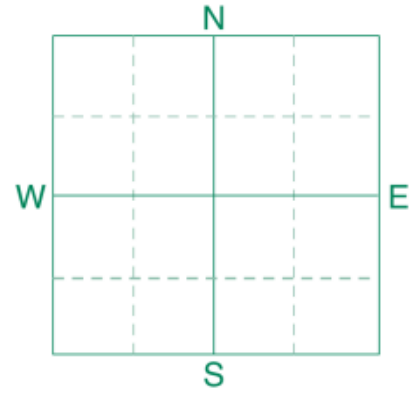




Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID #1  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 16 RANGE 12  
 SECTION 8 QTR NW ACRES 120  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: SI1053  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB** ROJ 1PO

REF # 3961608 BOX # 990  
 LAB # NW241717

Date Sampled

Date Received 11/08/2022

Date Reported 11/14/2022

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High	YIELD GOAL		YIELD GOAL		YIELD GOAL			
Nitrate	0-6" 6-24"	*****				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
	0-24"	*****				LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
	9 lb/acre 3 lb/acre					N		N		N			
	12 lb/acre					P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Phosphorus	Olsen 14 ppm					K <sub>2</sub> O		K <sub>2</sub> O		K <sub>2</sub> O			
Potassium	47 ppm					Cl		Cl		Cl			
Chloride	0-24" 68 lb/acre					S		S		S			
	0-6" 26 lb/acre 6-24" 72 lb/acre					B		B		B			
Sulfur	1.4 ppm					Zn		Zn		Zn			
Boron	0.66 ppm					Fe		Fe		Fe			
Zinc	25.4 ppm					Mn		Mn		Mn			
Iron	2.9 ppm					Cu		Cu		Cu			
Manganese	0.24 ppm					Mg		Mg		Mg			
Copper	745 ppm					Lime		Lime		Lime			
Magnesium	3383 ppm												
Calcium	35 ppm					Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
Sodium	2.3 %								% Ca	% Mg	% K	% Na	% H
Org.Matter	5.3 %					0-6" 8.3		23.4 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
Carbonate(CCE)	0.19 mmho/cm 0.15 mmho/cm					6-24" 8.6			72.3	26.5	0.5	0.7	0.0
Sol. Salts													

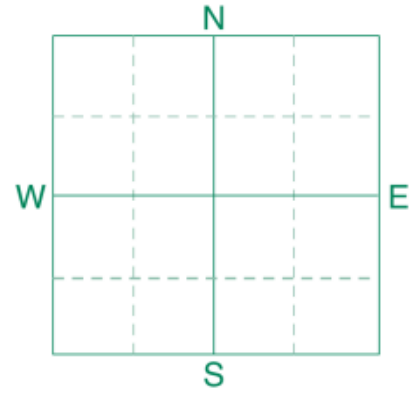
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 2  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 16 RANGE 12  
 SECTION 8 QTR SW ACRES 150  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: **SI1053**  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # **3961611** BOX # **935**  
 LAB # **NW241718**

Date Sampled

Date Received **11/08/2022**

Date Reported **11/14/2022**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High	YIELD GOAL		YIELD GOAL		YIELD GOAL			
Nitrate	0-6" 6-24"	7 lb/acre 9 lb/acre	*****										
	0-24"	16 lb/acre											
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
						N		N		N			
Phosphorus	Olsen	8 ppm	*****			P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Potassium		46 ppm	*****			K <sub>2</sub> O		K <sub>2</sub> O		K <sub>2</sub> O			
Chloride	0-24"	160 lb/acre	*****			Cl		Cl		Cl			
Sulfur	0-6" 6-24"	40 lb/acre 114 lb/acre	*****			S		S		S			
Boron		1.0 ppm	*****			B		B		B			
Zinc		0.67 ppm	*****			Zn		Zn		Zn			
Iron		21.6 ppm	*****			Fe		Fe		Fe			
Manganese		2.4 ppm	*****			Mn		Mn		Mn			
Copper		0.19 ppm	****			Cu		Cu		Cu			
Magnesium		528 ppm	*****			Mg		Mg		Mg			
Calcium		2820 ppm	*****			Lime		Lime		Lime			
Sodium		34 ppm	****										
Org.Matter		1.8 %	*****										
Carbonate(CCE)		2.1 %	*****										
Sol. Salts	0-6"	0.19 mmho/cm	****										
	6-24"	0.17 mmho/cm	****										
						Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
									% Ca	% Mg	% K	% Na	% H
						0-6" 8.1		18.8 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
						6-24" 8.6			75.1	23.4	0.6	0.8	0.0

