

# R.M. OF HANOVER

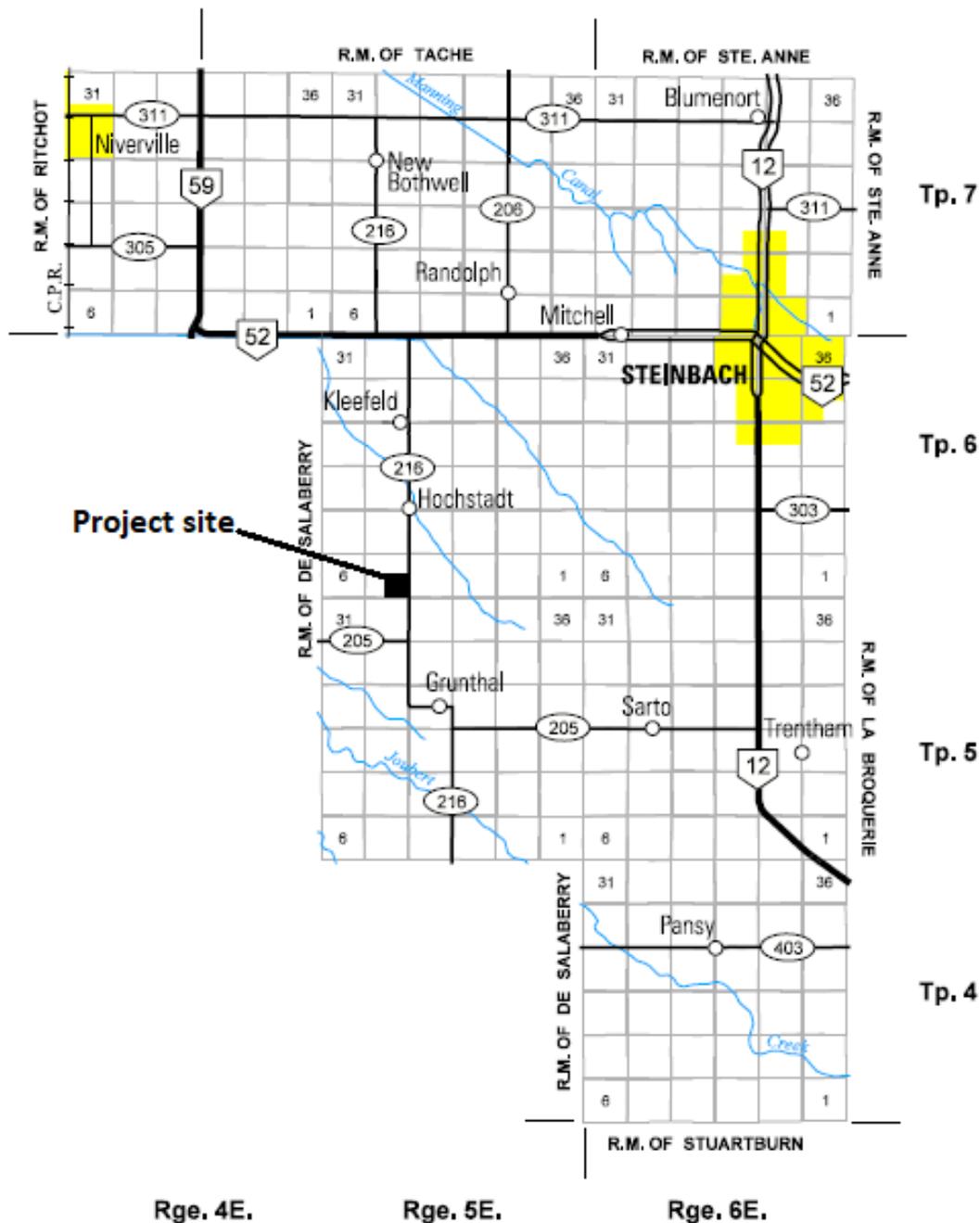


0 5  
SCALE IN KILOMETRES

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

## LEGEND

PROVINCIAL TRUNK HIGHWAYS .....		ACCESS ROADS .....	
PROVINCIAL ROADS .....		RAILWAYS .....	





