



# Home Grounds and Gardens

## Soil Report Garden

Lab ID: 13740

Lab Run Date: 04/16/10

### Client Information Staff Contact

Specialist or Field Specialist who reviewed this report  
Address:

Phone:

Email:

### Test Data

			Optimum Range
pH - Soil	7.60		
Calcium, Mehlich 3 (Ca)	5039.80 (ppm)	VH	800 - 1200
Magnesium, Mehlich 3 (Mg)	397.00 (ppm)	H	60 - 120
Potassium, Mehlich 3 (K)	263.00 (ppm)	O	170 - 280
Phosphorus, Mehlich 3 (P)	461.00 (ppm)	VH	30 - 50
Lead, Mehlich 3 (Pb)	4.57 (ppm)	VL	180 - 450
Org. Matter, LOI-360 (OM)	5.85 (%)		

#### Optimum Range Key

VL - Very Low      L - Low      O - Optimal      H - High      VH - Very High

### Recommendations

**Vegetable Garden** (pH range 6.0 - 6.5)

**Sulfur:** Apply 14 lbs of Sulfur per 1000 sq ft and mix thoroughly in the top 4-6 inches.

Nutrient Recommendations			
	Nitrogen	Phosphorus	Potassium
<b>Nutrients Required</b> (lbs per 1,000 sq. ft.)	3	0	3
<b>Credits</b>			
<b>Organic Matter</b>	1	-	-
<b>Apply the equivalent of</b> (per 1,000 sq. ft.)	2 lbs	0 lbs	3 lbs

#### Conventional Fertilizer Recommendations

We recommend that you uniformly broadcast 4.6 lbs per 1,000 sq. ft. of 10-0-10.

A second application of fertilizer ( 12 lbs per 1,000 sq. ft. of 10-0-10) 3-4 weeks after planting or transplanting should be side dressed or applied by banding six inches from the growing plants and if possible, lightly incorporated into the soil

This will result in a total application of 16.6 lbs per 1,000 sq. ft. of 10-0-10.

OR

### Organic Fertilizer Recommendations

An equivalent organic source for 2 lbs of Nitrogen include 33 lbs of soybean meal, OR 15 lbs of dried blood.

An equivalent organic source for 3 lbs of Potash include 14 lbs of sul-po-mag (0-0-22).

Composted manure is an excellent source of all three nutrients, but should not be used as the sole source on a long term basis.

Manure will provide approximately 1 lb of Nitrogen for every 800 lbs of manure applied per 1000 sq. ft. Manures and composts are excellent sources of nutrients, but should not be used as the sole source on A long term basis. Please see the fact sheet.

### **Potatoes** (pH range 6.0 - 6.5)

**Sulfur:** Apply 14 lbs of Sulfur per 1000 sq ft and mix thoroughly in the top 4-6 inches.

<b>Nutrient Recommendations</b>			
	<b>Nitrogen</b>	<b>Phosphorus</b>	<b>Potassium</b>
<b>Nutrients Required</b> (lbs per 1,000 sq. ft.)	3	0	3
<b>Credits</b>			
<b>Organic Matter</b>	1	-	-
<b>Apply the equivalent of</b> (per 1,000 sq. ft.)	2 lbs	0 lbs	3 lbs

### Conventional Fertilizer Recommendations

We recommend that you uniformly broadcast 4.6 lbs per 1,000 sq. ft. of 10-0-10.

A second application of fertilizer ( 12 lbs per 1,000 sq. ft. of 10-0-10) 3-4 weeks after planting or transplanting should be side dressed or applied by banding six inches from the growing plants and if possible, lightly incorporated into the soil

This will result in a total application of 16.6 lbs per 1,000 sq. ft. of 10-0-10.

OR

### Organic Fertilizer Recommendations

An equivalent organic source for 2 lbs of Nitrogen include 33 lbs of soybean meal, OR 15 lbs of dried blood.

An equivalent organic source for 3 lbs of Potash include 14 lbs of sul-po-mag (0-0-22).

Composted manure is an excellent source of all three nutrients, but should not be used as the sole source on a long term basis.

### Comments

As with most other vegetable crops, the desirable pH range for potato growth is 6.0 to 6.5. If common potato scab is a problem consider growing scab resistant potato varieties like Norland, Superior, Norchip, Pike, and Salem. This will allow better crop rotation options for the whole garden.

The above comments are based on growing potatoes in the same garden as other vegetable crops.

If you are growing potatoes in a separate area from other garden crops you can either use scab resistant varieties or lower your soil pH to 5.4 by applying 2 lbs of sulfur per 100 sq. ft.

Manure will provide approximately 1 lb of Nitrogen for every 800 lbs of manure applied per 1000 sq. ft. Manures and composts are excellent sources of nutrients, but should not be used as the sole source on A long term basis. Please see the fact sheet.

### **Annuals** (pH range 5.8 - 6.5)

#### Conventional Fertilizer Recommendations

**Sulfur:** An appropriate pH range for most annuals is 5.8 - 6.5. Before planting a new flower bed, lower the pH by incorporating 1-2 lbs elemental sulfur per 100 sq. ft. Work it in to the top 6 inches of soil and water thoroughly.