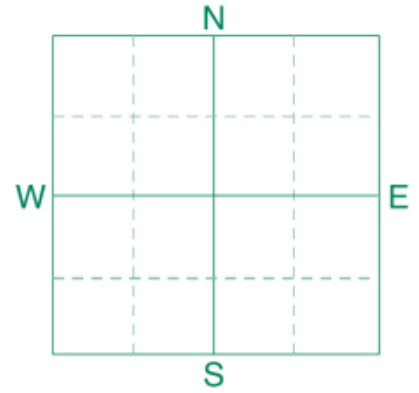
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 3  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 16 QTR NW ACRES 110  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: SI1053  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB** ROJ 1PO

REF # 3961622 BOX # 1010  
 LAB # NW242615

Date Sampled

Date Received 11/08/2022

Date Reported 11/15/2022

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow Low Med High	YIELD GOAL		YIELD GOAL		YIELD GOAL			
		*****	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
		*****	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 6-24"	23 lb/acre 45 lb/acre								
	0-24"	68 lb/acre								
Phosphorus	Olsen	36 ppm								
Potassium		123 ppm								
Chloride	0-24"	256 lb/acre								
	0-6" 6-24"	20 lb/acre 78 lb/acre								
Sulfur										
Boron		0.7 ppm								
Zinc		1.98 ppm								
Iron		11.9 ppm								
Manganese		1.8 ppm								
Copper		1.05 ppm								
Magnesium		347 ppm								
Calcium		2826 ppm								
Sodium		47 ppm								
Org.Matter		1.9 %								
Carbonate(CCE)		0.7 %								
Sol. Salts	0-6"	0.22 mmho/cm								
	6-24"	0.24 mmho/cm								
			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						% Ca	% Mg	% K	% Na	% H
			0-6" 7.7		17.5 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
			6-24" 8.4			80.6	16.5	1.8	1.2	0.0

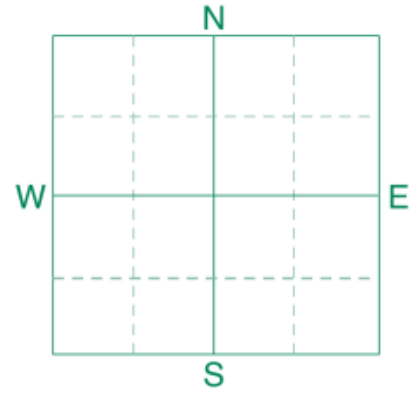
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 5 + #4  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 16 QTR NE ACRES 150  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**  
  
**Gladstone, MB ROJ OTO**

SUBMITTED BY: **SI1053**  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # **3759527** BOX # **10492**  
 LAB # **NW88978**

Date Sampled \_\_\_\_\_ Date Received **09/20/2022** Date Reported **09/21/2022**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow Low Med High	YIELD GOAL		YIELD GOAL		YIELD GOAL			
		*****	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 15 lb/acre		N		N		N			
	6-24" 33 lb/acre		P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
	0-24" 48 lb/acre		K <sub>2</sub> O		K <sub>2</sub> O		K <sub>2</sub> O			
Phosphorus	Olsen 22 ppm	*****	Cl		Cl		Cl			
Potassium	71 ppm	*****	S		S		S			
Chloride	0-24" 52 lb/acre	*****	B		B		B			
	0-6" 30 lb/acre	*****	Zn		Zn		Zn			
Sulfur	6-24" 42 lb/acre	*****	Fe		Fe		Fe			
			Mn		Mn		Mn			
Boron	0.7 ppm	*****	Cu		Cu		Cu			
Zinc	1.40 ppm	*****	Mg		Mg		Mg			
Iron	13.0 ppm	*****	Lime		Lime		Lime			
Manganese	1.4 ppm	*****								
Copper	1.17 ppm	*****								
Magnesium	320 ppm	*****								
Calcium	3383 ppm	*****								
Sodium	23 ppm	***								
Org.Matter	1.7 %	*****								
Carbonate(CCE)	1.6 %	*****								
Sol. Salts	0-6" 0.18 mmho/cm	****	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-24" 0.16 mmho/cm	****	0-6" 8.0		19.9 meq	% Ca	% Mg	% K	% Na	% H
			6-24" 8.7			(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
						85.2	13.4	0.9	0.5	0.0

