Appendix D

Soil Testing and Research Analytical Laboratories
University of Minnesota, Twin Cities Campus
March 19, 2009
**SOIL TEST REPORT**

**Lawn and Garden**

VLAWMO  
BRIAN CORCORAN  
800 EAST COUNTY RD E  
VADNAIS HEIGHTS MN 55127

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**SOIL TEST RESULTS**

<table>
<thead>
<tr>
<th>Sample/Field Number: G10</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse</td>
<td>4.4</td>
<td>0.5</td>
<td>6.5</td>
<td>1.1</td>
<td>14</td>
<td>81</td>
<td>28</td>
<td>1.2</td>
<td>99.9+</td>
<td>11.9</td>
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<td>0.6</td>
<td>1211</td>
<td>220</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

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**INTERPRETATION OF SOIL TEST RESULTS**

**Phosphorus (P)**  

- **PPP PPP PPP PPP PPP PPP**  
  - Low  
  - Medium  
  - High  
  - V. High

**Potassium (K)**  

- **KKKKKKKKKKK**  
  - Low  
  - Medium  
  - High  
  - V. High

**pH**  

- **********************************************  
  - 3.0 Acid  
  - 4.0 Optimum  
  - 5.0 Alkaline

**Soluble Salts**  

- ****  
  - 0 Satisfactory  
  - 1.0 Possible Problem  
  - 2.0 Excessive Salts

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**RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED**

**LIME RECOMMENDATION:** 0 LBS/1,000 SQ.FT.  
**TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:**

- **NITROGEN**  
  - 0 LBS/1,000 SQ.FT.  
  - 0 LBS/ACRE

- **PHOSPHATE**  
  - 0 LBS/1,000 SQ.FT.  
  - 0 LBS/ACRE

- **POTASH**  
  - 0 LBS/1,000 SQ.FT.  
  - 0 LBS/ACRE

**THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS:** 0-0-0

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Recommendations cannot be given because the soil sample information sheet received did not specify a crop (eg. Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.

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County: RAMSEY. For additional information, contact the YARD & GARDEN LINE: Phone: 612-624-4771  Website: www.extension.umn.edu/yardandgarden
SOIL TEST REPORT
Lawn and Garden

VLAWMO
BRIAN CORCORAN
800 EAST COUNTY RD E
VADNAIS HEIGHTS MN 55127

Sample/Field Number: G11

<table>
<thead>
<tr>
<th>Estimated Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrates NO3-N ppm</th>
<th>Olsen Phosphorus ppm</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SQ4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>28.8</td>
<td>1.4</td>
<td>6.4</td>
<td>1.0</td>
<td>25</td>
<td>150</td>
<td>40+</td>
<td>7.3</td>
<td>99.9+</td>
<td>24.8</td>
<td>27.0</td>
<td>1.4</td>
<td>2829</td>
<td>596</td>
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</table>

INTERPRETATION OF SOIL TEST RESULTS

Phosphorus (P)  
<table>
<thead>
<tr>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
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<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>V. High</td>
</tr>
</tbody>
</table>

Potassium (K)  
<table>
<thead>
<tr>
<th>25</th>
<th>75</th>
<th>125</th>
<th>175</th>
<th>225</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>V. High</td>
</tr>
</tbody>
</table>

pH

<table>
<thead>
<tr>
<th>3.0</th>
<th>4.0</th>
<th>5.0</th>
<th>6.0</th>
<th>7.0</th>
<th>8.0</th>
<th>9.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid</td>
<td>Optimum</td>
<td>Alkaline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Soluble Salts

<table>
<thead>
<tr>
<th>0</th>
<th>1.0</th>
<th>2.0</th>
<th>3.0</th>
<th>4.0</th>
<th>5.0</th>
<th>6.0</th>
<th>7.0</th>
<th>8.0</th>
<th>9.0</th>
<th>10.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory</td>
<td>Possible Problem</td>
<td>Excessive Salts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED

LIME RECOMMENDATION: 0 LBS/1,000 SQ.FT.
TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:

NITROGEN
0 LBS/1,000 SQ.FT.
0 LBS/acre

PHOSPHATE
0 LBS/1,000 SQ.FT.
0 LBS/acre

POTASH
0 LBS/1,000 SQ.FT.
0 LBS/acre

THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS: 0-0-0

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.). Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.
### Soil Test Results

<table>
<thead>
<tr>
<th>Sample/Field Number: G12</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>34.0</td>
<td>1.7</td>
<td>6.4</td>
<td>1.6</td>
<td>8</td>
<td>220</td>
<td>40+</td>
<td>8.8</td>
<td>99.9+</td>
<td>34.8</td>
<td>36.3</td>
<td>2.6</td>
<td>3965</td>
<td>799</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Interpretation of Soil Test Results

- **Phosphorus (P)**: Ppppppppp
  - Low: 5
  - Medium: 10
  - High: 15
  - V. High: 20, 25

- **Potassium (K)**: KKKKKKKKKKKKKKKK
  - Low: 25
  - Medium: 75
  - High: 125
  - V. High: 175, 225

- **pH**: 3.0 - Acid, 4.0 - Optimum, 5.0 - 6.0, 7.0 - 8.0, 9.0 - Alkaline

- **Soluble Salts**: ******
  - 0.0 - 1.0: Satisfactory
  - 1.0 - 2.0: Possible Problem
  - 2.0 - 3.0: Excessive Salts

### Recommendations

**Lime Recommendation:** 0 LBS/1,000 SQ.FT.

**Total Amount of Each Nutrient to Apply Per Year:**

- **Nitrogen**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

- **Phosphate**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

- **Potash**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

The approximate ratio or proportion of these nutrients is: 0-0-0

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.
### Soil Test Report

**Sample/Field Number:** G13

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4 -S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>32.6</td>
<td>1.7</td>
<td>6.3</td>
<td></td>
<td>1.2</td>
<td>13</td>
<td>161</td>
<td>40+</td>
<td>6.5</td>
<td>99.9+</td>
<td>39.7</td>
<td>25.0</td>
<td>2.6</td>
<td>3362</td>
<td>658</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Interpretation of Soil Test Results

- **Phosphorus (P):**
  - Low: 5
  - Medium: 10
  - High: 15
  - V. High: 20, 25

- **Potassium (K):**
  - Low: 25
  - Medium: 75
  - High: 125
  - V. High: 175, 225

- **pH:**
  - Acid: 3.0
  - Optimum: 4.0
  - Alkaline: 5.0

- **Soluble Salts:**
  - Satisfactory: 0
  - Possible Problem: 1.0
  - Excessive Salts: 2.0

#### Recommendations:

**LIME RECOMMENDATION:** 0 LBS/1,000 SQ.FT.
**TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:**

- **NITROGEN:** 0 LBS/1,000 SQ.FT.
- **PHOSPHATE:** 0 LBS/1,000 SQ.FT.
- **POTASH:** 0 LBS/ACRE

**THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS:** 0-0-0

Grass not watered, Clippings not removed

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.

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County: RAMSEY. For additional information, contact the YARD & GARDEN LINE: Phone: 612-624-4771  Website: www.extension.umn.edu/yardandgarden
SOIL TEST RESULTS

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
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<th>Potassium ppm K</th>
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<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>32.7</td>
<td>3.3</td>
<td>6.3</td>
<td>3.0</td>
<td>12</td>
<td>250</td>
<td>40+</td>
<td>12.8</td>
<td>99.9+</td>
<td>40.2</td>
<td>43.5</td>
<td>3.9</td>
<td>3708</td>
<td>829</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INTERPRETATION OF SOIL TEST RESULTS

**Phosphorus (P):**
- Low: 5
- Medium: 10
- High: 15
- V. High: 20, 25

**Potassium (K):**
- Low: 25
- Medium: 75
- High: 125
- V. High: 175, 225

**pH:**
- Acid: 3.0
- Optimum: 4.0
- 5.0
- 6.0
- 7.0
- 8.0
- 9.0

**Soluble Salts:**
- Satisfactory: 0
- Possible Problem: 1.0
- Excessive Salts: 2.0
- 3.0
- 4.0
- 5.0
- 6.0
- 7.0
- 8.0
- 9.0
- 10.0

RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED

LIME RECOMMENDATION: 0 LBS/1,000 SQ.FT.
TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:

- **NITROGEN:**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

- **PHOSPHATE:**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

- **POTASH:**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS: 0-0-0

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.).