PROJECT NAME <b>BURNBRAE FARMS LTD. LAYER BARN SE 5-6-5E</b>	BUILDING AREA N/A
SHEET TITLE <b>SITE PLAN</b>	DRAWN BY <b>R. FLORES SOUTH-MAN ENGINEERING</b>
DATE DRAWN <b>APRIL 2017</b>	DRAWING SCALE N.T.S.
THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA.	
<b>SHEET NUMBER SP-1</b>	

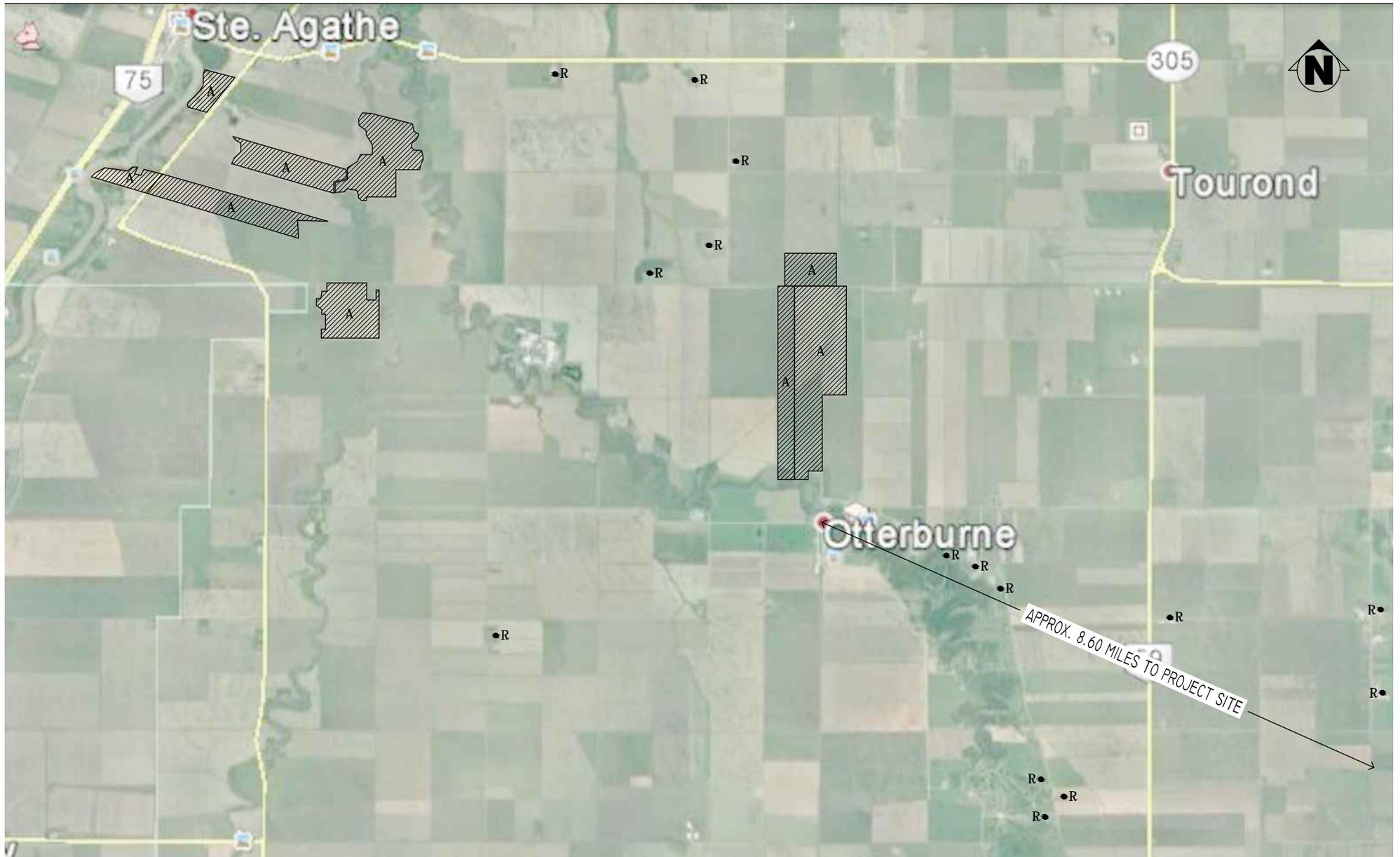


**LEGEND:**

- LO - LIVESTOCK OPERATIONS
- R - RESIDENCE
- - 3km NOTIFICATION AREA FOR THE PUBLIC CONDITIONAL USE HEARING

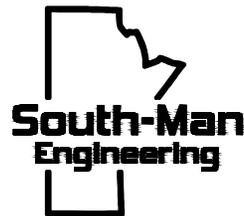


PROJECT NAME <b>BURNBRAE FARMS LTD. LAYER BARN SE 5-6-5E</b>	BUILDING AREA N/A
SHEET TITLE <b>LAND USE &amp; SPREAD FIELD MAP</b>	DRAWN BY <b>R. FLORES SOUTH-MAN ENGINEERING</b>
DATE DRAWN <b>APRIL 2017</b>	DRAWING SCALE N.T.S.
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<b>SP-2A</b>	



**LEGEND:**

- LO - LIVESTOCK OPERATIONS
- A - SPREAD FIELDS (AGREEMENT)
- R - RESIDENCE
- - 3KM NOTIFICATION AREA FOR THE PUBLIC CONDITIONAL USE HEARING



PROJECT NAME <b>BURNBRAE FARMS LTD. LAYER BARN SE 5-6-5E</b>	BUILDING AREA N/A
SHEET TITLE <b>LAND USE &amp; SPREAD FIELD MAP</b>	DRAWN BY <b>R. FLORES SOUTH-MAN ENGINEERING</b>
DATE DRAWN <b>APRIL 2017</b>	DRAWING SCALE N.T.S.
THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA.	