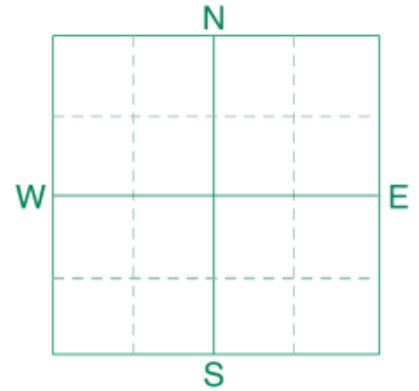
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (http://www.agvise.com)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 7 + #8  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 16 QTR SE ACRES 60  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: SI1053  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # 3961620 BOX # 848  
 LAB # NW241406

Date Sampled

Date Received 11/08/2022

Date Reported 11/14/2022

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow Low Med High	YIELD GOAL		YIELD GOAL		YIELD GOAL			
		*****	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
		*****	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 6-24"	23 lb/acre 51 lb/acre								
	0-24"	74 lb/acre								
Phosphorus	Olsen	31 ppm								
Potassium		122 ppm								
Chloride	0-24"	60 lb/acre								
Sulfur	0-6" 6-24"	34 lb/acre 60 lb/acre								
	Boron	1.1 ppm								
Zinc		1.97 ppm								
Iron		17.8 ppm								
Manganese		2.4 ppm								
Copper		0.91 ppm								
Magnesium		365 ppm								
Calcium		3426 ppm								
Sodium		17 ppm								
Org.Matter		2.3 %								
Carbonate(CCE)		2.8 %								
Sol. Salts	0-6" 6-24"	0.18 mmho/cm 0.14 mmho/cm								
			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						% Ca	% Mg	% K	% Na	% H
			0-6" 8.1 6-24" 8.8		20.6 meq	(65-75) 83.3	(15-20) 14.8	(1-7) 1.5	(0-5) 0.4	(0-5) 0.0

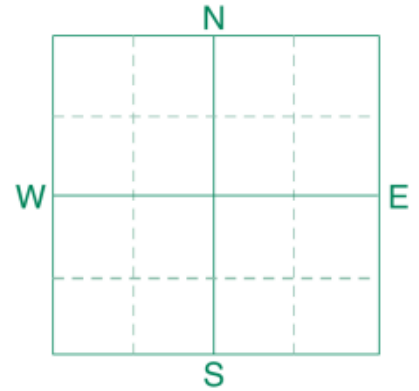
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 9 + #10  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 15 QTR SW ACRES 180  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: SI1053  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # 3961634 BOX # 979  
 LAB # NW241721

Date Sampled

Date Received 11/08/2022

Date Reported 11/14/2022

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice							
		VLow Low Med High	YIELD GOAL		YIELD GOAL		YIELD GOAL							
		*****	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES							
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION						
Nitrate	0-6" 6-24"	14 lb/acre 6 lb/acre					N							
	0-24"	20 lb/acre					P <sub>2</sub> O <sub>5</sub>							
Phosphorus	Olsen	35 ppm					K <sub>2</sub> O							
Potassium		157 ppm					Cl							
Chloride	0-24"	128 lb/acre					S							
	0-6" 6-24"	54 lb/acre 72 lb/acre					B							
Sulfur							Zn							
Boron		1.0 ppm					Fe							
Zinc		1.81 ppm					Mn							
Iron		11.2 ppm					Cu							
Manganese		1.8 ppm					Mg							
Copper		0.68 ppm					Lime							
Magnesium		430 ppm												
Calcium		3156 ppm												
Sodium		32 ppm												
Org.Matter		1.7 %												
Carbonate(CCE)		1.6 %												
Sol. Salts	0-6"	0.19 mmho/cm												
	6-24"	0.15 mmho/cm												
			Soil pH		Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)							
			0-6"	8.2		19.9 meq	% Ca	% Mg	% K	% Na	% H			
			6-24"	8.7			(65-75) 79.3	(15-20) 18.0	(1-7) 2.0	(0-5) 0.7	(0-5) 0.0			

