

# **Appendix D**

**Soil Testing and Reserch Analytical Laboratories  
University of Minnesota, Twin Cities Campus  
March 19, 2009**



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

Page **1**  
Report No. **41024**  
Laboratory No. **87226**  
Date Received **03/12/09**  
Date Reported **03/19/09**

Sample/Field Number: G10

SOIL TEST RESULTS

Estimated Soil Texture	Organic Matter %	Soluble Salts mmhos/cm	pH	Buffer Index	Nitrate NO3-N ppm	Olsen Phosphorus ppm P	Bray 1 Phosphorus ppm P	Potassium ppm K	Sulfur SO4 -S ppm	Zinc ppm	Iron ppm	Manganese ppm	Copper ppm	Boron ppm	Calcium ppm	Magnesium ppm	Lead ppm
<b>Coarse</b>	<b>4.4</b>	<b>0.5</b>	<b>6.5</b>		<b>1.1</b>		<b>14</b>	<b>81</b>	<b>28</b>	<b>1.2</b>	<b>99.9+</b>	<b>11.9</b>	<b>2.8</b>	<b>0.6</b>	<b>1211</b>	<b>220</b>	

INTERPRETATION OF SOIL TEST RESULTS

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

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  
 Satisfactory Possible Problem Excessive Salts  
 Soluble Salts  
 \*\*\*\*\*  
 3.0 4.0 5.0 6.0 7.0 8.0 9.0  
 Acid Optimum Alkaline  
 \*\*\*\*\*  
 0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0  
 Satisfactory Possible Problem Excessive Salts

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











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Report No. 41024  
Laboratory No. 87229  
Date Received 03/12/09  
Date Reported 03/19/09

Sample/Field Number: G13

SOIL TEST RESULTS

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

INTERPRETATION OF SOIL TEST RESULTS

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

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 (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











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Report No. 41024  
Laboratory No. 87232  
Date Received 03/12/09  
Date Reported 03/19/09

Sample/Field Number: G16 SOIL TEST RESULTS

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

INTERPRETATION OF SOIL TEST RESULTS

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

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

POTASH: 0 LBS/1,000 SQ.FT.  
0 LBS/ACRE  
RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED

LIME RECOMMENDATION: 0 LBS/1,000 SQ.FT.  
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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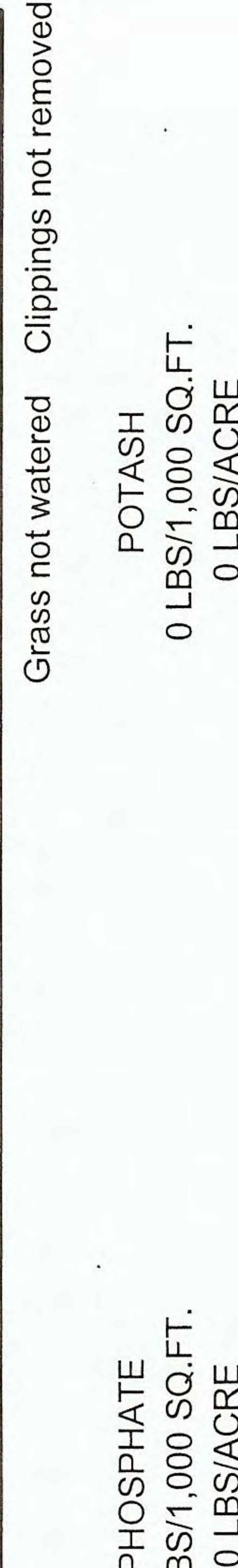
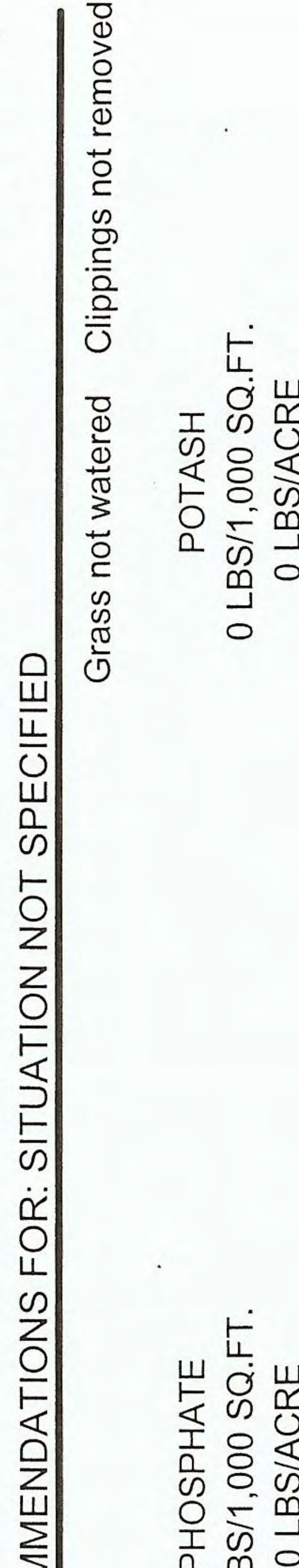
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Date Received 03/12/09  
Date Reported 03/19/09

