R.M. OF CARTIER

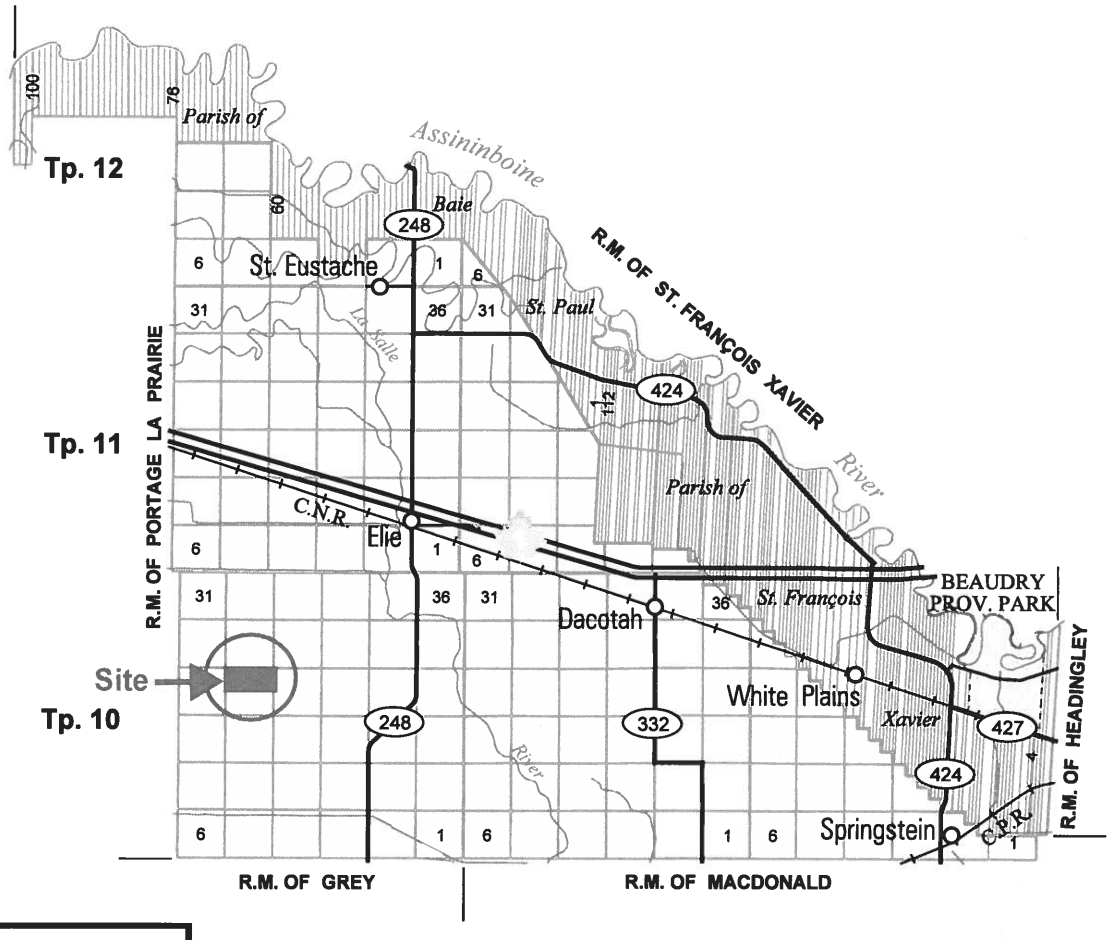
0 5
SCALE IN KILOMETRES

PROVINCE OF MANITOBA
INFRASTRUCTURE
HIGHWAY PLANNING AND DESIGN BRANCH
GEOGRAPHIC & RECORDS MANAGEMENT SECTION
WINNIPEG
JANUARY 1, 2015

REVISED: APRIL 2015

LEGEND

TRANS-CANADA HIGHWAY 1
PROVINCIAL ROADS 332
ACCESS ROADS .....
RAILWAYS .....



Waldheim Colony
NW & NE 20-10-3W
RM of Cartier

SHEET 1 of 1

Animal Units Calculator

A	B	C	Current Operation		Proposed Operation	
			D	E	F	G
Operation Type	**Animal Categories**	**Animal Units per Head**	**Current Number of Animals [1]**	**Current Animal Units**	**Proposed Number of Animals [2]**	**Proposed Number of Animal Units**
Dairy [3]	Mature cows (lactating and dry) including associated livestock	2		-		-
	Mature cows (lactating and dry)	1.35		-	-	-
	Heifers (0 to 3 months)	0.16		-		-
	Heifers (4 to 13 months)	0.41		-		-
	Heifers (> 13 months)	0.87		-		-
	Bulls	1.35		-	-	-
	Veal calves	0.13		-		-
Beef	Beef cows including associated livestock	1.25		-		-
	Backgrounder	0.5		-		-
	Summer pasture / replacement heifers	0.625		-		-
	Feeder cattle	0.769		-		-
Pigs	Sows - farrow to finish (234-254 lbs)	1.25	600	750	1,500	1,875
	Sows - farrow to weanling (up to 11 lbs)	0.25		-		-
	Sows - farrow to nursery (51 lbs)	0.313		-		-
	Boars (artificial insemination units)	0.2		-		-
	Weanlings, Nursery (11-51 lbs)	0.033		-		-
	Growers / Finishers (51-249 lbs)	0.143		-		-
Chickens	Broilers	0.005	4,000	20	4,000	20
	Roasters	0.01		-		-
	Layers	0.0083	20,000	166	20,000	166
	Pullets	0.0033	20,000	66	20,000	66
	Broiler breeder pullets	0.0033		-		-
	Broiler breeder hens	0.01		-		-
Turkeys	Broilers	0.01		-		-
	Heavy Toms	0.02		-		-
	Heavy Hens	0.01		-		-
Horses	Mares	1.333		-		-
Sheep	Ewes	0.2		-		-
	Feeder lambs	0.063		-		-
Other Livestock	Type:			-		-
	Type:			-		-
			Total Current:	1,002	Total Proposed:	2,127

Footnotes:

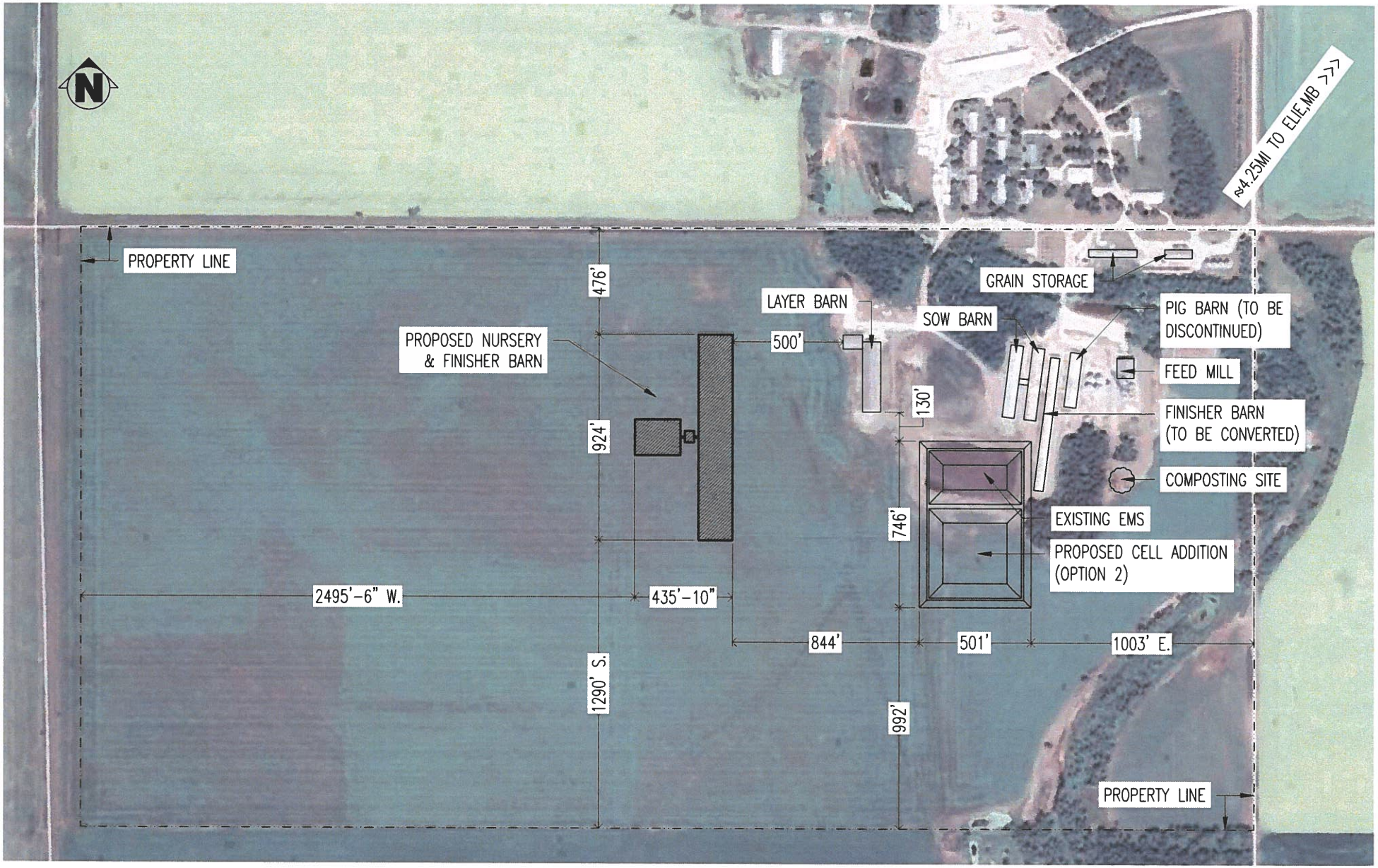
[1] Enter the current number of animals on the farm based on the operation's capacity (animal places) or previous Conditional Use Approval.

[2] Enter the total number of animals associated with the operation post construction or expansion.

[3] There are 2 methods for calculating animal units for dairy (Farm Practices Guidelines for Dairy Producers in Manitoba, 1995). You can enter the total number of mature cows in the milking herd under the "Mature cows (lactating and dry) including associated livestock" category and the animal units will be calculated by multiplying this number by 2. This calculation assumes 85 lactating, 15 dry, 12 heifers (0 to 3 months), 36 heifers (4 to 13 months) and 50 heifers (> 13 months) for an operation with 100 mature cows. "Associated livestock" includes all of the heifer calves and replacement heifers. Alternatively, you can enter animal numbers in the individual categories (mature cows, heifers (0 to 3 months), heifers (4 to 13 months) and heifers (> 13 months)) and they will be summed at the bottom of the table. Bulls and veal calves are always calculated separately.

For all other livestock or operation types please inquire with the Manitoba Agriculture Contacts

Manitoba



South-Man Engineering
8-851 Lagimodiere Blvd. | Winnipeg, Manitoba | R2J 3K4
PH. (204) 668-9652 | FAX (204) 668-9204

PROJECT NAME: WALDHEIM COLONY	BUILDING AREA: N/A
SHEET TITLE: SITE PLAN	DRAWN BY: R. FLORES, SOUTH-MAN ENGINEERING
DATE DRAWN: NOVEMBER 2019	DRAWING SCALE: SCALED TO FIT
SHEET NUMBER: SP-1B	

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Water Requirement Calculation Table

Livestock	Number	IG/day per animal in winter	IG/day per animal in summer	IG/day (Imperial gallons per day)
Beef/Dairy/Bison *				
Feeder/heifer/steer (600 lb.)		5	9	-
Feeder (900 lb.)		7	12	-
Feeder (1250 lb.)		10	15	-
Cow/calf pair		12	15	-
Dry milking cow **		10	12	-
Lactating cow **		25	30	-
Bison		8	10	-
Horses				
Horses		8	11	-
Hogs				
Sow (Farrow/wean)	225	6.5		1,463
Dry Sow/Boar	1,375	4		5,500
Feeder	15,300	3		45,900
Nursery (33 lb.)	6,300	2		12,600
Chickens				
Broilers	4,000	0.035		140
Roasters/Pullets	20,000	0.04		800
Layers	20,000	0.055		1,100
Breeders		0.07		-
Turkeys				
Turkey Growers		0.13		-
Turkey Heavies		0.16		-
Sheep/Goats				
Sheep/Goats		2		-
Ewes/Does		3		-
Lambs/Kids (90 lb.)		1.6		-
		TOTAL (IG/day)		**67,503**
	***	**TOTAL with 10% wash water**		**74,253**

* For beef, dairy, bison and horse enterprises:
Use summer numbers if appropriate for the operation.
Otherwise base projections on winter values.
Always use the greater of the two values.

** For intensive Dairy operations, please use the Dairy Barn Water Requirement Estimator found on separate sheet.

Enter this number on page 7 of Application Form.