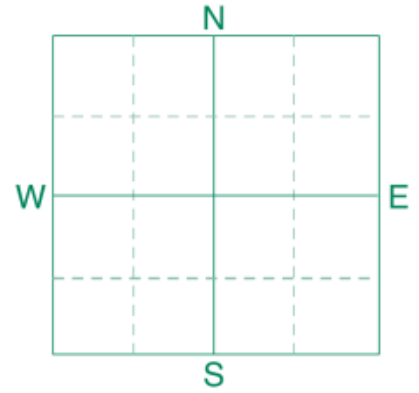
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (http://www.agvise.com)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 11  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 15 QTR SE ACRES 90  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: **SI1053**  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB** ROJ 1PO

REF # **3759532** BOX # **10426**  
 LAB # **NW88980**

Date Sampled

Date Received **09/20/2022**

Date Reported **09/21/2022**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High	YIELD GOAL		YIELD GOAL		YIELD GOAL			
Nitrate	0-6" 6-24"	*****				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
	0-24"	*****				LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
	6 lb/acre 9 lb/acre					N		N		N			
	15 lb/acre					P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Phosphorus	Olsen 20 ppm					K <sub>2</sub> O		K <sub>2</sub> O		K <sub>2</sub> O			
Potassium	84 ppm					Cl		Cl		Cl			
Chloride	0-24" 84 lb/acre					S		S		S			
	40 lb/acre 96 lb/acre					B		B		B			
Sulfur	0-6" 6-24"					Zn		Zn		Zn			
Boron	1.1 ppm					Fe		Fe		Fe			
Zinc	0.95 ppm					Mn		Mn		Mn			
Iron	9.5 ppm					Cu		Cu		Cu			
Manganese	1.1 ppm					Mg		Mg		Mg			
Copper	0.25 ppm					Lime		Lime		Lime			
Magnesium	524 ppm												
Calcium	3509 ppm					Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
Sodium	31 ppm								% Ca	% Mg	% K	% Na	% H
Org.Matter	1.3 %					0-6" 8.5		22.3 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
Carbonate(CCE)	1.6 %					6-24" 8.8			78.8	19.6	1.0	0.6	0.0
Sol. Salts	0-6" 6-24"												
	0.17 mmho/cm 0.16 mmho/cm												

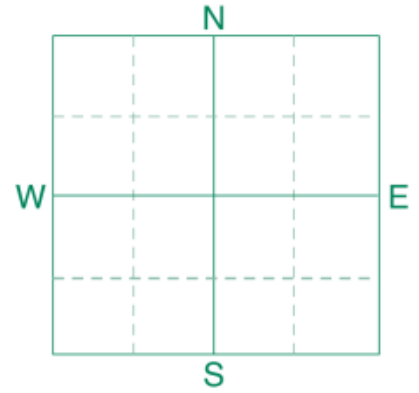
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 12  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 9 QTR NW ACRES 147  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: SI1053  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # 3961613 BOX # 909  
 LAB # NW241719

Date Sampled

Date Received 11/08/2022

Date Reported 11/14/2022

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice													
		VLow Low Med High	YIELD GOAL		YIELD GOAL		YIELD GOAL													
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES													
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION												
Nitrate	0-6" 6-24"	20 lb/acre 21 lb/acre					N													
	0-24"	41 lb/acre					P <sub>2</sub> O <sub>5</sub>													
Phosphorus	Olsen	31 ppm					K <sub>2</sub> O													
Potassium		84 ppm					Cl													
Chloride	0-24"	20 lb/acre					S													
Sulfur	0-6" 6-24"	20 lb/acre 48 lb/acre					B													
Boron		0.7 ppm					Zn													
Zinc		1.66 ppm					Fe													
Iron		28.1 ppm					Mn													
Manganese		2.2 ppm					Cu													
Copper		1.0 ppm					Mg													
Magnesium		381 ppm					Lime													
Calcium		2220 ppm					Soil pH		Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)									
Sodium		16 ppm					0-6" 7.5				% Ca	% Mg	% K	% Na	% H					
Org.Matter		2.0 %					6-24" 8.7		14.6 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)						
Carbonate(CCE)		1.0 %								76.2	21.8	1.5	0.5	0.0						
Sol. Salts	0-6" 6-24"	0.16 mmho/cm 0.14 mmho/cm																		

General Comments: Medium-textured (CEC: 11-30 meq)