<b>SP-2B</b>	



PROJECT NAME <b>BURNBRAE FARMS LTD. LAYER BARN SE 5-6-5E</b>	BUILDING AREA N/A
SHEET TITLE <b>TRUCK HAUL ROUTE</b>	DRAWN BY <b>R. FLORES SOUTH-MAN ENGINEERING</b>
DATE DRAWN <b>APRIL 2017</b>	DRAWING SCALE N.T.S.
THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA.	
<b>SP-3</b>	

# 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 <sup>1</sup>	Current Animal Units	Proposed Number of Animals <sup>2</sup>	Proposed Number of Animal Units
Dairy <sup>3</sup>	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		-		-
	Sows - farrow to weaning (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		-		-
	Broilers	0.005		-		-
Chickens	Roasters	0.01		-		-
	Layers	0.0083	81,984	680	90,000	747
	Pullets	0.0033		-	37,500	124
	Broiler breeder pullets	0.0033		-		-
	Broiler breeder hens	0.01		-		-
	Broilers	0.01		-		-
	Heavy Toms	0.02		-		-
Horses	Heavy Hens	0.01		-		-
	Mares	1.333		-		-
Sheep	Ewes	0.2		-		-
	Feeder lambs	0.063		-		-
Other Livestock	Type:			-		-
	Type:			-		-
Total Current:				680	Total Proposed:	871

**Footnotes:**

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

<sup>2</sup> Enter the total number of animals associated with the operation post construction or expansion.