***** 10% of the total is added to allow for wash water**

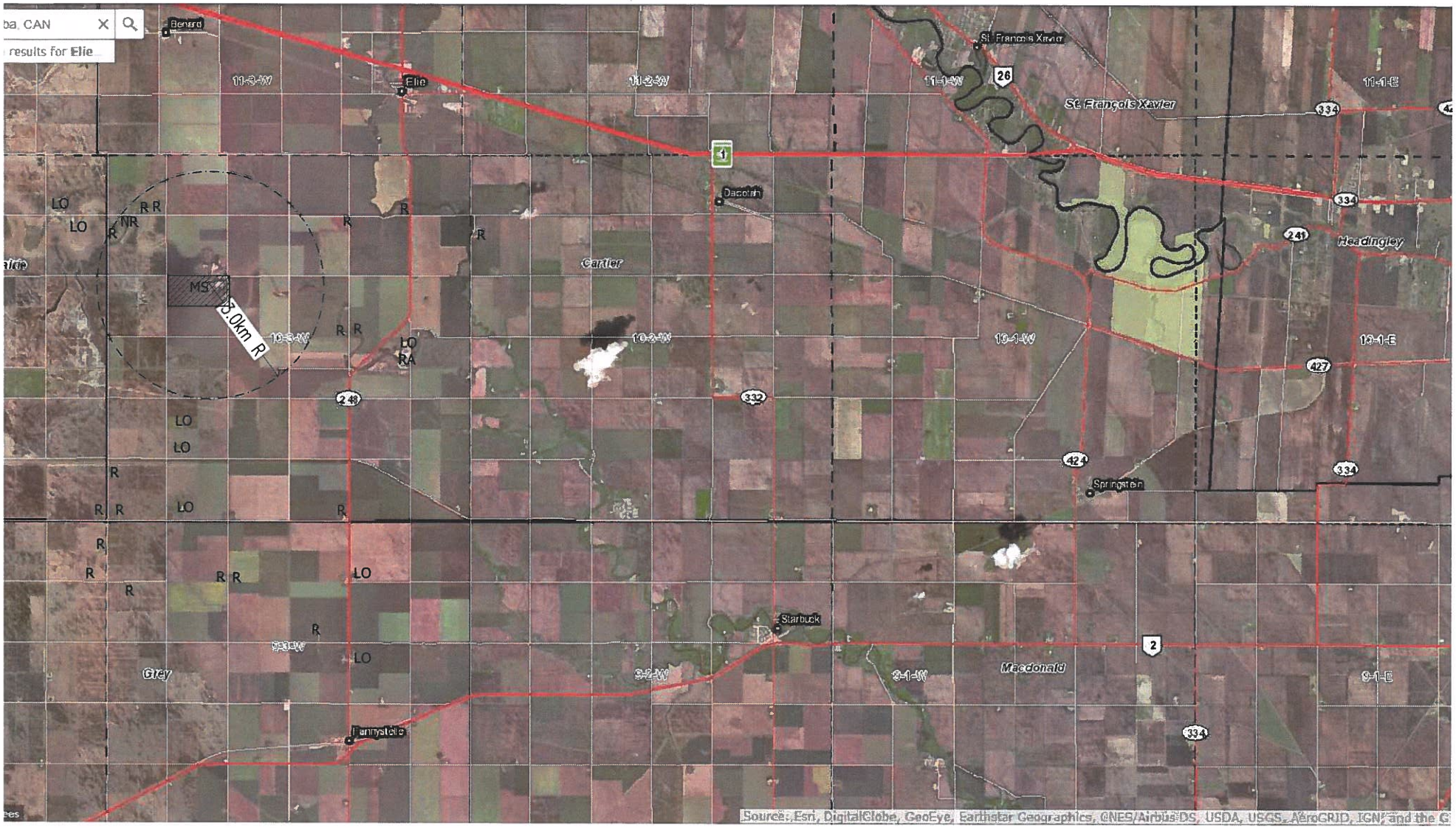
Other consumption:

Normal household consumption:
60-75 IG/day per person or
(272-340 l/day/person)

Unit Conversions		
Total per day	**Total per year**	**Unit**
74,253	**27,102,254**	**IG**
306,866	**112,006,223**	**litres**
0.307	**112**	**cubic decametres (dam^3)**

Enter this number on page 7 of Application Form.

Conversion Factor: 1 IGPM = 4.546 l/m



LEGEND:

- PROJECT SITE
- MS – MANURE STORAGE
- R – RESIDENCE
- RA – RESIDENTIAL AREA
- NR – NEAREST NEIGHBOR (APPROX. 8,800 FT)
- 3km NOTIFICATION AREA FOR THE PUBLIC CONDITIONAL USE HEARING

South-Man Engineering
8-851 Lagimodiere Blvd. | Winnipeg, Manitoba | R2J 3K4
PH. (204) 668-9652 | FAX (204) 668-9204

PROJECT NAME: WALDHEIM COLONY	BUILDING AREA: N/A
SHEET TITLE: LAND USE MAP	DRAWN BY: R. FLORES, SOUTH-MAN ENGINEERING
DATE DRAWN: NOVEMBER 2019	DRAWING SCALE: SCALED TO FIT
	SHEET NUMBER: SP-2A

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Select Year Range

2009 to 2018

SEARCH

Search Summary

74 records returned

390 farm varieties grown on **102,578.0** acres

Average Yield

1.775 Tonnes (**81.5** Bushels) per acre

Average Fertilizer Application

Nitrogen: **93.2** lbs per acre
Phosphorus: **33.0** lbs per acre
Potassium: **1.5** lbs per acre
Sulphur: **3.2** lbs per acre

Showing 1 to 50 of 74 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)	Sulphur (lbs)
2017	MACDONALD	BARLEY	D	4	905.0	116.0 Bushels	99.4	31.7	0.0	2.6
2017	CARTIER	BARLEY	D	6	2,370.0	115.8 Bushels	95.3	40.5	0.0	2.8
2017	GREY	BARLEY	D	4	1,595.0	113.9 Bushels	72.8	39.4	0.0	7.7
2013	CARTIER	BARLEY	D	10	4,363.0	108.9 Bushels	107.4	44.7	0.0	2.9
2014	MACDONALD	BARLEY	D	6	1,275.0	107.7 Bushels	96.9	41.7	0.0	5.1
2013	GREY	BARLEY	D	6	1,874.0	104.0 Bushels	91.6	35.0	2.0	2.0
2017	CARTIER	BARLEY	C	7	1,943.0	103.0 Bushels	93.7	22.2	1.3	5.9
2015	CARTIER	BARLEY	C	5	1,784.0	100.9 Bushels	91.2	30.2	0.0	4.6
2015	MACDONALD	BARLEY	D	7	2,195.0	100.8 Bushels	100.5	39.6	0.0	4.0
2016	CARTIER	BARLEY	E	3	721.0	100.2 Bushels	80.6	17.8	0.0	0.0
2013	CARTIER	BARLEY	C	4	1,445.0	98.6 Bushels	144.0	46.9	2.2	0.4
2009	CARTIER	BARLEY	E	5	620.0	98.3 Bushels	94.9	26.9	2.6	1.3

Select Year Range

2009 to 2018

SEARCH

Search Summary

88 records returned

3,474 farm varieties grown on **1,154,427.6** acres

Average Yield

0.873 Tonnes (**38.5** Bushels) per acre

Average Fertilizer Application

Nitrogen: **117.9** lbs per acre
Phosphorus: **34.5** lbs per acre
Potassium: **1.2** lbs per acre
Sulphur: **13.9** lbs per acre

Showing 1 to 50 of 88 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)	Sulphur (lbs)
2017	GREY	ARGENTINE CANOLA	E	3	707.0	62.1 Bushels	134.6	53.4	0.0	12.1
2017	MACDONALD	ARGENTINE CANOLA	C	42	12,423.0	57.7 Bushels	131.8	40.8	0.4	14.6
2017	CARTIER	ARGENTINE CANOLA	D	45	12,499.0	57.4 Bushels	131.9	37.5	1.4	13.9
2017	CARTIER	ARGENTINE CANOLA	C	26	5,546.0	56.8 Bushels	129.7	36.6	0.0	14.6
2017	MACDONALD	ARGENTINE CANOLA	D	97	35,190.0	55.6 Bushels	133.0	43.7	1.3	13.2
2017	GREY	ARGENTINE CANOLA	D	34	14,274.0	55.4 Bushels	131.6	42.8	1.3	17.0
2017	CARTIER	ARGENTINE CANOLA	E	7	1,590.0	54.7 Bushels	127.9	37.2	1.3	18.3
2017	MACDONALD	ARGENTINE CANOLA	E	43	12,975.0	54.5 Bushels	137.5	44.4	0.3	14.0
2018	CARTIER	ARGENTINE CANOLA	E	6	1,069.0	53.4 Bushels	133.5	31.5	0.0	13.1
2013	MACDONALD	ARGENTINE CANOLA	C	45	12,357.0	52.8 Bushels	111.2	35.3	0.0	13.1
2013	GREY	ARGENTINE CANOLA	E	5	879.0	51.6 Bushels	121.6	34.5	0.0	15.6
2013	MACDONALD	ARGENTINE CANOLA	D	103	32,550.0	51.1 Bushels	120.4	36.9	0.2	22.8

Select Year Range

2009 to 2018

SEARCH

Search Summary

79 records returned

457 farm varieties grown on **114,272.0** acres

Average Yield

3.084 Tonnes (**121.4** Bushels) per acre

Average Fertilizer Application

Nitrogen: **137.2** lbs per acre
Phosphorus: **41.4** lbs per acre
Potassium: **4.4** lbs per acre
Sulphur: **8.0** lbs per acre

Showing 1 to 50 of 79 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)	Sulphur (lbs)
2016	MACDONALD	GRAIN CORN	E	4	860.0	176.2 Bushels	153.7	37.9	5.8	6.3
2016	MACDONALD	GRAIN CORN	C	11	3,393.0	175.6 Bushels	161.7	48.0	3.8	9.3
2015	MACDONALD	GRAIN CORN	C	6	3,046.0	170.5 Bushels	147.0	52.5	5.3	1.0
2016	MACDONALD	GRAIN CORN	D	19	3,905.0	165.6 Bushels	145.7	41.9	1.9	7.9
2015	MACDONALD	GRAIN CORN	D	12	2,271.0	159.2 Bushels	156.7	53.7	3.4	37.5
2016	CARTIER	GRAIN CORN	C	4	804.0	154.9 Bushels	142.5	33.1	2.0	8.7
2016	CARTIER	GRAIN CORN	D	7	1,024.0	150.0 Bushels	167.9	44.4	0.0	5.0
2016	GREY	GRAIN CORN	D	12	2,701.0	144.6 Bushels	138.2	39.4	10.6	9.4
2015	CARTIER	GRAIN CORN	D	5	1,837.0	143.5 Bushels	153.7	43.5	0.0	10.7
2017	CARTIER	GRAIN CORN	D	6	2,053.0	141.6 Bushels	161.7	36.5	0.0	6.2
2012	CARTIER	GRAIN CORN	D	5	1,212.0	140.9 Bushels	94.6	24.8	0.0	0.0
2013	MACDONALD	GRAIN CORN	C	15	3,350.0	140.8 Bushels	136.9	41.2	2.5	6.6

Select Year Range

2009 to 2018

SEARCH

Search Summary

76 records returned

826 farm varieties grown on **287,653.1** acres

Average Yield

0.980 Tonnes (**36.0** Bushels) per acre

Average Fertilizer Application

Nitrogen: **4.9** lbs per acre
Phosphorus: **32.8** lbs per acre
Potassium: **1.3** lbs per acre
Sulphur: **3.1** lbs per acre

Showing 1 to 50 of 76 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)	Sulphur (lbs)
2016	GREY	SOYBEANS	E	3	631.0	50.6 Bushels	5.6	45.0	0.0	0.0
2016	CARTIER	SOYBEANS	C	6	1,327.0	48.8 Bushels	3.0	44.3	0.0	0.5
2016	MACDONALD	SOYBEANS	E	20	6,885.0	48.3 Bushels	2.1	36.3	0.0	2.9
2016	MACDONALD	SOYBEANS	C	12	3,061.0	47.2 Bushels	1.2	30.9	1.2	2.1
2016	MACDONALD	SOYBEANS	D	37	16,079.0	47.2 Bushels	2.1	32.5	1.1	1.6
2015	CARTIER	SOYBEANS	C	14	3,550.0	46.9 Bushels	5.2	29.2	0.7	0.6
2015	MACDONALD	SOYBEANS	C	13	2,729.0	46.1 Bushels	0.8	32.5	0.0	0.3
2016	GREY	SOYBEANS	D	15	6,661.0	44.7 Bushels	3.7	39.9	0.0	1.2
2016	CARTIER	SOYBEANS	E	3	753.0	44.4 Bushels	0.0	54.3	0.0	0.0
2013	CARTIER	SOYBEANS	E	4	595.0	44.2 Bushels	3.0	25.3	0.0	0.0
2016	CARTIER	SOYBEANS	D	21	9,182.0	44.2 Bushels	7.2	37.7	2.3	2.2
2015	MACDONALD	SOYBEANS	D	40	15,954.0	43.5 Bushels	6.8	34.1	0.7	14.0

Select Year Range

2009 to 2018

SEARCH

Search Summary

86 records returned

2,971 farm varieties grown on **850,121.6** acres

Average Yield

1.529 Tonnes (**56.2** Bushels) per acre

Average Fertilizer Application

Nitrogen: **106.8** lbs per acre
Phosphorus: **35.6** lbs per acre
Potassium: **0.8** lbs per acre
Sulphur: **3.7** lbs per acre