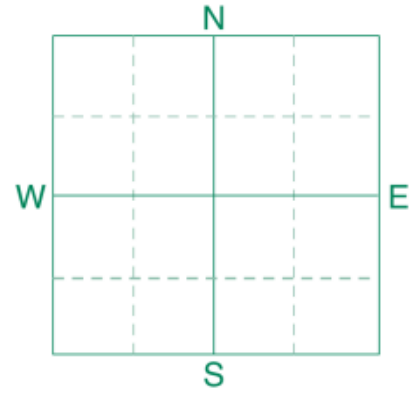




Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 14  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 9 QTR NE ACRES 80  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: SI1053  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # 3961607 BOX # 1074  
 LAB # NW241404

Date Sampled

Date Received 11/08/2022

Date Reported 11/14/2022

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High	YIELD GOAL		YIELD GOAL		YIELD GOAL				
Nitrate	0-6" 6-24"	20 lb/acre 9 lb/acre	*****				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
	0-24"	29 lb/acre					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen	39 ppm	*****				N		N		N			
Potassium		141 ppm	*****				P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Chloride	0-24"	20 lb/acre	*****				K <sub>2</sub> O		K <sub>2</sub> O		K <sub>2</sub> O			
Sulfur	0-6" 6-24"	36 lb/acre 54 lb/acre	*****				Cl		Cl		Cl			
Boron		0.9 ppm	*****				S		S		S			
Zinc		2.54 ppm	*****				B		B		B			
Iron		31.1 ppm	*****				Zn		Zn		Zn			
Manganese		1.9 ppm	*****				Fe		Fe		Fe			
Copper		0.39 ppm	*****				Mn		Mn		Mn			
Magnesium		338 ppm	*****				Cu		Cu		Cu			
Calcium		2240 ppm	*****				Mg		Mg		Mg			
Sodium		26 ppm	****				Lime		Lime		Lime			
Org.Matter		2.2 %	*****				Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)			
Carbonate(CCE)		0.8 %	*****				Buffer pH			% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	0.18 mmho/cm 0.14 mmho/cm	**** ***				0-6" 7.7 6-24" 8.7		14.5 meq	(65-75) 77.3	(15-20) 19.4	(1-7) 2.5	(0-5) 0.8	(0-5) 0.0

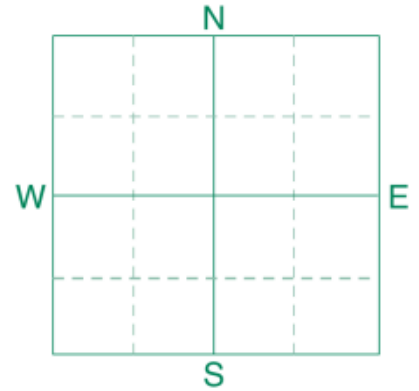
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 15  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 10 QTR NW ACRES 150  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: SI1053  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB** ROJ 1PO

REF # 3759520 BOX # 10426  
 LAB # NW88977

Date Sampled

Date Received 09/20/2022

Date Reported 09/21/2022

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice							
		VLow Low Med High	YIELD GOAL		YIELD GOAL		YIELD GOAL							
		*****	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES							
		*****	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION						
Nitrate	0-6" 6-24"	54 lb/acre 18 lb/acre					N							
	0-24"	72 lb/acre					P <sub>2</sub> O <sub>5</sub>			P <sub>2</sub> O <sub>5</sub>				
Phosphorus	Olsen	39 ppm					K <sub>2</sub> O			K <sub>2</sub> O				
Potassium		164 ppm					Cl			Cl				
Chloride	0-24"	172 lb/acre					S			S				
Sulfur	0-6" 6-24"	40 lb/acre 66 lb/acre					B			B				
Boron		1.2 ppm					Zn			Zn				
Zinc		2.51 ppm					Fe			Fe				
Iron		7.9 ppm					Mn			Mn				
Manganese		1.2 ppm					Cu			Cu				
Copper		0.71 ppm					Mg			Mg				
Magnesium		510 ppm					Lime			Lime				
Calcium		3807 ppm												
Sodium		40 ppm												
Org.Matter		1.8 %												
Carbonate(CCE)		2.1 %												
Sol. Salts	0-6"	0.27 mmho/cm												
	6-24"	0.13 mmho/cm												
							Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
										% Ca	% Mg	% K	% Na	% H
							0-6" 8.3		23.9 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
							6-24" 8.9			79.7	17.8	1.8	0.7	0.0