Apply no more than 2 pounds per 100 sq. ft. per application.

If soils contain large amounts of calcium or magnesium carbonates, reduction of pH with sulfur will be minimal and short-lived. The best strategy for these soils is to select plants that tolerate high pH.

**Fertilizer:** Incorporate before planting: 1.2 lbs of 10-0-10 or 12-0-12 fertilizer, plus .4 lbs of 0-0-22 per 100 sq. ft. OR incorporate 1 lbs of calcium nitrate or calcium ammonium nitrate (15-0-0 or 17-0-0), plus .4 lbs of potassium chloride (0-0-60) or .75 lbs of potassium magnesium sulfate (0-0-22) per 100 sq. ft. This fertilizer provides the following nutrients per 100 sq ft: .12 lb nitrogen, 0 lb phosphorus, .2 lb potassium.

Supplemental: Broadcast .5 lbs of 10-0-10 or 12-0-12 fertilizer OR 5 oz calcium nitrate or calcium ammonium nitrate

per 100 sq. ft. once or twice during the growing season.

#### **Comments**

Slow-Release Fertilizer: If using a fertilizer with at least 50% water-insoluble (slow-release) nitrogen, you may use up to 2 lbs of actual nitrogen in your preplant application. Supplemental fertilization should then not be necessary in most years.

#### **Organic Fertilizer Recommendations**

**Sulfur:** An appropriate pH range for most annuals is 5.8 - 6.5. Before planting a new flower bed, lower the pH by incorporating 1-2 lbs elemental sulfur per 100 sq. ft. Work it in to the top 6 inches of soil and water thoroughly.

Apply no more than 2 pounds per 100 sq. ft. per application.

If soils contain large amounts of calcium or magnesium carbonates, reduction of pH with sulfur will be minimal and short-lived. The best strategy for these soils is to select plants that tolerate high pH.

**Fertilizer:** Phosphorus levels are high and no additional phosphorus is recommended at this time.

Potassium levels are optimum. Apply 10-15 lbs/100 sq. ft. of greensand before planting to provide a long-term source of potassium.

Also apply and incorporate 1 lb/100 of SulPoMag (0-0-22) for short-term availability

Nitrogen source: (for Annuals and new Perennial plantings)

Your organic matter is greater than 5%, ample nitrogen will be provided to the crop as it decomposes. For rapid growth early in the season, apply one of the following to supply .1 lbs or nitrogen/100 square feet:

- .75 lbs dried blood
- 1.5 lbs soybean meal or cottonseed meal
- 2 lbs fish emulsion

#### **Comments**

Other organic sources of phosphorus and potassium may be used in place of those recommended above.

### ***Perennials and Groundcovers*** (pH range 5.8 - 6.5)

#### **Conventional Fertilizer Recommendations**

##### **New Planting**

**Sulfur:** An appropriate pH range for most perennials is 5.8 - 6.5. Before planting a new flower bed, lower the pH by incorporating 1-2 lbs elemental sulfur per 100 sq. ft. Work it in to the top 6 inches of soil before planting or broadcast on the soil surface and water in immediately.

Apply no more than 2 pounds per 100 sq. ft. per application.

If soils contain large amounts of calcium or magnesium carbonates, reduction of pH with sulfur will be minimal and short-lived. The best strategy for these soils is to select plants that tolerate high pH.

**Fertilizer:** Incorporate before planting 1.2 lbs of 10-0-10 or 12-0-12 fertilizer, plus .4 lbs of potassium magnesium sulfate (0-0-26) per 100 sq ft. OR incorporate .7 lbs of calcium nitrate or calcium ammonium nitrate (15-0-0 or 17-0-0), plus .4 lbs of potassium chloride (0-0-60) or .75 lbs of potassium magnesium sulfate per 100 sq. ft.

##### **Existing Plantings**

**Sulfur:** An appropriate pH range for most perennials is 5.8 - 6.5. For established perennials, no adjustment is necessary if plants are growing satisfactorily and appear healthy. If plants develop signs of chlorosis (yellowing) on young leaves, you may wish to try to reduce the pH with sulfur. To lower the pH, apply 1 - 1.5 lbs elemental sulfur per 100 sq. ft. Where possible, sulfur should be incorporated into the top 6" of soil before planting. If applying sulfur to established plantings, broadcast it on the soil surface and water it in immediately. Reapply after 3-4 weeks if necessary.

Apply carefully to avoid direct leaf contact and water thoroughly after application.

If soils contain large amounts of calcium or magnesium carbonates, reduction of pH with sulfur will be minimal and short-lived. The best strategy for these soils is to select plants that tolerate high pH.

**Fertilizer:** Apply the fertilizer recommended above to the soil surface in the spring.

No supplemental fertilizer is usually required during the growing season for perennials, unless slow growth or yellowing is noticed.

If needed, broadcast .5 lbs of 10-0-10 or 12-0-12 fertilizer OR 5 oz calcium nitrate or calcium ammonium nitrate per 100 sq. ft., in mid-summer.