Showing 1 to 50 of 86 entries

First Previous Next Last

Year	Risk Area / R.M.	Crop	Soil	Farms	Acres	Yield/acre (Imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)	Sulphur (lbs)
2017	MACDONALD	RED SPRING WHEAT	C	38	10,397.0	84.6 Bushels	122.6	42.5	0.0	6.8
2017	GREY	RED SPRING WHEAT	D	39	13,876.0	83.6 Bushels	122.1	44.5	1.6	1.5
2017	GREY	RED SPRING WHEAT	E	4	720.0	82.2 Bushels	116.1	40.0	0.0	5.0
2017	CARTIER	RED SPRING WHEAT	D	29	9,210.0	81.5 Bushels	123.6	38.9	0.6	3.7
2017	MACDONALD	RED SPRING WHEAT	D	83	27,156.3	80.9 Bushels	120.5	39.9	0.0	3.2
2017	MACDONALD	RED SPRING WHEAT	E	35	8,185.3	80.2 Bushels	123.4	42.2	0.0	0.6
2017	CARTIER	RED SPRING WHEAT	C	21	3,361.0	79.0 Bushels	110.1	40.0	0.6	1.7
2018	CARTIER	RED SPRING WHEAT	E	7	578.0	74.1 Bushels	123.1	48.7	0.0	2.3
2013	MACDONALD	RED SPRING WHEAT	C	44	10,491.0	72.4 Bushels	100.8	34.6	0.0	2.7
2013	GREY	RED SPRING WHEAT	E	7	1,155.0	68.9 Bushels	106.5	35.8	1.4	2.8
2013	MACDONALD	RED SPRING WHEAT	D	89	25,642.0	68.3 Bushels	105.9	36.8	0.2	20.0
2013	CARTIER	RED SPRING WHEAT	C	17	3,152.0	67.8 Bushels	108.6	39.7	0.7	4.0

1a - Pigs

Operation Name:

Operation Type	Storage Type	Volatilization	Animal Numbers (Places)	Average Animal Wt (lb)	N Excreted Per Herd Adjusted for Storage N Loss (lb/yr/herd)	P2O5 Excreted Per Herd Per Year (lb/yr/herd)
Boars (Purchased)	Liquid Uncovered Earthen	30%		465	0	0
Weanlings	Liquid Uncovered Earthen	30%		38	0	0
Growers/Finishers	Liquid Uncovered Earthen	30%		171	0	0
Sows, farrow to 6.2 kg	Liquid Uncovered Earthen	30%		n/a	0	0
Sows, farrow to 28 kg	Liquid Uncovered Earthen	30%		n/a	0	0
Sows, farrow to finish	Liquid Uncovered Earthen	30%	1500	n/a	425433	224980

Last Revised April 26, 2018

1e - Poultry
Operation Name:

Species / Commodity	Type of Operation	Storage Type	Volatilization	Bird Places	Weight In (lb)	Weight Out (lb)	Average Weight (lb)	Days on Feed	Cycles per Year	N Excreted Adjusted for N Loss lb/flock/yr	P2O5 Excreted lb/flock/yr
Chickens	Broilers	Field Storage	40%	4000	0.05	4.36	2.20	33	7.4	1239	1380
Chickens	Broiler Breeder Pullets	Field Storage	40%		0.05	4.40	2.23	140	2	0	0
Chickens	Broiler Breeder Hens	Field Storage	40%		4.40	8.67	6.53	273	1	0	0
Eggs	Layer Pullets	Liquid Covered	10%		0.05	3.04	1.54	133	2	0	0
Eggs	Layer Hens	Liquid Uncovered Earthen	30%	20000	3.03	3.74	3.38	355	1	19133	18778
Eggs	Breeder Pullets	Liquid Uncovered Earthen	30%	20000	0.05	3.04	1.54	133	2	6321	6203
Eggs	Breeder Hens	Liquid Covered	10%		3.03	3.74	3.38	351	1	0	0
Turkey	Broiler Hens (0-9 wks)	Field Storage	40%		0.06	12.39	6.22	63	4	0	0
Turkey	Hens (0-11 wks)	Field Storage	40%		0.06	16.46	8.26	77	3.5	0	0
Turkey	Heavy Hens (0-14 wks)	Field Storage	40%		0.06	21.19	10.62	98	3	0	0
Turkey	Light Toms (0-12 wks)	Field Storage	40%		0.06	21.19	10.62	84	3	0	0
Turkey	Toms (0-13 wks)	Field Storage	40%		0.06	26.84	13.45	91	3	0	0
Turkey	Heavy Toms (0-15 wks)	Field Storage	40%		0.06	30.29	15.18	105	2.5	0	0
Turkey	Breeding Hen Growers (0-30 wks)	Field Storage	40%		0.06	26.95	13.51	210	1	0	0
Turkey	Breeding Hens (30-60 wks)	Field Storage	40%		26.95	24.95	25.95	210	1	0	0
Turkey	Breeding Tom Grower (0-18 wks)	Field Storage	40%		0.06	33.92	16.99	126	2	0	0
Turkey	Breeding Tom Grower (0-30 wks)	Field Storage	40%		0.06	50.89	25.47	210	1	0	0
Turkey	Breeding Tom (30-60 wks)	Field Storage	40%		50.89	61.86	56.38	210	1	0	0

2 - Crop Rotation

Operation Name: Enter the operation name on the livestock tab(s)

Crop	Removal P2O5	Removal N	Uptake N	Units	Yield	Units	Acreage	Removal P2O5 (lb)	Removal N (lb)	Uptake N (lb)
Alfalfa	13.8	58	58	lb/ton		ton/ac		-	-	-
Barley Grain	0.42	0.97	1.39	lb/bu	81.5	bu/ac	1188	40665	93917	134583
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu	38.5	bu/ac	1900	76076	141180	233349
Corn Grain	0.44	0.97	1.53	lb/bu	121.4	bu/ac	237	12660	27909	44021
Corn Silage	12.7	31.2	31.2	lb/ton		tons/ac		-	-	-
Dry Edible Beans	1.39	4.17		lb/cwt		cwt/ac		-	-	-
Fababeans	1.79	5.02	8.4	lb/cwt		cwt/ac		-	-	-
Flax	0.65	2.13	2.88	lb/bu		bu/ac		-	-	-
Grass Hay	10	34.2	34.2	lb/ton		tons/ac		-	-	-
Lentils	1.03	3.39	5.08	lb/cwt		cwt/ac		-	-	-
Oats	0.26	0.62	1.07	lb/bu		bu/ac		-	-	-
Pasture (grazed)	10	34.2	34.2	lb/ton	0.5	ton/ac		-	-	-
Peas	0.69	2.34	3.06	lb/bu		bu/ac		-	-	-
Potatoes	0.09	0.32	0.57	lb/cwt		cwt/ac		-	-	-
Rye	0.45	1.06	1.67	lb/bu		bu/ac		-	-	-
Soybeans	0.84	3.87	5.2	lb/bu	36	bu/ac	475	14364	66177	88920
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu	56.2	bu/ac	950	31500	80085	112653
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-	-	-
						Total Acres	4750	175265	409267	613525
						Estimated Average Removal/Uptake (lb/ac)		36.9	86.2	129.2
						Acres in Hanover and La Broquerie				
						Proportion in Hanover or La Broquerie	0%			
						Additional Acres				
						Crop Planned on Additional Acres				
						Total Acreage	4750			

***Notes:** Enter the number of acres that are in the RM's of Hanover or La Broquerie in cell H26.
Additional acres include acres for which crop removal or soil data is limited or unavailable.

Last revised December 18, 2017

3 - Farm Excretion

Operation Name: Enter the operation name on the livestock tab(s)

Species	Animal Category/Operation type	N (lb/year)	P2O5 (lb/year)
Pigs	Boars	0	0
	Weanlings	0	0
	Growers/finishers	0	0
	Sows, farrow to 5 kg	0	0
	Sows, farrow to 23 kg	0	0
	Sows, farrow to finish	425433	224980
Beef	Mature Cows and Bred Heifers, plus associated livestock	0	0
	Feedlot Cattle - long keep	0	0
	Feedlot Cattle - short keep	0	0
	Backgrounders - pasture	0	0
	Backgrounders - confined	0	0
Dairy	Mature Cows, plus assoc livestock	0	0
Sheep	Ewes	0	0
	Replacement Ewes	0	0
	Rams	0	0
	Lambs	0	0
	Ewes, plus assoc livestock	0	0
	Feeder	0	0
Chickens	Broilers	1239	1380
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
Layers	Layer Pullets	0	0
	Layer Hens	19133	18778
	Breeder Pullets	6321	6203
	Breeder Hens	0	0
Turkeys	Broiler Hens (0-9 wks)	0	0
	Hens (0-11 wks)	0	0
	Heavy Hens (0-14 wks)	0	0
	Light Toms (0-12 wks)	0	0
	Toms (0-13 wks)	0	0
	Heavy Toms (0-15 wks)	0	0
	Breeding Hen Growers (0-30 wks)	0	0
	Breeding Hens (30-60 wks)	0	0
	Breeding Tom Grower (0-18 wks)	0	0
	Breeding Tom Grower (0-30 wks)	0	0
	Breeding Tom (30-60 wks)	0	0
	Total	**452127**	**251341**

Note: Be sure all livestock species on your farm are represented in this table, not just the livestock in the proposed expansion.

4 - Land Base Summary	
Operation Name:	**Enter the operation name on the livestock tab(s)**
Nutrients Excreted	**lbs**
Nitrogen	452127
Phosphorus (P2O5)	251341
Crop Nutrient Use	**lb/ac**
Crop N Uptake	129.2
Crop Phosphorus (P2O5) Removal	36.9
Operation-specific Phosphorus (P2O5) Credit	73.8
Land Available	4750
Land Base Required	**acres**
Acres for Nitrogen	**3500**
Acres for Phosphorus (P2O5)	**3406**
Phosphorus Balance	**acres**
Acres for Phosphorus Balance (1X)	**6812**

Last revised October 16, 2018

Manure Application Field Characteristics Table

	A	B	C	D	E	F	G
Field ID	Legal description	Rural Municipality	O/C/L/A	Setbacks, including features	Net acreage for manure application	Agriculture capability class and subclass	Soil Phosphorus (ppm Olsen P) 0-6 inches
1	N1/2 20-9-3W	Grey	O	3m; Property line and residence	310	3W; 2W-3W; 3W-3NW	14
2	SE 34-9-1E	Macdonald	L	3m; Property line	154	2W-3W; 3W-3NW	8
3	NE 27-9-1E	Macdonald	L	3m; Property line	150	2W-3W; 3W-3NW	9
4	SW & NE 18-9-3W	Grey	O	3m; Property line	117	2W-3W; 3W-2W	19
5	E1/2 6-10-1W	Cartier	L	3m; Property line	303	2W-3W; 3W-3NW	21
6	N1/2 NE 19-9-3W	Grey	O	3m; Property line	78	2W; 3W	20
7	W1/2 12-9-3W	Grey	O	3m; Property line	316	3W; 2W-1; 2W-3W	11
8	N1/2 13-9-3W	Grey	O	3m; Property line	257	3W; 2W-1; 2W-3W	13
9	SE & NE1/2 7-10-1W	Cartier	L	3m; Property line	237	2W-3W; 3W-3NW	19
10	NE 16-10-3W	Cartier	O	3m; Property line	158	2W-3W; 3W-3NW	13
11	SW 28-10-3W	Cartier	O	3m; Property line and watercourse	152	2W-3W	40
12	SE & NE1/2 21-10-3W	Cartier	O	3m; Property line and watercourse	237	2W; 2W-3W; 3W-3NW	23
13	N1/2 of NE 21-10-3W	Cartier	O	3m; Property line and watercourse	71	2W	42
14	N1/2 29-10-3W	Cartier	O	3m; Property line	299	2W; 2W-3W	26
15	SW 29-10-3W	Cartier	O	3m; Property line and watercourse	122	2W; 2W-3W; 3W-3NW	31
16	SW 20-10-3W	Cartier	O	3m; Property line	158	2W-3W; 3W-3NW	34
17	SE 20-10-3W	Cartier	O	3m; Property line, shrbs & watercou	136	2W-3W; 3W-3NW	31
18	SW & NW1/2 22-10-3W	Cartier	O	3m; Property line and watercourse	231	2W; 3W-3NW	49
19	SE 4-11-3W	Cartier	O	3m; Property line	158	2W-3W; 3W-3NW	15

Total net acreage for manure application: 3,644

A. Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).

B. Identify the Rural Municipality in which the parcel is located.

C. Indicate how the land has been secured for manure application: O – Own / C – Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (e.g., C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).

D. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (e.g., 8m, Order 3 drain).

E. Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.

F. Enter the agriculture capability class and sub-class ratings for the acreage available for manure application.

G. Provide soil test results for Phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 36 months old and must be completed by an accredited soil-testing laboratory.

Manitoba

Manure Application Field Characteristics Table

	A	B	C	D	E	F	G
Field ID	Legal description	Rural Municipality	O/C/L/A	Setbacks, including features	Net acreage for manure application	Agriculture capability class and subclass	Soil Phosphorus (ppm Olsen P) 0-6 inches
20	NE 4-11-3W	Cartier	O	3m; Property line	158	2W-3W; 3W-3NW	16
21	SE & NE1/2 27-10-3W	Cartier	O	3m; Property line and watercourse	236	2W-3W; 3W-3NW	16
22	NE 32-10-2W	Cartier	L	3m; Property line	128	2W-3W	22
23	SW & NW 18-10-3W	Cartier	L	3m; Property line	118	3W-3NW	20
24	E1/2 19-10-3W	Cartier	O	3m; Property line	316	2W-3W; 3W-3NW	25
25	SE 17-10-3W	Cartier	O	3m; Property line and watercourse	150	2W-3W; 3W-3NW	11

Total net acreage for manure application: 1,106

A. Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).

B. Identify the Rural Municipality in which the parcel is located.

C. Indicate how the land has been secured for manure application: O – Own / C – Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (e.g., C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).

D. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (e.g., 8m, Order 3 drain).

E. Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.

F. Enter the agriculture capability class and sub-class ratings for the acreage available for manure application.

G. Provide soil test results for Phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 36 months old and must be completed by an accredited soil-testing laboratory.