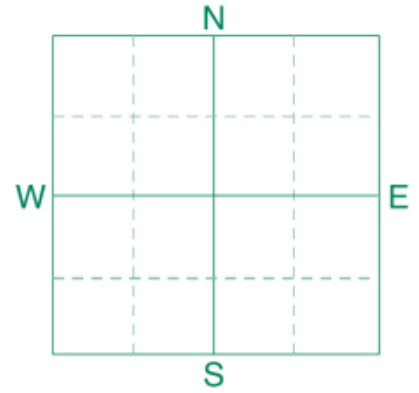
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID # 16  
 SAMPLE ID  
 FIELD NAME  
 COUNTY  
 TWP 15 RANGE 12  
 SECTION 9 QTR SW ACRES 150  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**  
  
**Gladstone, MB ROJ OTO**

SUBMITTED BY: **SI1053**  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # **3759528** BOX # **10492**  
 LAB # **NW88979**

Date Sampled

Date Received **09/20/2022**

Date Reported **09/21/2022**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow Low Med High	YIELD GOAL		YIELD GOAL		YIELD GOAL			
		*****	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 6-24"	9 lb/acre 15 lb/acre								
	0-24"	24 lb/acre								
Phosphorus	Olsen	40 ppm								
Potassium		129 ppm								
Chloride	0-24"	172 lb/acre								
	0-6" 6-24"	58 lb/acre 96 lb/acre								
Sulfur										
Boron		0.9 ppm								
Zinc		1.96 ppm								
Iron		28.5 ppm								
Manganese		1.7 ppm								
Copper		0.31 ppm								
Magnesium		383 ppm								
Calcium		2858 ppm								
Sodium		48 ppm								
Org.Matter		2.0 %								
Carbonate(CCE)		1.3 %								
Sol. Salts	0-6"	0.25 mmho/cm								
	6-24"	0.16 mmho/cm								
			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						% Ca	% Mg	% K	% Na	% H
			0-6" 7.8		18.0 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
			6-24" 8.5			79.3	17.7	1.8	1.2	0.0

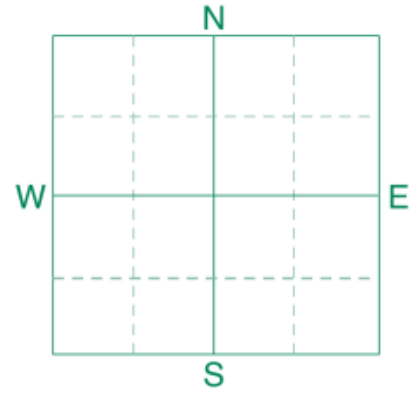
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID **SE 9-15-12**  
 SAMPLE ID  
 FIELD NAME **#18**  
 COUNTY  
 TWP **15** RANGE **12**  
 SECTION **9** QTR **SE** ACRES **160**  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

**Gladstone, MB ROJ OTO**

SUBMITTED BY: **SI1053**  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # **3759566** BOX # **10538**  
 LAB # **NW88981**

Date Sampled

Date Received **09/20/2022**

Date Reported **09/22/2022**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice					
		VLow	Low	Med	High	YIELD GOAL		YIELD GOAL		YIELD GOAL					
		*****				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES					
		*****				LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION				
Nitrate	0-6" 6-24"	7 lb/acre 30 lb/acre													
	0-24"	37 lb/acre													
Phosphorus	Olsen	23 ppm		*****				N		N					
Potassium		53 ppm		*****				P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>					
Chloride	0-24"	1232 lb/acre		*****				K <sub>2</sub> O		K <sub>2</sub> O					
Sulfur	0-6" 6-24"	52 lb/acre 162 lb/acre		*****				Cl		Cl					
Boron		1.3 ppm		*****				S		S					
Zinc		1.98 ppm		*****				B		B					
Iron		30.6 ppm		*****				Zn		Zn					
Manganese		2.4 ppm		*****				Fe		Fe					
Copper		0.51 ppm		*****				Mn		Mn					
Magnesium		458 ppm		*****				Cu		Cu					
Calcium		2269 ppm		*****				Mg		Mg					
Sodium		43 ppm		*****				Lime		Lime					
Org.Matter		3.4 %		*****											
Carbonate(CCE)		1.1 %		*****				Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
Sol. Salts	0-6"	0.33 mmho/cm		*****				0-6" 7.7		15.5 meq	% Ca	% Mg	% K	% Na	% H
	6-24"	0.45 mmho/cm		*****				6-24" 8.4			(65-75) 73.3	(15-20) 24.6	(1-7) 0.9	(0-5) 1.2	(0-5) 0.0

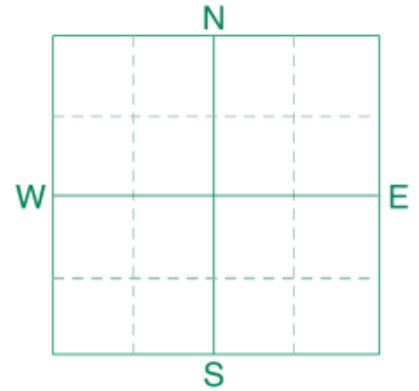
General Comments: Soil texture is not estimated on high pH soils.