### Comments

Slow-Release Fertilizer: If using a fertilizer with at least 50% water-insoluble (slow-release) nitrogen, you may use up to 2 lbs of actual nitrogen in your preplant application. Supplemental fertilization should then not be necessary in most years.

OR

### Organic Fertilizer Recommendations

#### New Planting

**Sulfur:** An appropriate pH range for most perennials is 5.8 - 6.5. Before planting a new flower bed, lower the pH by incorporating 1-2 lbs elemental sulfur per 100 sq. ft. Work it in to the top 6 inches of soil before planting or broadcast on the soil surface and water in immediately.

Apply no more than 2 pounds per 100 sq. ft. per application.

If soils contain large amounts of calcium or magnesium carbonates, reduction of pH with sulfur will be minimal and short-lived. The best strategy for these soils is to select plants that tolerate high pH.

**Fertilizer:** Phosphorus levels are high and no additional phosphorus is recommended at this time.

Potassium levels are optimum. Apply 10-15 lbs/100 sq. ft. of greensand before planting to provide a long-term source of potassium.

Also apply and incorporate 1 lb/100 of SulPoMag (0-0-22) for short-term availability

Nitrogen Source

Your organic matter is greater than 5%, therefore ample nitrogen will be provided by the existing organic matter as it decomposes. For rapid growth early in the season, apply one of the following to supply .1 lbs of nitrogen/100 sq. ft.:

- .75 lbs dried blood
- 1.5 lbs soybean meal or cottonseed meal
- 2.0 lbs fish emulsion

#### Existing Plantings

**Sulfur:** An appropriate pH range for most perennials is 5.8 - 6.5. For established perennials, no adjustment is necessary if plants are growing satisfactorily and appear healthy. If plants develop signs of chlorosis (yellowing) on young leaves, you may wish to try to reduce the pH with sulfur. To lower the pH, apply 1 - 1.5 lbs elemental sulfur per 100 sq. ft. Where possible, sulfur should be incorporated into the top 6" of soil before planting. If applying sulfur to established plantings, broadcast it on the soil surface and water it in immediately. Reapply after 3-4 weeks if necessary.

Apply carefully to avoid direct leaf contact and water thoroughly after application.

If soils contain large amounts of calcium or magnesium carbonates, reduction of pH with sulfur will be minimal and short-lived. The best strategy for these soils is to select plants that tolerate high pH.

**Fertilizer:** Phosphorus levels are high and no additional phosphorus is recommended at this time.

Potassium levels are optimum.

Apply 1 lb/100 sq. ft. of SulPoMag (0-0-22)

Nitrogen source if using Compost:

- An application of 1-2" of good quality compost as mulch will provide the required nitrogen.

Nitrogen source if not using compost or manure. Apply one of the following sources, in the spring and rake in lightly:

- .75 lbs dried blood, or
- 1.5 lbs soybean meal or cottonseed meal, or
- 2.0 lbs fish emulsion

### Comments

Fish emulsion fertilizer is another source of phosphorus and potassium. Apply to the soil surface and water in.

Mulching with a thin layer of compost will also provide these nutrients.

See the fact sheet [Fertilizing the Organic Garden](#) for more information.

## Lead Screening Results

Generally, it is considered safe to use garden produce grown on soils with UNH soil test lead values of less than 180 ppm (This is equivalent to the US EPA total lead level of 400 ppm using their testing procedure). The lead level in your soil sample is 5, and is in the **Very Low** range. Based on your results:

- No special precautions are necessary

## Staff Comments

Your soil phosphorus is very high. If you use manure, we recommend that you reduce the use of manure because long term use of composted manure and composts can lead to very high levels of phosphorus in the soil which can increase the risk of phosphorus movement offsite in runoff caused by rainfall or overhead irrigation, and can lead to pollution of our rivers and lakes.

## General Comments

UNHCE recommends that soil tests be performed every two years to ensure that proper recommendations are made.

The recommendations made in this report are based on the current conditions of your soil. The addition of amendments or fertilizers may alter your soil conditions.

Specific fertilizer analyses are recommended for the purpose of simplicity. No endorsement of products is intended nor discrimination against similar products not mentioned.

For help in determining the suitability of other fertilizers and calculating application rates for them, please call the Family Home & Garden Information Center at 877-EXT-GROW, Mon-Fri 9 a.m. - 2 p.m.

## References

For more information, please refer to the following:

[\*Growing Flowering Perennials\*](#)

[\*10 Steps to Success with Your Vegetable Garden\*](#)

[\*Understanding your soil test\*](#)

[\*Slow-Release Fertilizers for Home Gardens and Landscapes\*](#)

[\*Fertilizing the Organic Garden\*](#)

[\*To see a complete list of related UNH Cooperative Extension Publications click here\*](#)

**UNH Cooperative Extension programs and policies are consistent with pertinent federal and state laws and regulations and prohibits discrimination in its programs, activities and employment on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sex, sexual orientation, or veteran's, marital or family status. New Hampshire counties**

**cooperating.**