<sup>3</sup> 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





Desalegn Edossa  
<desalegn.southmaneng@gmail.com>

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## Burnbrae Farms

1 message

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**Friesen, Chris (SD)** <Chris.Friesen@gov.mb.ca> Thu, Apr 6, 2017 at 11:26 AM  
To: "desalegn.southmaneng@gmail.com" <desalegn.southmaneng@gmail.com>

Desalegn

Thank you for your information request. I completed a search of the Manitoba Conservation Data Centre's rare species database and found no occurrences at this time for your area of interest.

The information provided in this letter is based on existing data known to the Manitoba Conservation Data Centre 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 in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present; in many areas, comprehensive surveys have never been completed. Therefore, this information should be regarded neither as a final statement on the occurrence of any species of concern, nor as a substitute for on-site surveys for species as part of environmental assessments.

Because the Manitoba CDC's 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 pass before it is utilized.

Third party requests for products wholly or partially derived from Biotics 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 Biotics data, as follows as: Data developed by the Manitoba Conservation Data Centre; Wildlife & 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 please contact me directly at [\(204\) 945-7747](tel:2049457747).

Chris Friesen  
Coordinator  
Manitoba Conservation Data Centre  
[204-945-7747](tel:2049457747)  
[chris.friesen@gov.mb.ca](mailto:chris.friesen@gov.mb.ca)  
<http://www.manitoba.ca/conservation/cdc/>

-----Original Message-----

From:  
Sent: March-31-17 12:54 PM  
To: Friesen, Chris (SD)  
Subject: WWW Form Submission

Below is the result of your feedback form. It was submitted by WWW Information Request ( ) on Friday, March 31, 2017 at 12:53:48

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DocumentID: Manitoba\_Conservation

Project Title: Burnbrae Farms

Date Needed: 2017/03/31

Name: Desalegn Edossa

Company/Organization: Soth-Man Engineering

Address: 15-1599 Dugald Rd

City: Winnipeg

Province/State: Manitoba

Phone: 15-1599 Dugald Rd

Email: [desalegn.southmaneng@gmail.com](mailto:desalegn.southmaneng@gmail.com)

Project Description: The information will be used to determine the impacts on species by a proposed livestock operation. It is proposed to expand chicken production from the current capacity of 73,000 layer hens to 90,000 layer hens and 37,500 pullets.

Information Requested: Would like to know if there is any species at risk or endangered in region that may be impacted by this livestock operation.

Format Requested: Microsoft Word Document as email attachment.

Location: SE 5-6-5E in the RM of Hanover.

action: Submit

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**CROP ROTATION TABLE**



A	B	C	D	E
Expected Crops in the Rotation	Acreage	Historical Yield	Units	Source of Yield Information
<b>Total Net Acreage for Manure Application</b>				

- A. List all of the crop(s) to be grown in the rotation on the acreage that will receive manure.
- B. Indicate the average acreage for each crop over the rotation. For example, if there are 720 suitable acres available for manure and approximately 40 these acres will be used to grow canola, enter 288. The total of column B should add up to Total Net Acreage for Manure Application provided in the Manure Application Field Characteristic Table.
- C. Enter the historical yield average for each crop. Long-term yield averages can be determined using MASC data (<http://www.masc.mb.ca/masc.nsf/index.html?OpenPage>) or on-farm yield records. If on-farm yield records are used, please provide copies.
- D. Enter the units for the yields provided (e.g. bu/acre, tons/acre).
- E. Enter the source of the historical yield average provided.