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**SOIL TEST RESULTS**

<table>
<thead>
<tr>
<th>Estimated Soil Texture</th>
<th>Organic Matter (%)</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
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</thead>
<tbody>
<tr>
<td>Muck</td>
<td>37.7</td>
<td>2.1</td>
<td>6.5</td>
<td></td>
<td>1.7</td>
<td>8</td>
<td>204</td>
<td>40+</td>
<td>8.6</td>
<td>99.9</td>
<td>45.8</td>
<td>36.7</td>
<td>2.7</td>
<td>4088</td>
<td>830</td>
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<td></td>
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**INTERPRETATION OF SOIL TEST RESULTS**

- Phosphorus (P)
  - P
  - Low: 5
  - Medium: 10
  - High: 15
  - V. High: 20, 25
- Potassium (K)
  - K
  - Low: 25
  - Medium: 75
  - High: 125
  - V. High: 175, 225

**RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED**

LIME RECOMMENDATION: 0 LBS/1,000 SQ.FT.

TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:
- PHOSPHATE: 0 LBS/1,000 SQ.FT.
- POTASH: 0 LBS/1,000 SQ.FT.

THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS: 0-0-0

Grass not watered. Clippings not removed.

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (eg. Lawn, Garden, etc.).

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**SOIL TEST REPORT**

**Lawn and Garden**

**Sample/Field Number:** G16

<table>
<thead>
<tr>
<th>Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>46.3</td>
<td>1.0</td>
<td>6.4</td>
<td>2.1</td>
<td>14</td>
<td>86</td>
<td>40+</td>
<td>2.5</td>
<td>99.9+</td>
<td>19.6</td>
<td>4.9</td>
<td>1.3</td>
<td>2237</td>
<td>396</td>
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<td></td>
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</tr>
</tbody>
</table>

**INTERPRETATION OF SOIL TEST RESULTS**

<table>
<thead>
<tr>
<th>Phosphorus (P)</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
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<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>V. High</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Potassium (K)</th>
<th>25</th>
<th>75</th>
<th>125</th>
<th>175</th>
<th>225</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>V. High</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**pH**

- 3.0 Acid
- 4.0 Optimum
- 5.0 Alkaline

**Soluble Salts**

- 1.0 Satisfactory
- 2.0 Possible Problem
- 3.0 Excessive Salts

**RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED**

- Grass not watered
- Clippings not removed

---

**LIME RECOMMENDATION:** 0 LBS/1,000 SQ.FT.

**TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:**

- **NITROGEN:** 0 LBS/1,000 SQ.FT.
- 0 LBS/ACRE

- **PHOSPHATE:** 0 LBS/1,000 SQ.FT.
- 0 LBS/ACRE

- **POTASH:** 0 LBS/1,000 SQ.FT.
- 0 LBS/ACRE

**THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS:** 0-0-0

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Recommendations cannot be given because the soil sample information sheet received did not specify a crop (eg. Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.
### Soil Test Results

#### Soil Texture
- **Muck**

<table>
<thead>
<tr>
<th>Estimated Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>34.4</td>
<td>1.6</td>
<td>6.2</td>
<td>4</td>
<td>1.4</td>
<td>8</td>
<td>172</td>
<td>40+</td>
<td>9.2</td>
<td>99.9+</td>
<td>39.0</td>
<td>26.0</td>
<td>1.9</td>
<td>3853</td>
<td>768</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Interpretation of Soil Test Results

**Phosphorus (P)**
- Low
- Medium
- High
- V. High

**Potassium (K)**
- Low
- Medium
- High
- V. High

**pH**
- Acid
- Optimum
- Alkaline

**Soluble Salts**
- Satisfactory
- Possible Problem
- Excessive Salts

### Recommendations for: Situation Not Specified

Lime recommendation: 0 LBS/1,000 SQ.FT.