Manitoba

Manure Application Field Characteristics Table

	A	B	C	D	E	F	G
Field ID	Legal description	Rural Municipality	O/C/L/A	Setbacks, including features	Net acreage for manure application	Agriculture capability class and subclass	Soil Phosphorus (ppm Olsen P) 0-6 inches
1	NW 26-9-2W	Macdonald	O	3m; Property line	104	2D; 2W; 3W	
2	NW 28-10-3W	Cartier	O	3m; Property line	158	2W-3W; 3W-3NW	
3	S1/2 33-11-3W	Cartier	L	3m; Property line	260	2W; 3W	
4	N of NE 23-9-2W	Macdonald	L	3m; Property line	24	2W; 3W	
5	NW 23-9-2W	Macdonald	L	3m; Property line	39	2W; 3W; 3I	
6	S of NE 23-9-2W	Macdonald	L	3m; Property line	116	2W; 3W	
7	NW 21-10-3W	Cartier	O	3m; Property line	138	2W; 2W-3W	
8	NW 20-10-3W	Cartier	O	3m; Property line	158	2W-3W; 3W-3NW	
9	NE 20-10-3W	Cartier	O	3m; Property line	105	2W; 2W-3W; 3W-3NW	
10	N1/2 17-10-3W	Cartier	O	3m; Property line	316	2W-3W; 3W-3NW	
11	SE 9-11-4W	Portage La Prairie	L	3m; Property line, drain	150	3W	
12	SW 9-11-4W	Portage La Prairie	L	3m; Property line	157	3W	
13	NW 9-11-4W	Portage La Prairie	L	3m; Property line, drain	77	3W	

Total net acreage for manure application: 1,802

Additional available acres without soil tests

A. Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).

B. Identify the Rural Municipality in which the parcel is located.

C. Indicate how the land has been secured for manure application: O – Own / C – Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (e.g., C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).

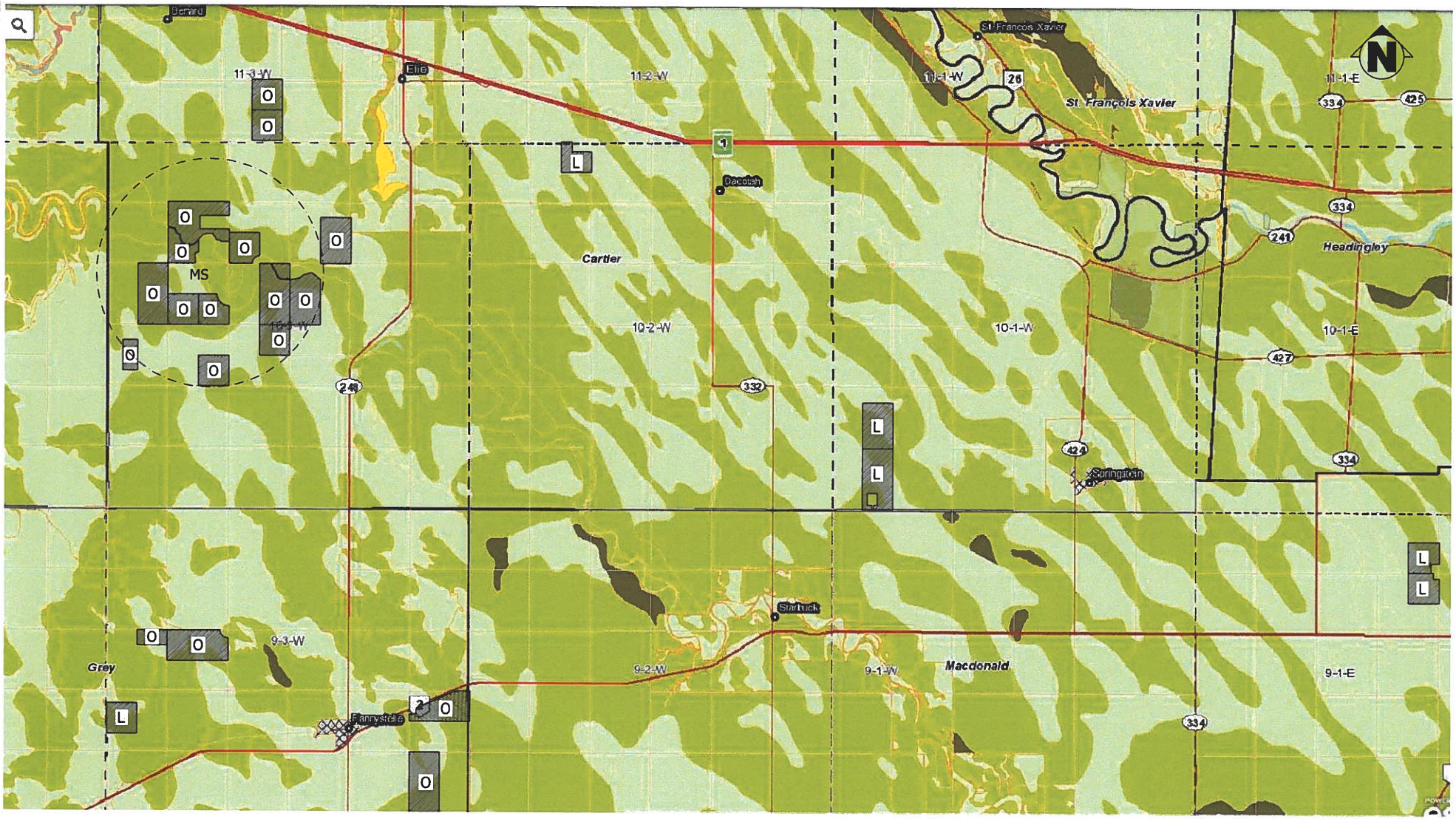
D. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (e.g., 8m, Order 3 drain).

E. Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.

F. Enter the agriculture capability class and sub-class ratings for the acreage available for manure application.

G. Provide soil test results for Phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 36 months old and must be completed by an accredited soil-testing laboratory.

Manitoba



LEGEND:

- LO – LIVESTOCK OPERATIONS
- O – SPREAD FIELDS (OWNED)
- L – SPREAD FIELDS (LEASED)
- MS – MANURE STORAGE
- ----- – 3km NOTIFICATION AREA FOR THE PUBLIC CONDITIONAL USE HEARING

– SOIL CLASS 3

– SOIL CLASS 2

South-Man Engineering

8-851 Lagimodiere Blvd. | Winnipeg, Manitoba | R2J 3K4
PH. (204) 668-9652 | FAX (204) 668-9204

PROJECT NAME: WALDHEIM COLONY	BUILDING AREA: N/A
SHEET TITLE: SPREAD FIELD MAP	DRAWN BY: R. FLORES, SOUTH-MAN ENGINEERING
DATE DRAWN: NOVEMBER 2019	DRAWING SCALE: SCALED TO FIT
SHEET NUMBER: SP-2B	

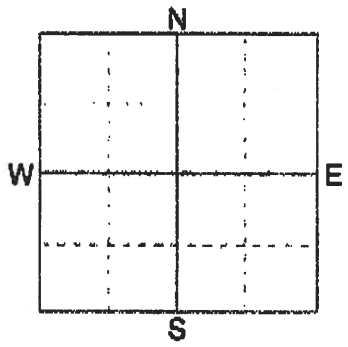
C:\Users\Richie\SME\Waldheim Colony\Tech Review\WALDHEIM COLONY_TECH REVIEW_rev01.dwg

RICHARDSON PIONEER

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

SOIL TEST REPORT

FIELD ID VINCE 320
SAMPLE ID 1
FIELD NAME
COUNTY
TWP RANGE
N 1/2
SECTION QTR 20-9-SW ACRES 320



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Elie, MB R0H 0H0

SUBMITTED BY: PI2813
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2372284 BOX # 5877
LAB # NW187570

Date Sampled | Date Received 11/10/2018 | Date Reported 11/22/2019

Nutrient In The Soil		Interpretation
		Low Low Med High
0-6" / 6-24"	12 lb/ac / 15 lb/ac	
0-24" Nitrate	27 lb/ac	
Olsen Phosphorus	14 ppm	
Potassium	502 ppm	
0-24" Chloride	524 lb/ac	
0-6" / 6-24" Sulfur	28 lb/ac / 150 lb/ac	
Boron	1.1 ppm	
Zinc	0.67 ppm	
Iron	60.0 ppm	
Manganese	2.9 ppm	
Copper	2.02 ppm	
Magnesium	1554 ppm	
Calcium	4571 ppm	
Sodium	55 ppm	
Org Matter	5.7 %	
Carbonate (CCE)	0.7 %	
0-6" / 6-24" Soil Salts	0.49 mmho/cm / 0.72 mmho/cm	

1st Crop Choice		
Soybeans		
YIELD GOAL		
45 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE	APPLICATION	
N	***	
P2O5	34	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd Crop Choice		
Soybeans		
YIELD GOAL		
50 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE	APPLICATION	
N	***	
P2O5	38	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

3rd Crop Choice		
Soybeans		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE	APPLICATION	
N	***	
P2O5	41	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			%Ca	%Mg	%K	%Na	%H
0-6" 7.4 6-24" 8.0		37.3 meq	(65-75) 61.2	(15-20) 34.7	(1-7) 3.4	(0-5) 0.8	(0-5) 0.0

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is low based on the salt and carbonate levels. Crop Removal: P2O5 = 34 K2O = 53 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is low based on the salt and carbonate levels. Crop Removal: P2O5 = 38 K2O = 59 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.

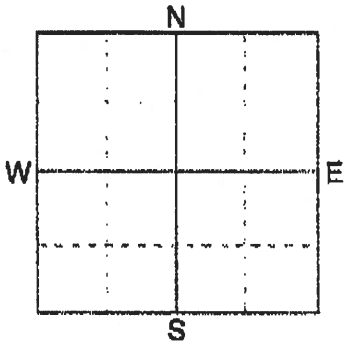
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is low based on the salt and carbonate levels. Crop Removal: P2O5 = 41 K2O = 65 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.

RICHARDSON PIONEER

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

SOIL TEST REPORT

FIELD ID OAK BLUFF NORTH
SAMPLE ID
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR SE 34-9-1E ACRES 156
PREV. CROP Wheat-Spring



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Ella, MB R0H 0H0

SUBMITTED BY: PI2813
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2682153 BOX # 600
LAB # NW62876

Date Sampled | Date Received 09/09/2019 | Date Reported 11/22/2019

Nutrient In The Soil		Interpretation
		Very Low Low Med High
0-6"	28 lb/ac	
6-24"	81 lb/ac	
0-24" Nitrate	109 lb/ac	
Olsen Phosphorus	8 ppm	
Potassium	453 ppm	
0-24" Chloride	472 lb/ac	
0-6"	26 lb/ac	
6-24" Sulfur	138 lb/ac	
Boron	1.5 ppm	
Zinc	0.57 ppm	
Iron	35.4 ppm	
Manganese	1.7 ppm	
Copper	2.18 ppm	
Magnesium	1935 ppm	
Calcium	6036 ppm	
Sodium	213 ppm	
Org Matter	6.3 %	
Carbonate (ODT)	3.1 %	
0-6"	1.13 mmho/cm	
6-24" Soil Salts	1.12 mmho/cm	

1st Crop Choice		
Soybeans		
YIELD GOAL		
35 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	28	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd Crop Choice		
Soybeans		
YIELD GOAL		
45 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	36	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	2	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

3rd Crop Choice		
Soybeans		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	44	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	2	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			%Ca	%Mg	%K	%Na	%H
0-6" 7.7		48.4 meq	(65-75) 62.4	(15-20) 33.3	(1-7) 2.4	(0-5) 1.9	(0-5) 0.0
6-24" 8.0							

General Comments: Texture is not estimated on high pH soils.