Soil Analysis by Agvise Laboratories  
 (<http://www.agvise.com>)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID **SE 18-15-12**  
 SAMPLE ID  
 FIELD NAME **#20**  
 COUNTY  
 TWP **15** RANGE **12**  
 SECTION **18** QTR **SE** ACRES **160**  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

**Gladstone, MB ROJ OTO**

SUBMITTED BY: **SI1053**  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB ROJ 1PO**

REF # **3961623** BOX # **1010**  
 LAB # **NW241720**

Date Sampled

Date Received **11/08/2022**

Date Reported **11/15/2022**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice					
		VLow	Low	Med	High	YIELD GOAL		YIELD GOAL		YIELD GOAL					
Nitrate	0-6" 6-24"	23 lb/acre 27 lb/acre	*****				SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
	0-24"	50 lb/acre					LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen	14 ppm	*****				N		N		N				
Potassium		66 ppm	*****				P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>				
Chloride	0-24"	32 lb/acre	*****				K <sub>2</sub> O		K <sub>2</sub> O		K <sub>2</sub> O				
Sulfur	0-6" 6-24"	34 lb/acre 42 lb/acre	*****				Cl		Cl		Cl				
Boron		0.9 ppm	*****				S		S		S				
Zinc		0.63 ppm	*****				B		B		B				
Iron		24.9 ppm	*****				Zn		Zn		Zn				
Manganese		2.5 ppm	*****				Fe		Fe		Fe				
Copper		0.16 ppm	***				Mn		Mn		Mn				
Magnesium		396 ppm	*****				Cu		Cu		Cu				
Calcium		2604 ppm	*****				Mg		Mg		Mg				
Sodium		22 ppm	***				Lime		Lime		Lime				
Org.Matter		2.7 %	*****				Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)		0.4 %	**				Buffer pH				% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24"	0.19 mmho/cm 0.15 mmho/cm	**** ***				0-6" 7.6 6-24" 8.4		16.6 meq		(65-75) 78.5	(15-20) 19.9	(1-7) 1.0	(0-5) 0.6	(0-5) 0.0

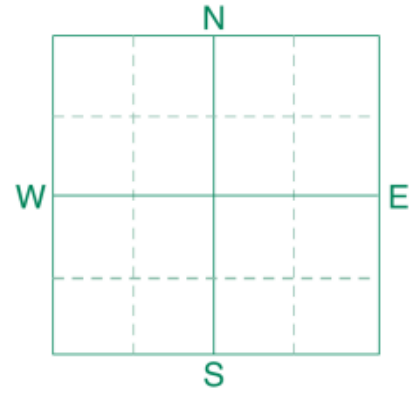
General Comments: Medium-textured (CEC: 11-30 meq)



Soil Analysis by Agvise Laboratories  
 (http://www.agvise.com)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID **NE 18-15-12**  
 SAMPLE ID  
 FIELD NAME **#21**  
 COUNTY  
 TWP **15** RANGE **12**  
 SECTION **18** QTR **NE** ACRES **160**  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: **SI1053**  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB** ROJ 1PO