Total amount of each nutrient to apply per year:

- **Nitrogen**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/acre

- **Phosphate**
  - 0 LBS/1,000 SQ.FT.

- **Potash**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/acre

The approximate ratio or proportion of these nutrients is: 0-0-0

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.

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**SOIL TEST REPORT**

**Lawn and Garden**

**VLAWMO**  
**BRIAN CORCORAN**  
800 EAST COUNTY RD E  
VADNAIS HEIGHTS MN 55127

---

<table>
<thead>
<tr>
<th>Sample/Field Number: G18</th>
<th>SOIL TEST RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimated Soil Texture</strong></td>
<td><strong>Organic Matter %</strong></td>
</tr>
<tr>
<td>Muck</td>
<td>26.1</td>
</tr>
</tbody>
</table>

---

**INTERPRETATION OF SOIL TEST RESULTS**

<table>
<thead>
<tr>
<th>Phosphorus (P)</th>
<th><strong>PPPPPPP</strong></th>
<th><strong>Low</strong></th>
<th>5</th>
<th><strong>Medium</strong></th>
<th>10</th>
<th><strong>High</strong></th>
<th>15</th>
<th><strong>V. High</strong></th>
<th>20</th>
<th><strong>Low</strong></th>
<th>25</th>
<th><strong>Medium</strong></th>
<th>15</th>
<th><strong>High</strong></th>
<th>20</th>
<th><strong>V. High</strong></th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium (K)</td>
<td><strong>KKKKKKKK</strong></td>
<td><strong>Low</strong></td>
<td>25</td>
<td><strong>Medium</strong></td>
<td>75</td>
<td><strong>High</strong></td>
<td>125</td>
<td><strong>V. High</strong></td>
<td>175</td>
<td><strong>Low</strong></td>
<td>225</td>
<td><strong>Medium</strong></td>
<td>125</td>
<td><strong>High</strong></td>
<td>175</td>
<td><strong>V. High</strong></td>
<td>225</td>
</tr>
</tbody>
</table>

---

**LIME RECOMMENDATION:** 0 LBS/1,000 SQ.FT.

**TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:**

- **NITROGEN**  
  0 LBS/1,000 SQ.FT.  
  0 LBS/ACRE

- **PHOSPHATE**  
  0 LBS/1,000 SQ.FT.  
  0 LBS/ACRE

- **POTASH**  
  0 LBS/1,000 SQ.FT.  
  0 LBS/ACRE

**THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS:** 0-0-0

---

**RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED**

Grass not watered  
Clippings not removed

---

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.
**SOIL TEST RESULTS**

<table>
<thead>
<tr>
<th>Sample/Field Number: G19</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Muck</strong></td>
<td>28.5</td>
<td>1.6</td>
<td>6.5</td>
<td>1.4</td>
<td>7</td>
<td>206</td>
<td>40+</td>
<td>10.9</td>
<td>99.9+</td>
<td>44.8</td>
<td>45.9</td>
<td>1.9</td>
<td>3683</td>
<td>799</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INTERPRETATION OF SOIL TEST RESULTS**

- **Phosphorus (P):** PPPPPPPP
- **Potassium (K):** KKKKKKKKKKKKKKK
- **pH:** 3.0 Acid
- **Soluble Salts:** 0 Satisfactory

**RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED**

- **LIME RECOMMENDATION:** 0 LBS/1,000 SQ.FT.
- **TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:**
  - **NITROGEN:** 0 LBS/1,000 SQ.FT., 0 LBS/ACRE
  - **PHOSPHATE:** 0 LBS/1,000 SQ.FT., 0 LBS/ACRE
  - **POTASH:** 0 LBS/1,000 SQ.FT., 0 LBS/ACRE

- **THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS:** 0-0-0
- **Grass not watered**
- **Clippings not removed**