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is very high based on the salt and carbonate levels. Crop Removal: P2O5 = 26 K2O = 41 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is very high based on the salt and carbonate levels. Crop Removal: P2O5 = 34 K2O = 53 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

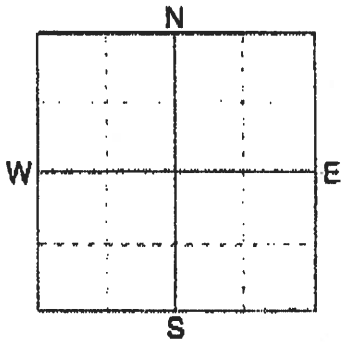
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is very high based on the salt and carbonate levels. Crop Removal: P2O5 = 41 K2O = 63 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

RICHARDSON PIONEER

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

SOIL TEST REPORT

FIELD ID OAK BLUFF SOUTH
SAMPLE ID
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR NE 27-9-1E ACRES 152
PREV. CROP Wheat-Spring



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Elie, MB R0H 0H0

SUBMITTED BY: PI2813
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2682155 BOX # 578
LAB # NW62877

Date Sampled | Date Received 09/09/2019 | Date Reported 11/22/2019

Nutrient In The Soil		Interpretation (Very Low / Low / Med / High)
Nitrate 0-6"	45 lb/ac	
Nitrate 6-24"	48 lb/ac	
Nitrate 0-24"	93 lb/ac	
Olsen Phosphorus	9 ppm	
Potassium	494 ppm	
Chloride 0-24"	472 lb/ac	
Sulfur 0-6"	74 lb/ac	
Sulfur 6-24"	108 lb/ac	
Boron	1.1 ppm	
Zinc	0.62 ppm	
Iron	50.7 ppm	
Manganese	2.0 ppm	
Copper	2.02 ppm	
Aluminum	1949 ppm	
Calcium	6257 ppm	
Sodium	148 ppm	
Org. Matter	6.4 %	
Carbonate (CCE)	2.0 %	
Soil Salts 0-6"	0.84 mmho/cm	
Soil Salts 0-24"	0.94 mmho/cm	

1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
Canola-bu			Canola-bu			Canola-bu		
YIELD GOAL			YIELD GOAL			YIELD GOAL		
40 BU			50 BU			60 BU		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
Band/Maint.			Band/Maint.			Band/Maint.		
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N	47		N	82		N	117	
P_2O_5	36	Band *	P_2O_5	45	Band *	P_2O_5	54	Band *
K_2O	0		K_2O	0		K_2O	0	
Cl		Not Available	Cl		Not Available	Cl		Not Available
S	10	Band	S	10	Band	S	10	Band
B	0		B	0		B	0	
Zn	0		Zn	1	Band	Zn	1	Band
Fe	0		Fe	0		Fe	0	
Mn	0		Mn	0		Mn	0	
Cu	0		Cu	0		Cu	0	
Mg	0		Mg	0		Mg	0	
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			%Sat Ca	%Sat Mg	%Sat K	%Sat Na	%Sat H
0-6" 7.6 6-24" 8.0		49.4 meq	(65-75) 63.3	(15-20) 32.9	(1-7) 2.6	(0-5) 1.3	(0-5) 0.0

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 18 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

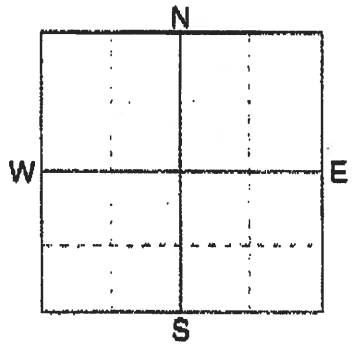
Crop 3: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

RICHARDSON PIONEER

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

SOIL TEST REPORT

FIELD ID VINCE 120
SAMPLE ID 1
FIELD NAME
COUNTY
TWP RANGE
SECTION QTR NE 18-9-3W ACRES 120 North
PREV. CROP Wheat-Spring



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Elie, MB R0H 0H0

SUBMITTED BY: PI2813
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2372283 BOX # 5736
LAB # NW187565

Date Sampled | Date Received 11/10/2018 | Date Reported 11/22/2019

Nutrient In The Soil		Interpretation (Very Low / Low / Med / High)
Nitrate 0-6"	20 lb/ac	
Nitrate 6-24"	57 lb/ac	
Nitrate 0-24"	77 lb/ac	
Phosphorus Olsen	19 ppm	
Potassium	490 ppm	
Chloride 0-24"	900 lb/ac	
Sulfur 0-6"	18 lb/ac	
Sulfur 6-24"	360 +lb/ac	
Boron	1.1 ppm	
Zinc	0.63 ppm	
Iron	46.3 ppm	
Manganese	2.8 ppm	
Copper	2.14 ppm	
Sodium	1822 ppm	
Calcium	4986 ppm	
Aadium	54 ppm	
Org Matter	5.8 %	
S Absorb(SOB)	1.3 %	
Salinity 0-6"	0.63 mmho/cm	
Salinity 6-24"	1.19 mmho/cm	

1st Crop Choice		
Soybeans		
YIELD GOAL		
45 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	34	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd Crop Choice		
Soybeans		
YIELD GOAL		
50 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	38	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

3rd Crop Choice		
Soybeans		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	41	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			%Ca (65-75)	%Mg (15-20)	%K (1-7)	%Na (0-5)	%H (0-5)
0-6" 7.5 6-24" 7.9		39.1 meq	63.8	32.4	3.2	0.6	0.0

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is moderate based on the salt and carbonate levels. Crop Removal: P2O5 = 34 K2O = 53 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is moderate based on the salt and carbonate levels. Crop Removal: P2O5 = 38 K2O = 59 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

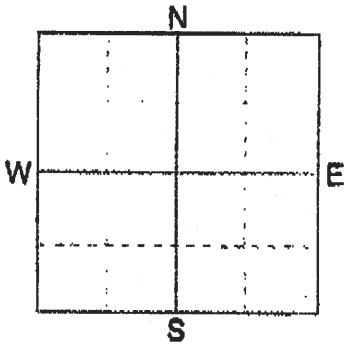
Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is moderate based on the salt and carbonate levels. Crop Removal: P2O5 = 41 K2O = 65 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

RICHARDSON PIONEER

Soil Analysis by Agvise Laboratories
(http://www.agvise.com)
Northwood: (701) 587-6010
Benson: (320) 843-4189

SOIL TEST REPORT

FIELD ID ED'S FARMYARD HALF
SAMPLE ID
FIELD NAME ED'S FARMYARD HALF
COUNTY
TWP RANGE
E 1/2
SECTION QTR 6-10-1W ACRES 307 300



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Elie, MB R0H 0H0

SUBMITTED BY: PI2813
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2372235 BOX # 6014
LAB # NW140290

Date Sampled | Date Received 10/22/2018 | Date Reported 11/22/2019

Nutrient In The Soil		Interpretation	1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
		Very Low / Low / Med / High	Canola-bu			Canola-bu			Canola-bu		
0-6"	31 lb/ac		YIELD GOAL			YIELD GOAL			YIELD GOAL		
6-24"	99 lb/ac		50 BU			45 BU			60 BU		
0-24" Nitrate	130 lb/ac		SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
			Band/Maint.			Band/Maint.			Band/Maint.		
			LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION	
Olsen Phosphorus	21 ppm		N	45		N	28		N	80	
Potassium	530 ppm		P_2O_5	45	Band *	P_2O_5	41	Band *	P_2O_5	54	Band *
0-24" Chloride	144 lb/ac		K_2O	0		K_2O	0		K_2O	0	
0-6"	108 lb/ac		Cl		Not Available	Cl		Not Available	Cl		Not Available
6-24" Sulfur	360 +lb/ac		S	10	Band	S	10	Band	S	10	Band
Boron	1.5 ppm		B	0		B	0		B	0	
Zinc	0.67 ppm		Zn	1	Band	Zn	1	Band	Zn	1	Band
Iron	38.0 ppm		Fe	0		Fe	0		Fe	0	
Manganese	2.2 ppm		Mn	0		Mn	0		Mn	0	
Copper	1.78 ppm		Cu	0		Cu	0		Cu	0	
Magnesium	1741 ppm		Mg	0		Mg	0		Mg	0	
Calcium	6661 ppm		Lime			Lime			Lime		
Sodium	88 ppm										
Org Matter	6.6 %										
Carbonate(CCE)	2.5 %										
0-6"	0.9 mmho/cm										
6-24"	1.07 mmho/cm										
Soil Salts											

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.6 6-24" 8.2		49.6 meq	(65-75) 67.2	(15-20) 29.3	(1-7) 2.7	(0-5) 0.8	(0-5) 0.0

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 25 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 41 K2O = 20 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

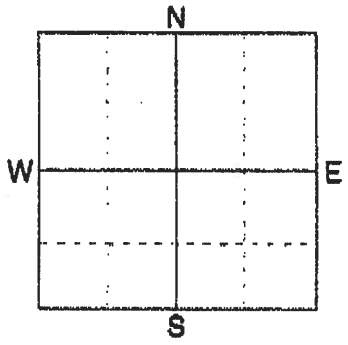
Crop 3: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

RICHARDSON PIONEER

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

SOIL TEST REPORT

FIELD ID VINCE 80
SAMPLE ID 1
FIELD NAME
COUNTY
TWP RANGE
SECTION N½ QTR NE 19-9-3W ACRES 80
PREV. CROP Wheat-Spring



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Elie, MB R0H 0H0

SUBMITTED BY: PI2813
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2372282 BOX # 5877
LAB # NW187566

Date Sampled | Date Received 11/10/2018 | Date Reported 11/22/2018

Nutrient In The Soil		Interpretation (Very Low / Low / Med / High)
Nitrate 0-6"	43 lb/ac	
Nitrate 6-24"	84 lb/ac	
Nitrate 0-24"	97 lb/ac	
Olsen Phosphorus	20 ppm	
Potassium	492 ppm	
Chloride 0-24"	160 lb/ac	
Sulfur 0-6"	20 lb/ac	
Sulfur 6-24"	78 lb/ac	
Boron	1.1 ppm	
Zinc	1.30 ppm	
Iron	70.7 ppm	
Manganese	4.4 ppm	
Copper	2.07 ppm	
Magnesium	1416 ppm	
Calcium	5011 ppm	
Sodium	46 ppm	
Org Matter	6.7 %	
Carbonate (CCE)	1.3 %	
Soil Salts 0-6"	0.59 mmho/cm	
Soil Salts 6-24"	0.57 mmho/cm	

1st Crop Choice		
Soybeans		
YIELD GOAL		
45 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	34	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mo	0	
Lime		

2nd Crop Choice		
Soybeans		
YIELD GOAL		
50 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	38	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mo	0	
Lime		

3rd Crop Choice		
Soybeans		
YIELD GOAL		
55 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	***	
P2O5	41	Band *
K2O	0	
Cl	0	
S	5	Band (Trial)
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mo	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.2 6-24" 7.8		38.5 meq	(65-75) 65.1	(15-20) 30.7	(1-7) 3.3	(0-5) 0.5	(0-5) 0.4

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is moderate based on the salt and carbonate levels. Crop Removal: P2O5 = 34 K2O = 53 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is moderate based on the salt and carbonate levels. Crop Removal: P2O5 = 38 K2O = 59 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. The risk of the development of iron chlorosis on soybeans on this field is moderate based on the salt and carbonate levels. Crop Removal: P2O5 = 41 K2O = 65 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

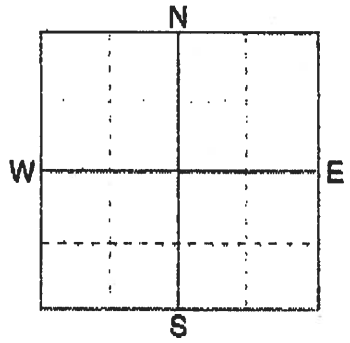
(7)

RICHARDSON PIONEER

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

SOIL TEST REPORT

FIELD ID PAINCHAUD 320
SAMPLE ID 1
FIELD NAME
COUNTY
TWP RANGE W,
SECTION QTR HALF ACRES 320



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Elie, MB R0H 0H0

SUBMITTED BY: PI2813
[illegible] Crop Canada Inc
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2372266 BOX # 2274
LAB # NW149868

Date Sampled | Date Received 10/24/2018 | Date Reported 11/22/2019

Nutrient In The Soil		Interpretation (Very Low / Low / Med / High)
Nitrate	0-6": 15 lb/ac 6-24": 27 lb/ac 0-24": 42 lb/ac	
Phosphorus (Olsen)	11 ppm	
Potassium	557 ppm	
Chloride	0-24": 532 lb/ac	
Sulfur	0-6": 42 lb/ac 6-24": 90 lb/ac	
Boron	1.2 ppm	
Zinc	0.62 ppm	
Iron	53.6 ppm	
Manganese	4.7 ppm	
Copper	2.45 ppm	
Aluminum	1619 ppm	
Calcium	5624 ppm	
Sodium	63 ppm	
Org Matter	6.5 %	
Carbonate (CCE)	1.5 %	
Soil Salts	0-6": 0.54 mmho/cm 6-24": 0.86 mmho/cm	

1st Crop Choice		
Oats		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	48	
P2O5	23	Band *
K2O	10	Band (Starter)*
Cl	0	
S	0	
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

2nd Crop Choice		
Oats		
YIELD GOAL		
140 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	98	
P2O5	35	Band *
K2O	10	Band (Starter)*
Cl	0	
S	0	
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

3rd Crop Choice		
Oats		
YIELD GOAL		
150 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	108	
P2O5	38	Band *
K2O	10	Band (Starter)*
Cl	0	
S	0	
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.2 6-24" 7.8		43.5 meq	(65-75) 64.6	(13-20) 31.0	(1-7) 3.3	(0-5) 0.8	(0-5) 0.4

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 23 K2O = 17 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 35 K2O = 27 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 29 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

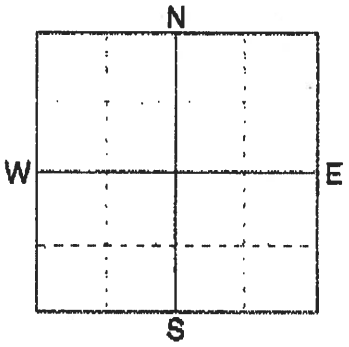
(8)

RICHARDSON PIONEER

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

SOIL TEST REPORT

FIELD ID PAINCHAUD 260
SAMPLE ID 1
FIELD NAME
COUNTY
TWP RANGE N.
SECTION QTR HALF ACRES 260



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Elie, MB R0H 0H0

SUBMITTED BY: PI2813
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2372264 BOX # 2320
LAB # NW149891