Pig/Operation Type	Storage Type	Volatilization	Animal Numbers (Places)	Weight In (lb)
Gestating Sow	Liquid Uncovered Earthen	30%		447
Nursing Sow	Liquid Uncovered Earthen	30%		539
Nursing Litter	Liquid Uncovered Earthen	30%		3.1
Live Cull Sow	Liquid Uncovered Earthen	30%		630
Bred Gilt	Liquid Uncovered Earthen	30%		340
Gilts (Purchased)	Liquid Uncovered Earthen	30%		290
Boars (Purchased)	Liquid Uncovered Earthen	30%		270
Weanlings	Liquid Uncovered Earthen	30%		13.6
Growers/Finishers	Liquid Uncovered Earthen	30%		61.6
Sows, farrow to 6.2 kg	Liquid Uncovered Earthen	30%		n/a
Sows, farrow to 28 kg	Liquid Uncovered Earthen	30%		n/a
Sows, farrow to finish	Liquid Uncovered Earthen	30%		n/a

Last Revised April 13, 2016

<b>Weight Out (lb)</b>	<b>Average Animal Wt (lb)</b>	<b>Days on Feed per Cycle (days)</b>	<b>Number of Cycles for the Place per Year (days)</b>	<b>Feed Consumed Per Pig Per Day (kg/day)</b>	<b>Protein %</b>	<b>N Excreted Per Herd Adjusted for Storage N (lb/yr/herd)</b>	<b>Phosphorus Content of Feed (DM) %</b>	<b>P2O5 Excreted Per Herd Per Year (lb/yr/herd)</b>
630	539	121	3	2.3	14%	0	0.53%	0
539	539	21	15.2	6.5	20%	0	0.63%	0
13.6	8	21	15.2	0	n/a	0	n/a	0
630	630	14	26.1	2.3	14%	0	0.46%	0
447	394	121	3	2.3	14%	0	0.53%	0
340	315	28	13.0	3.2	16%	0	0.46%	0
660	465	365	1	2.5	14%	0	0.46%	0
61.6	38	52	6.9	0.7	20%	0	0.64%	0
280	171	112	3	2.8	16%	0	0.46%	0
n/a	n/a	365	1	n/a	n/a	0	n/a	0
n/a	n/a	365	1	n/a	n/a	0	n/a	0
n/a	n/a	365	1	n/a	n/a	0	n/a	0

Species	Type	Storage Type	Volatilization	Animal Numbers	Weight In (lb)
Cow Calf	Mature Cows (>2 years old)	Field Storage	40%	0	1375
Cow Calf	Bred Heifer (14 mo - 2 years)	Field Storage	40%	0	926
Cow Calf	Replacement Heifers (7 mo-14 mo)	Field Storage	40%	0	581
Cow Calf	Unweaned Calves (0-7 mo)	Field Storage	40%	0	86
Cow Calf	Bulls	Field Storage	40%	0	2100
Cow Calf	Mature Cows and Bred Heifers, plus associated livestock	Field Storage	40%	0	n/a
Feeder	Feedlot Cattle - long keep	Field Storage	40%	0	581
Feeder	Feedlot Cattle - short keep	Field Storage	40%	0	975
Feeder	Backgrounders - pasture	Field Storage	40%	0	793
Feeder	Backgrounders - confined	Field Storage	40%	0	500

Last Revised January 21, 2015

Weight Out (lb)	Average Animal Wt (lb)	Days per Cycle (Days)	Cycles per Year	Rate of Gain (lb/day)	Days Place is Occupied per Year (days)	N Excreted Per Herd Adjusted for Storage N Loss (lb N/yr/herd)	P2O5 Excreted Per Herd Per Year (lb P2O5/year)
1375	1375	365	1.0		365	0.0	0.0
1238	1082	280	1.0	1.42	280	0.0	0.0
926	754	225	1.0	1.53	225	0.0	0.0
581	334	210	1.0	2.35	210	0.0	0.0
2200	2150	365	1.0		365	0.0	0.0
n/a	n/a	n/a	n/a	n/a	n/a	0.0	0.0
1300	941	240	1.0	2.99	240	0.0	0.0
1300	1138	116	1.0	2.80	116	0.0	0.0
975	884	105	1.0	1.73	105	0.0	0.0
793	647	180	1.0	1.62	180	0.0	0.0