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.). Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.
SOIL TEST REPORT
Lawn and Garden

Sample/Field Number: G20

<table>
<thead>
<tr>
<th>Estimated Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>27.3</td>
<td>3.1</td>
<td>6.3</td>
<td>1.8</td>
<td>9</td>
<td>220</td>
<td>40+</td>
<td>9.7</td>
<td>99.9+</td>
<td>28.3</td>
<td>41.2</td>
<td>2.9</td>
<td>3597</td>
<td>801</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOIL TEST RESULTS

INTERPRETATION OF SOIL TEST RESULTS

<table>
<thead>
<tr>
<th>Phosphorus (P)</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>V. High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PPPPPPPPPP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Potassium (K)</th>
<th>25</th>
<th>75</th>
<th>125</th>
<th>175</th>
<th>225</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>V. High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>KKKKKKKKKK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

pH

3.0  | 4.0  | 5.0  | 6.0  | 7.0  | 8.0  | 9.0  | Optim | Ac | Acid |

Soluble Salts

0  | 1.0  | 2.0  | 3.0  | 4.0  | 5.0  | 6.0  | 7.0  | 8.0  | 9.0  | 10.0 |

RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED

Grass not watered  Clippings not removed

LIME RECOMMENDATION: 0 LBS/1,000 SQ.FT.
TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:

<table>
<thead>
<tr>
<th>NITROGEN</th>
<th>PHOSPHATE</th>
<th>POTASH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 LBS/1,000 SQ.FT.</td>
<td>0 LBS/1,000 SQ.FT.</td>
<td>0 LBS/1,000 SQ.FT.</td>
</tr>
<tr>
<td>0 LBS/ACRE</td>
<td>0 LBS/ACRE</td>
<td>0 LBS/ACRE</td>
</tr>
</tbody>
</table>

THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS: 0-0-0

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (eg. Lawn, Garden, etc.).
Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.

County: RAMSEY. For additional information, contact the YARD & GARDEN LINE: Phone: 612-624-4771 Website: www.extension.umn.edu/yardandgarden
**SOIL TEST RESULTS**

<table>
<thead>
<tr>
<th>Estimated Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4 -S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>27.8</td>
<td>1.2</td>
<td>6.4</td>
<td>1.1</td>
<td>9</td>
<td>139</td>
<td>40+</td>
<td>4.1</td>
<td>99.9+</td>
<td>18.3</td>
<td>11.4</td>
<td>1.9</td>
<td>3077</td>
<td>640</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**INTERPRETATION OF SOIL TEST RESULTS**

<table>
<thead>
<tr>
<th>Phosphorus (P) PPPPPPPPPPP</th>
<th>pH 3.0</th>
<th>4.0</th>
<th>5.0</th>
<th>6.0</th>
<th>7.0</th>
<th>8.0</th>
<th>9.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 5</td>
<td>Acid</td>
<td>Optimum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V. High 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Potassium (K) KKKKKKKKKKKKKKK</th>
<th>Soluble Salts 0 1.0</th>
<th>2.0</th>
<th>3.0</th>
<th>4.0</th>
<th>5.0</th>
<th>6.0</th>
<th>7.0</th>
<th>8.0</th>
<th>9.0</th>
<th>10.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 25</td>
<td>Satisfactory</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium 75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>High 125</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V. High 175</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED**

**LIME RECOMMENDATION:** 0 LBS/1,000 SQ.FT.

**TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:**

- NITROGEN: 0 LBS/1,000 SQ.FT., 0 LBS/acre
- PHOSPHATE: 0 LBS/1,000 SQ.FT., 0 LBS/acre
- POTASH: 0 LBS/1,000 SQ.FT., 0 LBS/acre

THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS: 0-0-0

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.