Date Sampled | Date Received 10/24/2018 | Date Reported 11/22/2018

Nutrient In The Soil		Interpretation	1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
		Very Low Low Med High	Oats			Oats			Oats		
0-6"	28 lb/ac		YIELD GOAL			YIELD GOAL			YIELD GOAL		
6-24"	27 lb/ac		90 BU			140 BU			150 BU		
0-24" Nitrate	55 lb/ac		SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
			Band/Maint.			Band/Maint.			Band/Maint.		
			LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION	
Olsen Phosphorus	13 ppm		N 35			N 85			N 95		
Potassium	533 ppm		P_2O_5 23	Band *		P_2O_5 35	Band *		P_2O_5 38	Band *	
0-24" Chloride	444 lb/ac		K_2O 10	Band (Starter)*		K_2O 10	Band (Starter)*		K_2O 10	Band (Starter)*	
0-6"	48 lb/ac		Cl 0			Cl 0			Cl 0		
6-24" Sulfur	66 lb/ac		S 0			S 0			S 0		
Boron	1.0 ppm		B 0			B 0			B 0		
Zinc	0.82 ppm		Zn 0			Zn 0			Zn 0		
Iron	65.9 ppm		Fe 0			Fe 0			Fe 0		
Manganese	7.3 ppm		Mn 0			Mn 0			Mn 0		
Copper	2.28 ppm		Cu 0			Cu 0			Cu 0		
Magnesium	1389 ppm		Mg 0			Mg 0			Mg 0		
Calcium	4025 ppm		Lime			Lime			Lime		
Sodium	51 ppm										
Org Matter	6.9 %										
Carbonate(CCE)	0.8 %										
0-6"	0.76 mmho/cm										
0-24" Soil Salts	0.68 mmho/cm										

Soil pH	Buffer pH	Cation exchange Capacity	% Base Saturation (Typical Range)				
			%H Ca	%H Mg	%H K	%H Na	%H M
0-6" 7.0 6-24" 7.9		33.6 meq	(65-75) 60.0	(15-20) 33.7	(1-7) 4.1	(0-5) 0.7	(0-5) 1.6

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 23 K2O = 17 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 35 K2O = 27 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 38 K2O = 29 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

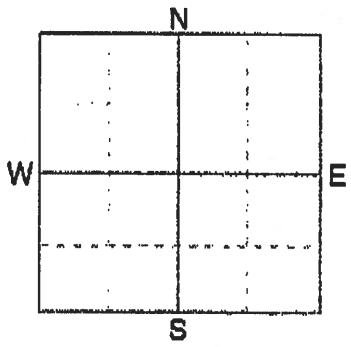
(9)

RICHARDSON PIONEER

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

SOIL TEST REPORT

FIELD ID Ed's 240
SAMPLE ID 1
FIELD NAME Ed's 240
COUNTY
TWP RANGE
SECTION QTR SE 7-10-1W ACRES 240
PREV. CROP Wheat-Spring



SUBMITTED FOR:
WALDHEIM COLONY FARMS LTD
Box 322
Elle, MB R0H 0H0

SUBMITTED BY: PI2813
RICHARDSON PIONEER-STARBU
RAILWAY AVE
BOX 130
STARBUCK, MB R0G 2P0

REF # 2372247 BOX # 2320
LAB # NW149890

Date Sampled | Date Received 10/24/2018 | Date Reported 11/22/2019

Nutrient In The Soil		Interpretation (Very Low / Low / Med / High)
Nitrate 0-6"	26 lb/ac	
Nitrate 6-24"	33 lb/ac	
Nitrate 0-24"	59 lb/ac	
Phosphorus Olsen	19 ppm	
Potassium	505 ppm	
Chloride 0-24"	156 lb/ac	
Soluble Salts 0-6"	120 +lb/ac	
Soluble Salts 6-24"	192 lb/ac	
Boron	1.3 ppm	
Zinc	1.00 ppm	
Iron	71.8 ppm	
Manganese	6.2 ppm	
Copper	2.2 ppm	
Magnesium	1623 ppm	
Calcium	6152 ppm	
Sodium	92 ppm	
Org Matter	7.1 %	
Calcium Carbonate (CCE)	2.3 %	
Soluble Salts 0-6"	1.18 mmho/cm	
Soluble Salts 6-24"	0.69 mmho/cm	

1st Crop Choice: Canola-bu		
YIELD GOAL		
50 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	116	
P_2O_5	45	Band *
K_2O	0	
Cl		Not Available
S	10	Band
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mo	0	
Lime		

2nd Crop Choice: Canola-bu		
YIELD GOAL		
45 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	99	
P_2O_5	41	Band *
K_2O	0	
Cl		Not Available
S	10	Band
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mo	0	
Lime		

3rd Crop Choice: Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band/Maint.		
LB/ACRE		APPLICATION
N	151	
P_2O_5	54	Band *
K_2O	0	
Cl		Not Available
S	10	Band
B	0	
Zn	1	Band
Fe	0	
Mn	0	
Cu	0	
Mo	0	
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 7.0 6-24" 8.0		46.7 meq	(65-75) 65.9	(15-20) 29.0	(1-7) 2.8	(0-5) 0.9	(0-5) 1.6

General Comments: Clays/Clay Loams (CEC range = 30+) (Fine)

Crop 1: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 45 K2O = 25 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 2: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 41 K2O = 20 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

Crop 3: ** Chloride yield data is limited for this crop. * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band/Maintenance guidelines will build P & K test levels to the medium range over many years and then maintain them.

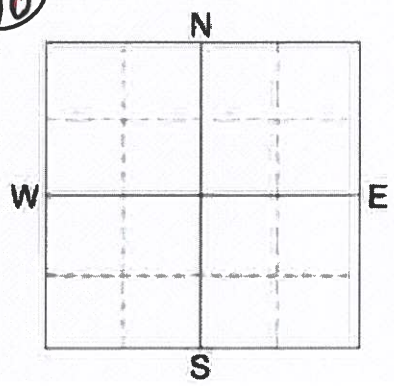
(10)

AGVISE LABORATORIES

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

SOIL TEST REPORT

FIELD ID **Bellisle**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **16** QTR **NE** ACRES **160**
PREV. CROP **Soybeans**



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319656** BOX # **820**
LAB # **NW109779**

Date Sampled | Date Received **10/03/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow Low Med High)
Nitrate	0-6" **13 lb/ac** 6-24" **18 lb/ac** 0-24" **31 lb/ac**	******
Phosphorus	**Olsen** **13 ppm**	**********
Potassium	**577 ppm**	**********
Chloride		
Sulfur	0-6" **58 lb/ac** 6-24" **240 lb/ac**	**********
Boron		
Zinc	**1.31 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**5.2 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **0.79 mmho/cm** 6-24" **0.91 mmho/cm**	**********

1st Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**164**	
P_2O_5	**36**	**Band ***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**94**	
P_2O_5	**26**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
Wheat-Spring		
YIELD GOAL		
80 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**170**	
P_2O_5	**34**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.6** 6-24" **8.3**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

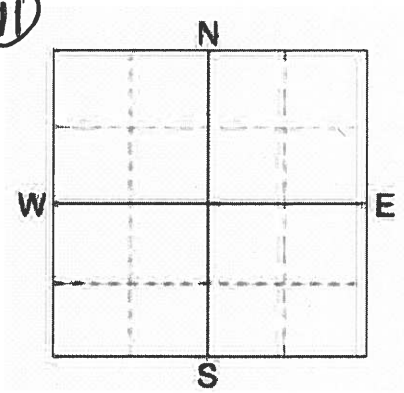
AGVISE LABORATORIES

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

SOIL TEST REPORT

FIELD ID **Corner North**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **28** QTR **SW** ACRES **160**
PREV. CROP **Soybeans**

(11)



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319653** BOX # **4129**
LAB # **NW168042**

Date Sampled | Date Received **10/31/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow / Low / Med / High)
Nitrate	0-6" **13 lb/ac** 6-24" **24 lb/ac** 0-24" **37 lb/ac**	*******
Phosphorus	**Olsen 40 ppm**	**********
Potassium	**460 ppm**	**********
Chloride		
Sulfur	0-6" **16 lb/ac** 6-24" **318 lb/ac**	**********
Boron		
Zinc	**2.56 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**6.0 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **0.54 mmho/cm** 6-24" **0.98 mmho/cm**	**********

1st Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

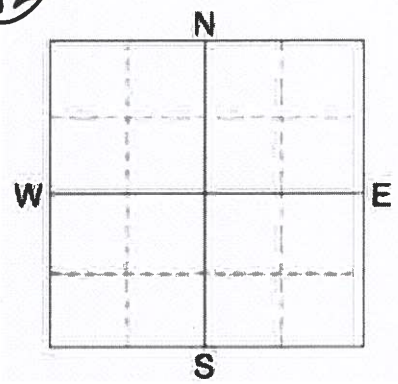
Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.1** 6-24" **8.2**							

(12)

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

SOIL TEST REPORT

FIELD ID **School West**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **21** QTR **SE** ACRES **240**
PREV. CROP **Canola-bu**



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319649** BOX # **2509**
LAB # **NW62244**

Date Sampled | Date Received **09/07/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow Low Med High)
Nitrate	0-6" **19 lb/ac** 6-24" **21 lb/ac** 0-24" **40 lb/ac**	********
Phosphorus	**Olsen** **23 ppm**	**********
Potassium	**470 ppm**	**********
Chloride		
Sulfur	0-6" **120 +lb/ac** 6-24" **360 +lb/ac**	********** **********
Boron		
Zinc	**2.83 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**5.5 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **0.98 mmho/cm** 6-24" **2.17 mmho/cm**	********** **********

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**100**	
P_2O_5	**15**	**Band (Starter)***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Wheat-Spring		
YIELD GOAL		
80 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**176**	
P_2O_5	**15**	**Band (Starter)***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.5** 6-24" **8.0**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

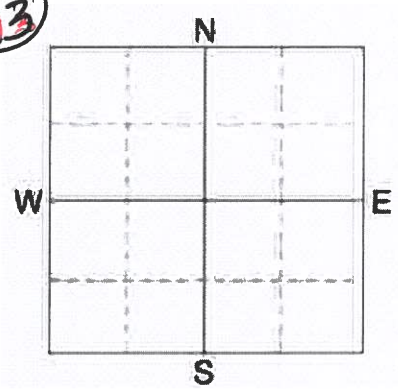
AGVISE LABORATORIES

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

SOIL TEST REPORT

(13)

FIELD ID **Corner South**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **21** QTR **NE** ACRES **140**
PREV. CROP **Soybeans**



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319655** BOX # **11029**
LAB # **NW126339**

Date Sampled | Date Received **10/16/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow / Low / Med / High)
Nitrate	0-6" **16 lb/ac** 6-24" **36 lb/ac** 0-24" **52 lb/ac**	**********
Phosphorus	**Olsen** **42 ppm**	**********
Potassium	**385 ppm**	**********
Chloride		
Sulfur	0-6" **48 lb/ac** 6-24" **132 lb/ac**	********** **********
Boron		
Zinc	**3.32 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**5.1 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **0.44 mmho/cm** 6-24" **0.51 mmho/cm**	********** **********

1st Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**143**	
P_2O_5	**10**	**Band (Starter)***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.4** 6-24" **8.1**							

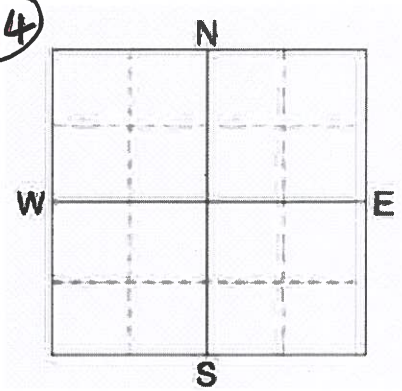
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

SOIL TEST REPORT

(14)

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

FIELD ID **Section**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **29** QTR **N 1/2** ACRES **303**
PREV. CROP **Soybeans**



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319651** BOX # **1076**
LAB # **NW112399**

Date Sampled | Date Received **10/04/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow Low Med High)
Nitrate	0-6" **17 lb/ac** 6-24" **12 lb/ac** 0-24" **29 lb/ac**	******
Phosphorus	**Olsen** **26 ppm**	**********
Potassium	**395 ppm**	**********
Chloride		
Sulfur	0-6" **114 lb/ac** 6-24" **348 lb/ac**	********** **********
Boron		
Zinc	**1.61 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**5.1 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **1.06 mmho/cm** 6-24" **1.01 mmho/cm**	********** **********

1st Crop Choice		
Wheat-Spring		
YIELD GOAL		
80 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**172**	
P_2O_5	**15**	**Band (Starter)***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**96**	
P_2O_5	**15**	**Band (Starter)***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**166**	
P_2O_5	**10**	**Band (Starter)***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.3** 6-24" **8.1**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

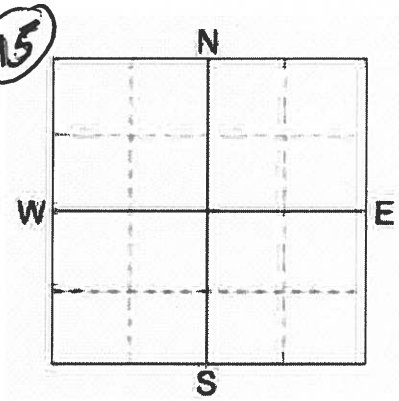
AGVISE LABORATORIES

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

SOIL TEST REPORT

FIELD ID **Beef Shed**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **29** QTR **SW** ACRES **125**
PREV. CROP **Soybeans**

15



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319652** BOX # **11359**
LAB # **NW122442**

Date Sampled | Date Received **10/12/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation
		VLow Low Med High
Nitrate	0-6" **10 lb/ac** 6-24" **33 lb/ac** 0-24" **43 lb/ac**	********
Phosphorus	**Olsen** **31 ppm**	**********
Potassium	**348 ppm**	**********
Chloride		
Sulfur	0-6" **116 lb/ac** 6-24" **360 +lb/ac**	********** **********
Boron		
Zinc	**2.77 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**4.6 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **0.74 mmho/cm** 6-24" **1.13 mmho/cm**	********** **********

1st Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**152**	
P_2O_5	**10**	**Band (Starter)***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