Type	Storage Type	Volatilization	Animal Numbers
Lactating Cows	Liquid Uncovered Earthen	30%	0
Dry Cows	Liquid Uncovered Earthen	30%	0
Calves, 0-3 months	Liquid Uncovered Earthen	30%	0
Calves, 4-13 months	Liquid Uncovered Earthen	30%	0
Replacements, >13 months	Liquid Uncovered Earthen	30%	0
Mature Cows, plus associated livestock	Liquid Uncovered Earthen	30%	0

Last revised August 20, 2014



Sheep/Operation Type	Storage Type	Volatilization	Animal Numbers	Weight In lb
Ewes	Field Storage	40%	0	120
Replacement Ewes	Field Storage	40%	0	45
Rams	Field Storage	40%	0	100
Lambs	Field Storage	40%	0	8
Ewes, plus assoc livestock	Field Storage	40%	0	n/a
Feeder	Field Storage	40%	0	45

<b>Weight Out</b> lb	<b>Ave Weight</b> lb	<b>Days on Feed</b>	<b>Cycles per Year</b>	<b>N Excreted per Flock adjusted for Loss</b> lb/flock/yr	<b>P2O5 Excreted Per Flock</b> lb/flock/yr
170	145	365	1	0	0
80	63	210	1	0	0
200	150	365	1	0	0
45	27	70	1.4	0	0
n/a	n/a	n/a	n/a	0	0
100	73	365	1	0	0

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%	0	0.05	4.36	2.20	33	7.4	0	0
Chickens	Broiler Breeder Pullets	Field Storage	40%	0	0.05	4.40	2.23	140	2	0	0
Chickens	Broiler Breeder Hens	Field Storage	40%	0	4.40	8.67	6.53	273	1	0	0
Eggs	Layer Pullets	Solid Stock Pile	40%	37500	0.05	3.04	1.54	133	2	10158	11631
Eggs	Layer Hens	Solid Stock Pile	40%	90000	3.03	3.74	3.38	355	1	73800	84501
Eggs	Breeder Pullets	Liquid Covered	10%	0	0.05	3.04	1.54	133	2	0	0
Eggs	Breeder Hens	Liquid Covered	10%	0	3.03	3.74	3.38	351	1	0	0
Turkey	Broiler Hens (0-9 wks)	Field Storage	40%	0	0.06	12.39	6.22	63	4	0	0
Turkey	Hens (0-11 wks)	Field Storage	40%	0	0.06	16.46	8.26	77	3.5	0	0
Turkey	Heavy Hens (0-14 wks)	Field Storage	40%	0	0.06	21.19	10.62	98	3	0	0
Turkey	Light Toms (0-12 wks)	Field Storage	40%	0	0.06	21.19	10.62	84	3	0	0
Turkey	Toms (0-13 wks)	Field Storage	40%	0	0.06	26.84	13.45	91	3	0	0
Turkey	Heavy Toms (0-15 wks)	Field Storage	40%	0	0.06	30.29	15.18	105	2.5	0	0
Turkey	Breeding Hen Growers (0-30 wks)	Field Storage	40%	0	0.06	26.95	13.51	210	1	0	0
Turkey	Breeding Hens (30-60 wks)	Field Storage	40%	0	26.95	24.95	25.95	210	1	0	0
Turkey	Breeding Tom Grower (0-18 wks)	Field Storage	40%	0	0.06	33.92	16.99	126	2	0	0
Turkey	Breeding Tom Grower (0-30 wks)	Field Storage	40%	0	0.06	50.89	25.47	210	1	0	0
Turkey	Breeding Tom (30-60 wks)	Field Storage	40%	0	50.89	61.86	56.38	210	1	0	0