County: RAMSEY. For additional information, contact the YARD & GARDEN LINE: Phone: 612-624-4771 Website: www.extension.umn.edu/yardandgarden
SOIL TEST REPORT
Lawn and Garden

Sample/Field Number: G22

<table>
<thead>
<tr>
<th>Estimated Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmvos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate (NO3-N) ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Purdue Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>27.5</td>
<td>1.3</td>
<td>6.4</td>
<td></td>
<td>1.3</td>
<td>177</td>
<td>40+</td>
<td>8.2</td>
<td>99.9+</td>
<td>41.6</td>
<td>37.5</td>
<td>1.6</td>
<td>3347</td>
<td>704</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INTERPRETATION OF SOIL TEST RESULTS

**Phosphorus (P)**
- Low: 5
- Medium: 10
- High: 15, 20, 25
- V. High: P

**Potassium (K)**
- Low: 25
- Medium: 75
- High: 125, 175, 225
- V. High: K

**pH**
- Acid: 3.0 to 5.0
- Optimum: 5.0 to 7.0
- Alkaline: 7.0 to 9.0

**Soluble Salts**
- Satisfactory: 0
- Possible Problem: 1.0 to 2.0
- Excessive Salts: 3.0 to 10.0

RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED

LIME RECOMMENDATION: 0 LBS/1,000 SQ.FT.

TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:

<table>
<thead>
<tr>
<th>NITROGEN</th>
<th>PHOSPHATE</th>
<th>POTASH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 LBS/1,000 SQ.FT.</td>
<td>0 LBS/1,000 SQ.FT.</td>
<td>0 LBS/1,000 SQ.FT.</td>
</tr>
<tr>
<td>0 LBS/acre</td>
<td>0 LBS/acre</td>
<td>0 LBS/acre</td>
</tr>
</tbody>
</table>

THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS: 0-0-0

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (eg. Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.
### Soil Test Results

<table>
<thead>
<tr>
<th>Sample/Field Number: G23</th>
<th>Soil Texture</th>
<th>Organic Matter %</th>
<th>Soluble Salts mmhos/cm</th>
<th>pH</th>
<th>Buffer Index</th>
<th>Nitrate NO3-N ppm</th>
<th>Olsen Phosphorus ppm P</th>
<th>Bray 1 Phosphorus ppm P</th>
<th>Potassium ppm K</th>
<th>Sulfur SO4-S ppm</th>
<th>Zinc ppm</th>
<th>Iron ppm</th>
<th>Manganese ppm</th>
<th>Copper ppm</th>
<th>Boron ppm</th>
<th>Calcium ppm</th>
<th>Magnesium ppm</th>
<th>Lead ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck</td>
<td>26.0</td>
<td>2.7</td>
<td>6.4</td>
<td>2.1</td>
<td>7</td>
<td>216</td>
<td>40+</td>
<td>14.9</td>
<td>99.9+</td>
<td>44.8</td>
<td>69.0</td>
<td>2.1</td>
<td>3735</td>
<td>831</td>
<td>931</td>
<td>3735</td>
<td>831</td>
<td>931</td>
</tr>
</tbody>
</table>

### Interpretation of Soil Test Results

<table>
<thead>
<tr>
<th>Phosphorus (P)</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>V. High</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Potassium (K)</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>V. High</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>75</td>
<td>125</td>
<td>175</td>
<td>225</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>pH</th>
<th>Acid</th>
<th>Optimum</th>
<th>Alkaline</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>4.0</td>
<td>5.0</td>
<td>6.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soluble Salts</th>
<th>Satisfactory</th>
<th>Possible Problem</th>
<th>Excessive Salts</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

### RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED

**LIME RECOMMENDATION:** 0 LBS/1,000 SQ.FT.

**TOTAL AMOUNT OF EACH NUTRIENT TO APPLY PER YEAR:**

- **NITROGEN**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

- **PHOSPHATE**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

- **POTASH**
  - 0 LBS/1,000 SQ.FT.
  - 0 LBS/ACRE

**THE APPROXIMATE RATIO OR PROPORTION OF THESE NUTRIENTS IS:** 0-0-0

Recommendations cannot be given because the soil sample information sheet received did not specify a crop (e.g., Lawn, Garden, etc.).

Recommendations can be obtained from your county extension educator whose name and telephone number are listed at the bottom of this report.