Sample/Field Number: G17 SOIL TEST RESULTS

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

INTERPRETATION OF SOIL TEST RESULTS

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



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 (eg. Lawn, Garden, etc.).  
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Date Received 03/12/09  
Date Reported 03/19/09

Sample/Field Number: G18

SOIL TEST RESULTS

Estimated Soil Texture	Organic Matter %	Soluble Salts mmhos/cm	pH	Buffer Index	Nitrate NO3-N ppm	Olsen Phosphorus ppm P	Bray 1 Phosphorus ppm P	Potassium ppm K	Sulfur SO4-S ppm	Zinc ppm	Iron ppm	Manganese ppm	Copper ppm	Boron ppm	Calcium ppm	Magnesium ppm	Lead ppm
Muck	26.1	1.9	6.5		1.6		7	214	40+	9.9	99.9+	49.7	48.3	1.9	3592	788	

INTERPRETATION OF SOIL TEST RESULTS

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

\*\*\*\*\*  
pH  
3.0 4.0 5.0 6.0 7.0 8.0 9.0  
Acid Optimum Alkaline  
\*\*\*\*\*  
Soluble Salts  
0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0  
Satisfactory Possible Problem Excessive Salts

RECOMMENDATIONS FOR: SITUATION NOT SPECIFIED  
Grass not watered Clippings not removed  
PHOSPHATE  
0 LBS/1,000 SQ.FT.  
0 LBS/ACRE

NITROGEN  
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 (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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Date Received 03/12/09  
Date Reported 03/19/09

Sample/Field Number: G21 SOIL TEST RESULTS

Estimated Soil Texture	Organic Matter %	Soluble Salts mmhos/cm	pH	Buffer Index	Nitrate NO3-N ppm	Olsen Phosphorus ppm P	Bray 1 Phosphorus ppm P	Potassium ppm K	Sulfur SO4-S ppm	Zinc ppm	Iron ppm	Manganese ppm	Copper ppm	Boron ppm	Calcium ppm	Magnesium ppm	Lead ppm
Muck	27.8	1.2	6.4		1.1		9	139	40+	4.1	99.9+	18.3	11.4	1.9	3077	640	

INTERPRETATION OF SOIL TEST RESULTS

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

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

Grass not watered Clippings not removed

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.).  
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Report No. 41024  
Laboratory No. 87239  
Date Received 03/12/09  
Date Reported 03/19/09

Sample/Field Number: G23 SOIL TEST RESULTS

Estimated Soil Texture	Organic Matter %	Soluble Salts mmhos/cm	pH	Buffer Index	Nitrate NO3-N ppm	Olsen Phosphorus ppm P	Bray 1 Phosphorus ppm P	Potassium ppm K	Sulfur SO4-S ppm	Zinc ppm	Iron ppm	Manganese ppm	Copper ppm	Boron ppm	Calcium ppm	Magnesium ppm	Lead ppm
Muck	26.0	2.7	6.4		2.1		7	216	40+	14.9	99.9+	44.8	69.0	2.1	3735	831	

INTERPRETATION OF SOIL TEST RESULTS

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

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 (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.