Crop	Removal		Uptake		Yield	Units	Acreage	Removal		Uptake
	P2O5	N	N	Units				P2O5 (lb)	N (lb)	N (lb)
Alfalfa	13.8	58	58	lb/ton		ton/ac		-	-	-
Barley Grain	0.42	0.97	1.39	lb/bu		bu/ac		-	-	-
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu	41	bu/ac	245	10447	19387	32044
Corn Grain	0.44	0.97	1.53	lb/bu		bu/ac		-	-	-
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	40.9	bu/ac	900	30920	142455	191412
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu	59.3	bu/ac	220	7697	19569	27527
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-	-	-
<b>Sub Total</b>							1365	49064	181411	250983
<b>Estimated Average Removal/Uptake (lb/ac)</b>								35.9	132.9	183.9
<b>Additional Acres</b>										
<b>Crop Planned on Additional Acres</b>										
<b>Total Acreage</b>							1365			

**Note:** Additional acres include acres for which crop removal or soil data is limited or unavailable.

Last revised August 20, 2014

Species	Animal Category/Operation type	N	P2O5
		(lb/year)	(lb/year)
<b>Pigs</b>	Gestating Sow	0	0
	Nursing Sow	0	0
	Nursing Litter	0	0
	Live Cull Sows	0	0
	Bred Gilts	0	0
	Gilts	0	0
	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	0	0
<b>Beef</b>	Mature Cows (>2 years old)	0	0
	Bred Heifer (14 mo - 2 years)	0	0
	Replacement Heifers (7 mo-14 mo)	0	0
	Unweaned Calves (0-7 mo)	0	0
	Bulls	0	0
	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
	<b>Dairy</b>	Lactating cow	0
Dry cow		0	0
Calf, 0-3 months		0	0
Calf, 4-13 months		0	0
Replacements, >13 months		0	0
Mature Cows, plus assoc livestock		0	0
<b>Sheep</b>	Ewes	0	0
	Replacement Ewes	0	0
	Rams	0	0
	Lambs	0	0
	Ewes, plus assoc livestock	0	0
	Feeder	0	0
<b>Chickens</b>	Broilers	0	0
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
<b>Layers</b>	Layer Pullets	10158	11631
	Layer Hens	73800	84501
	Breeder Pullets	0	0
	Breeder Hens	0	0
<b>Turkeys</b>	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
<b>Total</b>	<b>83959</b>	<b>96133</b>	

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

<b>Nutrients Excreted</b>		<b>lbs</b>
Nitrogen		83959
P2O5		96133
<b>Crop Nutrient Use</b>		<b>lb/ac</b>
Nitrogen Uptake		183.9
P2O5 Removal		35.9
<b>Land Base Requirements</b>		<b>acres</b>
Acres for Nitrogen Uptake		<b>457</b>
Acres for 2 x P2O5 Removal		<b>1337</b>
Acres for 1 x P2O5 Removal		<b>2674</b>

## MANURE SPREADING AGREEMENT

This Agreement dated the 29 day of November, 2016.

BETWEEN:

**APEX FARMS LTD.**  
(hereinafter called "Apex")

- and -

**BURNBRAE FARMS LIMITED**  
(hereinafter called "Burnbrae")

WHEREAS Apex is the registered owner and/or tenant of significant areas of agricultural farm land in or around Niverville, Manitoba (the "Lands");

AND WHEREAS Burnbrae conducts chicken farming operations in or around Kleefeld, Manitoba, which operations produce manure and Burnbrae requires land to spread that manure;

AND WHEREAS Apex has agreed to haul Burnbrae's chicken manure and to spread it on the Lands pursuant to the provisions of this Agreement.