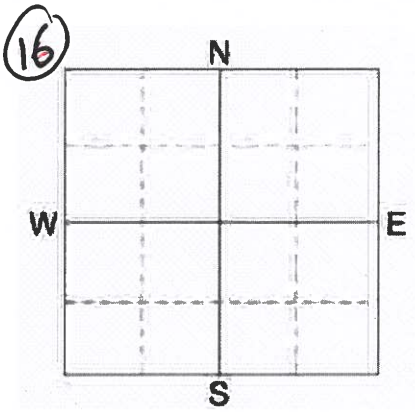
Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.7** 6-24" **8.0**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

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

SOIL TEST REPORT

FIELD ID **Curry Claim**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **20** QTR **SW** ACRES **160**
PREV. CROP **Canola-bu**



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319647** BOX # **2572**
LAB # **NW62243**

Date Sampled | Date Received **09/07/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation
		VLow Low Med High
0-6"	67 lb/ac	
6-24"	36 lb/ac	
0-24" Nitrate	103 lb/ac	
Olsen Phosphorus	34 ppm	
Potassium	629 ppm	
Chloride		
0-6"	48 lb/ac	
6-24" Sulfur	66 lb/ac	
Boron		
Zinc	4.77 ppm	
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	6.7 %	
Carbonate(CCE)		
0-6"	1.15 mmho/cm	
6-24" Sol. Salts	0.8 mmho/cm	

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	37	
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl		
S	0	
B		
Zn	0	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Wheat-Spring		
YIELD GOAL		
80 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	113	
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl		
S	0	
B		
Zn	0	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.0** 6-24" **7.9**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

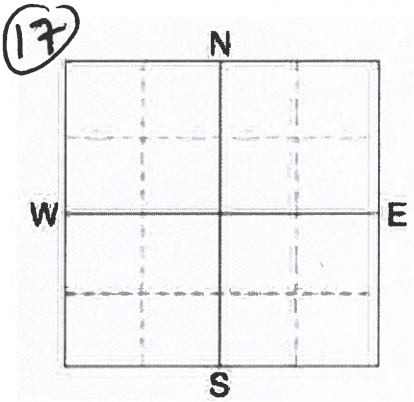
AGVISE LABORATORIES

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

SOIL TEST REPORT

FIELD ID **Bates**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **20** QTR **SE** ACRES **160**
PREV. CROP **Canola-bu** **130**

(17)



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319648** BOX # **2474**
LAB # **NW62238**

Date Sampled | Date Received **09/07/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow Low Med High)
0-6"	26 lb/ac	
6-24"	18 lb/ac	********
0-24'' Nitrate	44 lb/ac	
Olsen Phosphorus	31 ppm	**********
Potassium	623 ppm	**********
Chloride		
0-6"	102 lb/ac	**********
6-24" Sulfur	84 lb/ac	**********
Boron		
Zinc	3.91 ppm	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	6.4 %	**********
Carbonate(CCE)		
0-6"	1.25 mmho/cm	**********
6-24" Sol. Salts	0.79 mmho/cm	**********

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	96	
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl		
S	0	
B		
Zn	0	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Wheat-Spring		
YIELD GOAL		
80 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	172	
P_2O_5	15	Band (Starter)*
K_2O	10	Band (Starter)*
Cl		
S	0	
B		
Zn	0	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.0** 6-24" **8.0**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

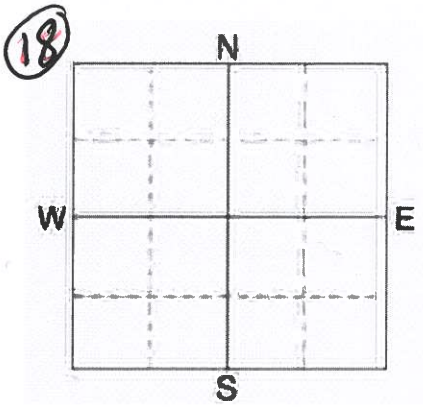
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

SOIL TEST REPORT

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

FIELD ID **School East**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **22** QTR **SW** ACRES **237**
PREV. CROP **Wheat-Spring** * N½ NW S

(18)



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319639** BOX # **503**
LAB # **NW41706**

Date Sampled
Date Received **08/21/2018**
Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow / Low / Med / High)
Nitrate	0-6" **79 lb/ac** 6-24" **48 lb/ac** 0-24" **127 lb/ac**	
Phosphorus	**Olsen** **49 ppm**	
Potassium	**522 ppm**	
Chloride		
Sulfur	0-6" **120 +lb/ac** 6-24" **360 +lb/ac**	
Boron		
Zinc	**4.31 ppm**	
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**6.2 %**	
Carbonate(CCE)		
Sol. Salts	0-6" **2.46 mmho/cm** 6-24" **2.94 mmho/cm**	

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**13**	
P_2O_5	**15**	**Band (Starter)***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**83**	
P_2O_5	**10**	**Band (Starter)***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.8** 6-24" **8.1**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. High salt levels may decrease yields in portions of this field. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. High salt levels may decrease yields in portions of this field. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

AGVISE LABORATORIES

Soil Analysis by Agvise Laboratories
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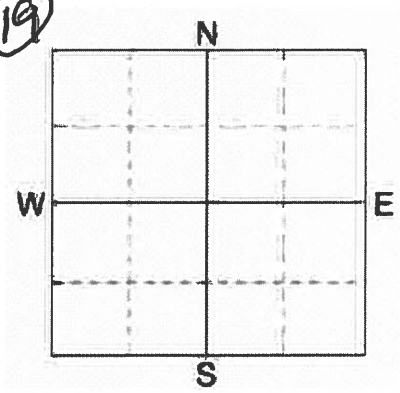
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **Section 4 South**
SAMPLE ID
FIELD NAME
COUNTY
TWP **11** RANGE **3W**
SECTION **4** QTR **SE** ACRES **160**
PREV. CROP **Canola-bu**

(19)



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319643** BOX # **1303**
LAB # **NW49784**

Date Sampled | Date Received **08/29/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow Low Med High)
Nitrate	0-6" **12 lb/ac** 6-24" **9 lb/ac** 0-24" **21 lb/ac**	****
Phosphorus	**Olsen** **15 ppm**	**********
Potassium	**498 ppm**	**********
Chloride		
Sulfur	0-6" **118 lb/ac** 6-24" **360 +lb/ac**	********** **********
Boron		
Zinc	**1.25 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**6.0 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **1.08 mmho/cm** 6-24" **1.65 mmho/cm**	********** **********

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**119**	
P_2O_5	**22**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Wheat-Spring		
YIELD GOAL		
80 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**195**	
P_2O_5	**28**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.3** 6-24" **8.0**							

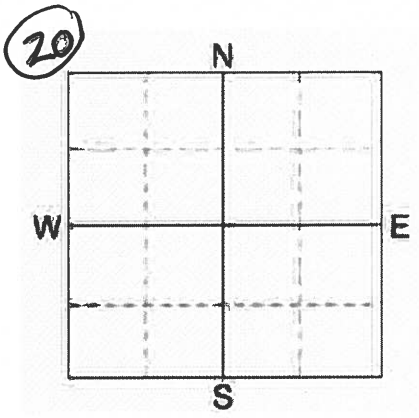
Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

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

SOIL TEST REPORT

FIELD ID **Section 4 North**
SAMPLE ID
FIELD NAME
COUNTY
TWP **11** RANGE **3W**
SECTION **4** QTR **NE** ACRES **160**
PREV. CROP **Canola-bu**



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319642** BOX # **1383**
LAB # **NW49796**

Date Sampled
Date Received **08/29/2018**
Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow / Low / Med / High)
Nitrate	0-6" **16 lb/ac** 6-24" **9 lb/ac** 0-24" **25 lb/ac**	*****
Phosphorus	**Olsen** **16 ppm**	**********
Potassium	**419 ppm**	**********
Chloride		
Sulfur	0-6" **100 lb/ac** 6-24" **360 +lb/ac**	********** **********
Boron		
Zinc	**1.04 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**6.4 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **0.8 mmho/cm** 6-24" **1.76 mmho/cm**	********** **********

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**115**	
P_2O_5	**19**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Wheat-Spring		
YIELD GOAL		
80 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**191**	
P_2O_5	**26**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.5** 6-24" **8.1**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

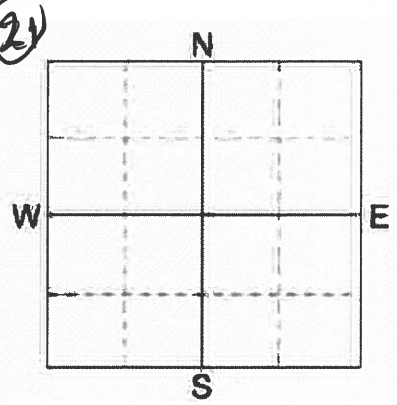
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

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

SOIL TEST REPORT

FIELD ID **Olsen**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **27** QTR **SE** ACRES **240**
PREV. CROP **Wheat-Spring** 4 5½ NE

(21)



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319638** BOX # **509**
LAB # **NW41704**

Date Sampled
Date Received **08/21/2018**
Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow / Low / Med / High)
Nitrate	0-6" **41 lb/ac** 6-24" **24 lb/ac** 0-24" **65 lb/ac**	
Phosphorus	**Olsen** **16 ppm**	
Potassium	**501 ppm**	
Chloride		
Sulfur	0-6" **76 lb/ac** 6-24" **360 +lb/ac**	
Boron		
Zinc	**1.03 ppm**	
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**7.0 %**	
Carbonate(CCE)		
Sol. Salts	0-6" **1.2 mmho/cm** 6-24" **3.14 mmho/cm**	

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**75**	
P_2O_5	**19**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**145**	
P_2O_5	**27**	**Band ***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.1** 6-24" **8.0**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

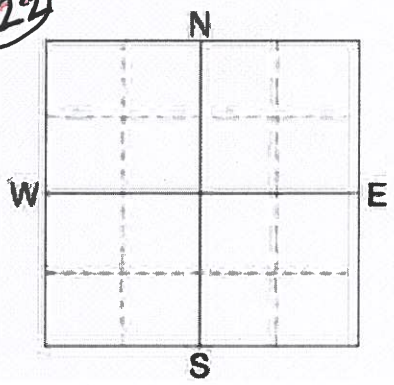
AGVISE LABORATORIES

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

SOIL TEST REPORT

FIELD ID **Dump**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W** (2W)
SECTION **32** QTR **NE** ACRES **130**
PREV. CROP **Wheat-Spring**

22



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319637** BOX # **1383**
LAB # **NW49790**

Date Sampled | Date Received **08/29/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow / Low / Med / High)
Nitrate	0-6" **32 lb/ac** 6-24" **21 lb/ac** 0-24" **53 lb/ac**	**********
Phosphorus	**Olsen** **22 ppm**	**********
Potassium	**489 ppm**	**********
Chloride		
Sulfur	0-6" **76 lb/ac** 6-24" **360 +lb/ac**	**********
Boron		
Zinc	**1.11 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**7.2 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **0.77 mmho/cm** 6-24" **2.66 mmho/cm**	**********

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**87**	
P_2O_5	**15**	**Band (Starter)***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**157**	
P_2O_5	**10**	**Band (Starter)***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.5** 6-24" **8.2**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

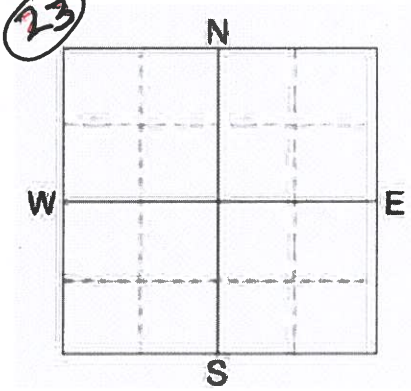
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

SOIL TEST REPORT

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

FIELD ID **Lachance**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **18** QTR **NW** ACRES **120**
PREV. CROP **Wheat-Spring**

23



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319640** BOX # **1303**
LAB # **NW49791**

Date Sampled | Date Received **08/29/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation (VLow Low Med High)
Nitrate	0-6" **26 lb/ac** 6-24" **18 lb/ac** 0-24" **44 lb/ac**	*********
Phosphorus	**Olsen** **20 ppm**	**********
Potassium	**475 ppm**	**********
Chloride		
Sulfur	0-6" **70 lb/ac** 6-24" **360 +lb/ac**	********** **********
Boron		
Zinc	**0.92 ppm**	**********
Iron		
Manganese		
Copper		
Magnesium		
Calcium		
Sodium		
Org.Matter	**5.8 %**	**********
Carbonate(CCE)		
Sol. Salts	0-6" **0.83 mmho/cm** 6-24" **1.17 mmho/cm**	********** **********

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**96**	
P_2O_5	**15**	**Band (Starter)***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**166**	
P_2O_5	**15**	**Band ***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**1**	**Band**
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.6** 6-24" **8.2**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

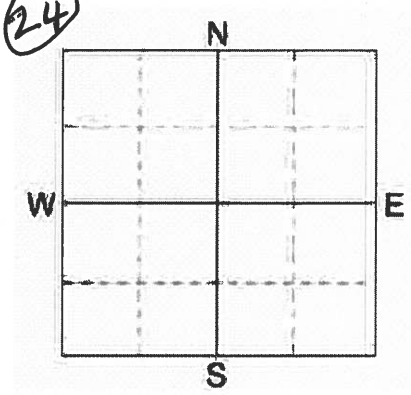
AGVISE LABORATORIES

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

SOIL TEST REPORT

FIELD ID **Mile West**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **19** QTR **E 1/2** ACRES **320**
PREV. CROP **Canola-bu**

