized for plant growth. Phosphorus is readily tied up in soils, especially acid soils and those with pH's above 7.0. Because plants are not efficient at taking up P when soils are cold, placing P near the roots where it's needed can be beneficial to early season plant growth.

Potassium (K or potash), Magnesium (Mg), and Calcium (Ca) are all plant nutrients that exist in the soil as positively charged ions or "cations." Potassium is frequently deficient in non-clay soils and, therefore, is a common ingredient in mixed fertilizers. Most soils that are limed to the proper pH provide adequate calcium. Magnesium can be low in sandy soils but often quite high in "heavier," clay soils.

Nitrogen (N) recommendations are based on general N needs of various plants, rather than on a soil test. Nitrogen soil tests are not reliable for most plants.

Commercial grower results

Effective CEC (cation exchange capacity) is based on the soil test quantities of Ca, Mg, and K. CEC reflects the ability of soil to "hold" these cations. A normal range is from below 5 in sandy soils low in organic matter to over 20 in clayey soils or those high in organic matter. **Base Saturation Ratio** describes the relative proportions of Ca, Mg, and K that are held by soil particles. A wide range is acceptable, but an ideal ratio is 20:4:1 in soils above pH 6.0. **Aluminum** is not a plant nutrient but is used as an indicator of both lime and phosphorus needs.

UVM AGRICULTURAL TESTING LAB ANALYSIS RESULTS

L 111497 12/12/2011
LAB # Date Completed

PACKAGE 1 MICRONUTRIENTS * (ppm in soil)

		Your results	Avg. levels in Vermont soils
Sodium	(Na)	10.0	20.0
Iron	(Fe)	2.6	7.0
Boron	(B)	0.3	0.3
Manganese	(Mn)	6.1	14.0
Copper	(Cu)	0.3	0.4
Zinc	(Zn)	3.4	1.0
Sulfur	(S)	8.0	

* Micronutrients are not usually deficient in Vermont soils. The average levels are provided for comparison only and are not necessarily optimum levels for plant growth. Additions of micronutrient fertilizers should be done with caution because of the narrow range between deficiency and toxicity. Organic residues such as manure, are usually good sources of micronutrients.

PACKAGE 2 METALS ** (ppm in soil)

		Your results	Normal levels	High levels
Copper	(Cu)	0.3	0.5	more than 10
Cadmium	(Cd)	<.2	0.2	more than 2
Chromium	(Cr)	<.5	1.0	more than 20
Zinc	(Zn)	3.4	10	more than 80
Nickel	(Ni)	<.5	1.0	more than 20
Lead	(Pb)	1.8	1.0	more than 50

** Normal levels are given for comparisons. Results higher than normal but lower than the "high level" are not considered dangerous for growing vegetables.

% Organic Matter 3.5

%Ca	%K	%Mg
83.1	0.7	16.2

SOIL TEST REPORT

AGRICULTURAL & ENVIRONMENTAL TESTING LABORATORY
AND UVM EXTENSION

UNIVERSITY OF VERMONT

LAB NUMBER DATE
L111499 12/12/2011

COUNTY
BENNINGTON 8

FIELD NAME
McWater's grassy uppe

SAMPLE DESCRIPTION

planting: woody ornaments (specified) HOME GROUNDS
to be planted
soil texture: loamy
soil drainage: fair
size of area: < 1 acre

802-753-7288

REPORT FOR:

Avery Wood
116 McCarthy Acres
N Bennington, VT 05257

SOIL TEST RESULTS

	LOW	MEDIUM	OPTIMUM	EXCESSIVE
Avail. phosphate (ppm P)	1.9	*****		
Potash (ppm K)	66	*****		
Magnesium (ppm Mg)	207	*****		
pH	7.0			
Calcium (ppm Ca)	1573			

organic fertilizer and pH information enclosed **

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Based on your soil test, we recommend:

pH
Most plants do well in the pH range of 5.5 to 7.0. Please refer to the enclosed pH information sheet for recommendations for specific types of plants.

Nitrogen, Phosphorus, and Potassium
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lbs per 100 sq ft	fertilizer analysis
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UVM AGRICULTURAL TESTING LAB ANALYSIS RESULTS

L 111499 12/12/2011
LAB # Date Completed

PACKAGE 1 MICRONUTRIENTS * (ppm in soil)

		Your results	Avg. levels in Vermont soils
Sodium	(Na)	20.0	20.0
Iron	(Fe)	1.6	7.0
Boron	(B)	0.4	0.3
Manganese	(Mn)	5.0	14.0
Copper	(Cu)	<.2	0.4
Zinc	(Zn)	<.5	1.0
Sulfur	(S)	5.0	

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PACKAGE 2 METALS ** (ppm in soil)

		Your results	Normal levels	High levels
Copper	(Cu)	<.2	0.5	more than 10
Cadmium	(Cd)	<.2	0.2	more than 2
Chromium	(Cr)	<.5	1.0	more than 20
Zinc	(Zn)	<.5	10	more than 80
Nickel	(Ni)	<.5	1.0	more than 20
Lead	(Pb)	<.5	1.0	more than 50

** Normal levels are given for comparisons. Results higher than normal but lower than the "high level" are not considered dangerous for growing vegetables.

% Organic Matter 4.6

%Ca	%K	%Mg
80.6	1.7	17.7