REF # **3759502** BOX # **10492**  
 LAB # **NW88975**

Date Sampled

Date Received **09/20/2022**

Date Reported **09/21/2022**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		VLow	Low	Med	High	Rye								
Nitrate	0-6" 6-24"	*****				YIELD GOAL		YIELD GOAL		YIELD GOAL				
						70 BU								
	0-24"					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
						Band/Maint.								
							LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Olsen	11 ppm	*****				N	141	N		N				
Phosphorus						P <sub>2</sub> O <sub>5</sub>	44 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>				
Potassium	54 ppm	*****				K <sub>2</sub> O	72 Band *	K <sub>2</sub> O		K <sub>2</sub> O				
Chloride	0-24"	*****				Cl	0	Cl		Cl				
						S	0	S		S				
Sulfur	0-6"	*****				B	0	B		B				
	6-24"	*****				Zn	0	Zn		Zn				
Boron	1.7 ppm	*****				Fe	0	Fe		Fe				
Zinc	0.45 ppm	*****				Mn	0	Mn		Mn				
Iron	10.6 ppm	*****				Cu	1 Band	Cu		Cu				
Manganese	1.4 ppm	*****				Mg	0	Mg		Mg				
Copper	0.14 ppm	***				Lime		Lime		Lime				
Magnesium	757 ppm	*****				Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Calcium	3439 ppm	*****				0-6" 8.3	Buffer pH	24.1 meq	% Ca	% Mg	% K	% Na	% H	
Sodium	100 ppm	*****				6-24" 8.8			(65-75) 71.4	(15-20) 26.2	(1-7) 0.6	(0-5) 1.8	(0-5) 0.0	
Org.Matter	2.7 %	*****												
Carbonate(CCE)	2.5 %	*****												
Sol. Salts	0-6"	*****												
	6-24"	*****												

General Comments: Soil texture is not estimated on high pH soils.

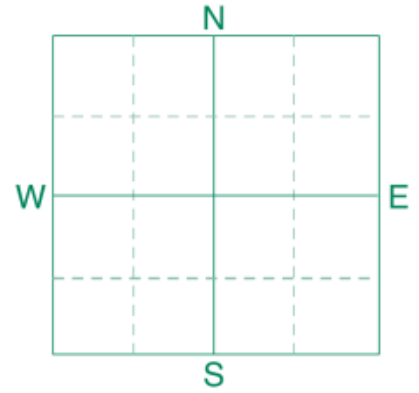
Crop 1: \*CAUTION: Seed-placed fertilizer can cause injury.\* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P205 = 44 K2O = 26 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



Soil Analysis by Agvise Laboratories  
 (http://www.agvise.com)  
 Northwood: (701) 587-6010  
 Benson: (320) 843-4109

### SOIL TEST REPORT

FIELD ID **NW 18-15-12**  
 SAMPLE ID  
 FIELD NAME **#22**  
 COUNTY  
 TWP **15** RANGE **12**  
 SECTION **18** QTR **NW** ACRES **160**  
 PREV. CROP



SUBMITTED FOR:  
**Happy Rock Holsteins Ltd**

Gladstone, MB ROJ OTO

SUBMITTED BY: **SI1053**  
**CARGILL-PLUMAS**  
**BOX 70**  
**PLUMAS, MB** ROJ 1PO

REF # **3759513** BOX # **10538**  
 LAB # **NW88976**

Date Sampled

Date Received **09/20/2022**

Date Reported **09/21/2022**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High	Rye							
Nitrate	0-6" 6-24"	*****				YIELD GOAL		YIELD GOAL		YIELD GOAL			
						70 BU							
	0-24"					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band/Maint.							
							LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
Olsen	18 ppm	*****				N	148	N		N			
Phosphorus						P <sub>2</sub> O <sub>5</sub>	44 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Potassium	153 ppm	*****				K <sub>2</sub> O	26 Band *	K <sub>2</sub> O		K <sub>2</sub> O			
Chloride	0-24" 152 lb/acre	*****				Cl	0	Cl		Cl			
Sulfur	0-6" 6-24" 72 lb/acre 90 lb/acre	*****				S	0	S		S			
Boron	0.8 ppm	*****				B	0	B		B			
Zinc	0.76 ppm	*****				Zn	0	Zn		Zn			
Iron	51.5 ppm	*****				Fe	0	Fe		Fe			
Manganese	2.7 ppm	*****				Mn	0	Mn		Mn			
Copper	0.13 ppm	**				Cu	1 Band	Cu		Cu			
Magnesium	494 ppm	*****				Mg	0	Mg		Mg			
Calcium	5929 ppm	*****				Lime		Lime		Lime			
Sodium	32 ppm	****											
Org.Matter	2.0 %	*****											
Carbonate(CCE)	1.0 %	*****				Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						0-6" 7.8		34.3 meq	% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-24" 0.24 mmho/cm 0.15 mmho/cm	*****				6-24" 8.4			(65-75) 86.4	(15-20) 12.0	(1-7) 1.1	(0-5) 0.4	(0-5) 0.0

General Comments: Soil texture is not estimated on high pH soils.

Crop 1: \*CAUTION: Seed-placed fertilizer can cause injury.\* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 44 K2O = 26 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.