24



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319644** BOX # **1349**
LAB # **NW49785**

Date Sampled | Date Received **08/29/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice		
		VLow	Low	Med	High	Barley			Wheat-Spring					
0-6"	16 lb/ac					YIELD GOAL			YIELD GOAL			YIELD GOAL		
6-24"	6 lb/ac	****				90 BU			80 BU					
0-24"	22 lb/ac					SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
Nitrate						Band			Band					
						LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
Olsen	25 ppm	**********	**********			N	118		N	194		N		
Phosphorus						P_2O_5	15	Band (Starter)*	P_2O_5	15	Band (Starter)*	P_2O_5		
Potassium	577 ppm	**********	**********	**********		K_2O	10	Band (Starter)*	K_2O	10	Band (Starter)*	K_2O		
Chloride						Cl			Cl			Cl		
0-6"	102 lb/ac	**********	**********			S	0		S	0		S		
6-24"	360 +lb/ac	**********	**********	**********		B			B			B		
Sulfur						Zn	0		Zn	0		Zn		
Boron						Fe			Fe			Fe		
Zinc	2.70 ppm	**********	**********	**********		Mn			Mn			Mn		
Iron						Cu			Cu			Cu		
Manganese						Mg			Mg			Mg		
Copper						Lime			Lime			Lime		
Magnesium														
Calcium														
Sodium														
Org.Matter	6.0 %	**********	**********	**********										
Carbonate(CCE)														
0-6"	1.03 mmho/cm	**********												
6-24"	2.51 mmho/cm	**********	**********	**********										
Sol. Salts														

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.9** 6-24" **8.1**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

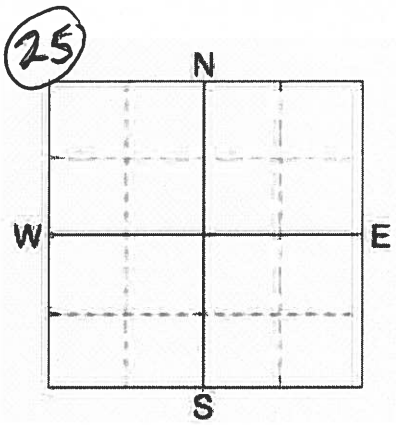
Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

AGVISE LABORATORIES

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

SOIL TEST REPORT

FIELD ID **Bernard**
SAMPLE ID
FIELD NAME
COUNTY
TWP **10** RANGE **3W**
SECTION **17** QTR **SE** ACRES **160**
PREV. CROP **Soybeans**



SUBMITTED FOR:
Waldheim Colony

SUBMITTED BY: **TE1677**
TERRACO-ELIE
HWY 1 ONE MILE WEST
BOX 433
ELIE, MB **R0H 0H0**

REF # **2319657** BOX # **815**
LAB # **NW109776**

Date Sampled | Date Received **10/03/2018** | Date Reported **11/22/2019**

Nutrient In The Soil		Interpretation			
		VLow	Low	Med	High
Nitrate	0-6" **12 lb/ac** 6-24" **12 lb/ac** 0-24" **24 lb/ac**	*****			
Phosphorus	**Olsen** **11 ppm**	**********	**********		
Potassium	**597 ppm**	**********	**********	**********	**********
Chloride					
Sulfur	0-6" **54 lb/ac** 6-24" **192 lb/ac**	**********	**********	**********	**********
Boron					
Zinc	**1.23 ppm**	**********	**********	**********	
Iron					
Manganese					
Copper					
Magnesium					
Calcium					
Sodium					
Org.Matter	**5.4 %**	**********	**********	**********	**********
Carbonate(CCE)					
Sol. Salts	0-6" **0.86 mmho/cm** 6-24" **0.92 mmho/cm**	**********	**********	**********	

1st Crop Choice		
Barley		
YIELD GOAL		
90 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**101**	
P_2O_5	**30**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

2nd Crop Choice		
Wheat-Spring		
YIELD GOAL		
80 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**177**	
P_2O_5	**39**	**Band ***
K_2O	**10**	**Band (Starter)***
Cl		
S	**0**	
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

3rd Crop Choice		
Canola-bu		
YIELD GOAL		
60 BU		
SUGGESTED GUIDELINES		
Band		
LB/ACRE		APPLICATION
N	**171**	
P_2O_5	**42**	**Band ***
K_2O	**0**	
Cl		
S	**10**	**Band**
B		
Zn	**0**	
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" **7.5** 6-24" **8.2**							

Crop 1: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 42 K2O = 45 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 2: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

Crop 3: * Caution: Seed Placed Fertilizer Can Cause Injury * Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

South-Man Engineering
8-851 Lagimodiere Blvd. | Winnipeg, Manitoba | R2J 3K4
PH. (204) 668-9652 | FAX (204) 668-9204

PROJECT NAME: WALDHEIM COLONY	BUILDING AREA: N/A
SHEET TITLE: TRUCK HAUL ROUTE	DRAWN BY: R. FLORES, SOUTH-MAN ENGINEERING
DATE DRAWN: NOVEMBER 2019	DRAWING SCALE: SCALED TO FIT
	SHEET NUMBER: SP-3

C:\Users\Richie\SME\Waldheim Colony\Tech Review\WALDHEIM COLONY_TECH REVIEW_rev01.dwg

Gmail

Desalegn Edossa <desalegn.southmaneng@gmail.com>

Data request D Edossa SouthMan 20191128 Waldheim Colony NE-20-010-003W1 review

1 message

Murray, Colin (SD) <Colin.Murray@gov.mb.ca> Tue, Dec 3, 2019 at 11:49 AM
To: Desalegn Edossa <desalegn.southmaneng@gmail.com>

Hi Edossa

Thank you for your information request. I completed a search of the Manitoba Conservation Data Centre's (CDC) rare species database for your area of interest. This includes the primary location:

NE-20-010-003W1; and a two kilometer radius buffer from the edge of the location boundary.

The search resulted in the following occurrences:

1. Within the footprint or primary location(s):

Within NE-20-010-003W1:

No listed or tracked species occurrences found at this time.

2. Within 2km of the footprint boundary:

Within 2km of NE-20-010-003W1:

TAXGROUP	SCINAME	COMNAME	SRANK	ESEA	SARA	COSEWIC
Vertebrate Animal	Dolichonyx oryzivorus	(Bobolink)	S4B	NA	Threatened	Threatened

3. General area records low locational accuracy:

No listed or tracked species occurrences found at this time.

4. Found in broader area and similar habitat:

TAXGROUP	SCINAME	COMNAME	SRANK	ESEA	SARA	COSEWIC
Vertebrate Animal	Ambystoma mavortium	(Western Tiger Salamander)	S4S5	NA	Special Concern	Special Concern
Vertebrate Animal	Melanerpes erythrocephalus	(Red-headed Woodpecker)	S3B	Threatened	Threatened	Threatened
Vertebrate Animal	Contopus virens	(Eastern Wood-pewee)	S4B	NA	Special Concern	Special Concern
Vertebrate Animal	Hirundo rustica	(Barn Swallow)	S4B	NA	Threatened	Threatened

Further information on this ranking system can be found on our website at: http://www.natureserve.org/conservation-tools/conservation-status-assessment.

These designations can be found at:

http://web2.gov.mb.ca/laws/statutes/ccsm/e111e.php,

https://www.canada.ca/en/environment-climate-change/services/committee-status-endangered-wildlife.html and

http://www.sararegistry.gc.ca/default.asp?lang=En&n=24F7211B-1.

Manitoba's recommended setback distances can be found at: https://www.gov.mb.ca/sd/pubs/conservation-data-centre/mbcdc_bird_setbacks.pdf.

The information provided in this letter is based on existing data known to the Manitoba CDC of the Wildlife and Fisheries Branch at the time of the request. These data are dependent on the research and observations of CDC staff and others who have shared their data, and reflect our current state of knowledge. **An absence of data does not confirm the absence of any rare or endangered species.** Many areas of the province have never been thoroughly surveyed, however, and the absence of data in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present. The information should, therefore, not be regarded as a final

statement on the occurrence of any species of concern nor should it substitute for on-site surveys for species or environmental assessments. Also, because our Biotics database is continually updated and because information requests are evaluated by type of action, any given response is only appropriate for its respective request.

Please contact the Manitoba CDC for an update on this natural heritage information if more than six months passes before it is utilised.

Third party requests for products wholly or partially derived from the Biotics database must be approved by the Manitoba CDC before information is released. Once approved, the primary user will identify the Manitoba CDC as data contributors on any map or publication using data from our database, as the Manitoba Conservation Data Centre; Wildlife and Fisheries Branch, Manitoba Sustainable Development.

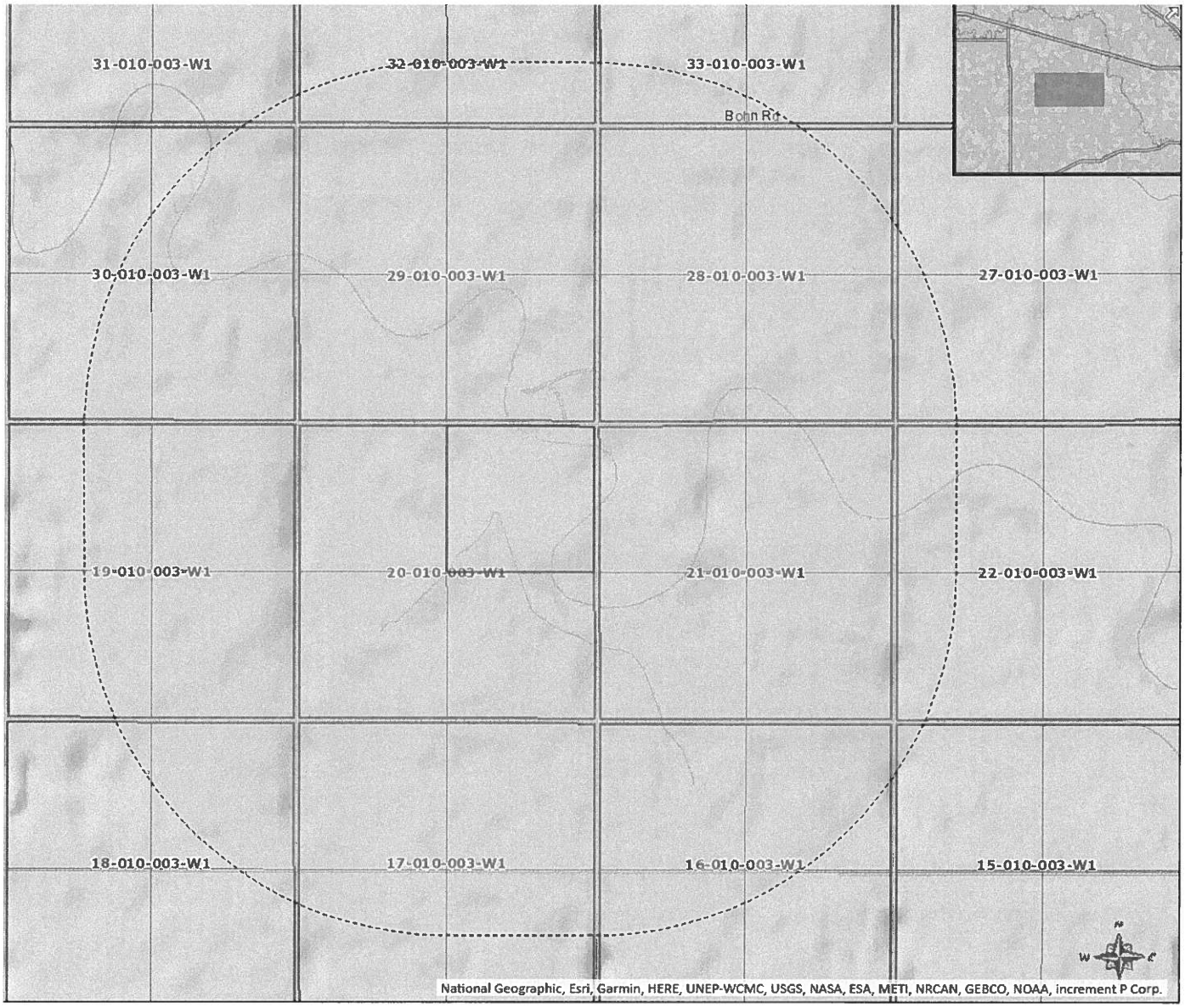
This letter is for information purposes only - it does not constitute consent or approval of the proposed project or activity, nor does it negate the need for any permits or approvals required by the Province of Manitoba.

We would be interested in receiving a copy of the results of any field surveys that you may undertake, to update our database with the most current knowledge of the area.

If you have any questions or require further information contact me directly at (204) 945-7760.

Colin

Reference screen clip:



Colin Murray
Information Manager
Manitoba Conservation Data Centre
Wildlife and Fisheries Branch
Department of Sustainable Development

200 Saulteaux Crescent
Winnipeg, Manitoba R3J3W3
204-945-7760
colin.Murray@gov.mb.ca
http://www.gov.mb.ca/sd/cdc/index.html

From: Desalegn Edossa <desalegn.southmaneng@gmail.com>
Sent: November-28-19 11:36 AM
To: Murray, Colin (SD) <Colin.Murray@gov.mb.ca>
Cc: Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca>; Peter Grieger <peter@southmaneng.com>
Subject: Waldheim Colony

Hi Colin,

Please advise if the attached CDC report is still valid to undertake a site assessment for the same project (Waldheim Colony) on the same site.

Regards,

Desalegn