NOW THEREFORE in consideration of the payments to be made and the obligations to be performed by the parties as set out below, the parties hereby agree as follows:

1. This Agreement shall be for a term of five (5) years, with the said term commencing on September 1, 2016 and terminating five (5) years after that date, unless terminated earlier by either party on the provision of written notice to the other party of its intention to terminate this Agreement. Such notice shall be given at least one (1) year prior to the termination date, which shall be set forth in the notice.
2. For the term of this Agreement, Burnbrae will supply all chicken manure (the "Manure") to Apex which is produced by Burnbrae's chicken egg laying operation at Kleefeld, Manitoba. Apex shall pick up and haul away all of the Manure on Burnbrae's premises a minimum of two times per calendar year. In the spring all

the manure should be removed by June and in the fall of the year all the manure should be removed by November. Apex is required to give Burnbrae advance notice of their intention to remove manure from Burnbrae's facility. Apex will be responsible to handle Burnbrae's manure in a responsible, lawful manner.

3. Apex shall be responsible for picking up, loading, transporting and applying the Manure to the Lands from Burnbrae's chicken operation located in Kleefeld, Manitoba in accordance with all legal requirements in respect of such transportation and application. Provided that Apex so complies with all such legal requirements of the Regulation or otherwise, and provided that it is responsible for the Manure once the Manure is hauled away from Burnbrae's facility, Apex may use whatever portion of the Lands it deems appropriate for application of the Manure.
4. It shall be Burnbrae's responsibility to file their required manure management plans with the Province of Manitoba, or any department thereof, including any revisions, amendments, re-filings. All of the costs relating to manure testing shall be borne solely by Burnbrae.

It shall be APEX's responsibility to file their required manure management plans with the Province of Manitoba, or any department thereof, including any revisions, amendments, re-filings as it pertains to "The manure". Apex shall be solely responsible for the cost of soil testing on the Lands in any calendar year during the term of this Agreement. Apex shall cooperate as reasonably requested by Burnbrae in the preparation and filing of any such plans, reports, tests, etc.

5. Apex shall be responsible for the cost of picking up, loading, transporting and applying the Manure to the Lands from Burnbrae's chicken operation located in Kleefeld, Manitoba. Apex will pay Burnbrae \$3 per tonne for "The Manure" removed from Burnbrae's manure facility. This will be due the month following removal.
6. This Agreement shall be interpreted in accordance with the Laws of the Province of Manitoba and the Laws of Canada applicable therein and shall be treated in all respects as a Manitoba contract.
7. Any notice required or permitted to be given hereunder shall be in writing and shall be effectively given if:
  - (a) delivered personally;
  - (b) sent by pre-paid regular mail; or

(c) faxed,

and addressed as follows:

if to Apex:

Box 280, Niverville, Manitoba, R0A 1E0  
Fax number: 204.388.4414

if to Burnbrae:

500 Pandora Avenue West, Winnipeg, Manitoba R2C 1N1  
Attention: Dennis Hiebert

Any notice so given shall be deemed conclusively to have been given and received when so personally delivered or faxed, or on the third day following the sending thereof by regular mail. The parties may change their particulars of their address for notice by notice to the other in the manner aforesaid.

8. Neither this Agreement nor any rights hereunder shall be in any way assignable by any of the parties either directly or indirectly to any person, firm, or corporation without the prior written consent of the other party, but otherwise this Agreement shall ensure to the benefit of the parties hereto and their respective successors and assigns. Notwithstanding the foregoing and, notwithstanding anything to the contrary contained in this Agreement, the parties hereto acknowledge that Apex may employ such agents, businesses, employees, servants, independent contractors, or other entities it deems appropriate for the pickup, transportation, and application of Manure pursuant to this Agreement.
9. Nothing in this Agreement shall be construed in a manner such that Burnbrae has any easement, interest in, or right-of-way over or upon any of the Lands owned or occupied by Apex.
10. The parties acknowledge that Apex may direct, in its sole discretion, where the Manure shall be incorporated into the soil upon the Lands, and it is further acknowledged that Apex shall have the right to incorporate into the soil of the Lands only so much Manure as Apex reasonably believes can be properly used upon the Lands, provided that Apex shall be responsible for all Manure which it picks up and hauls away and provided that Apex shall be responsible for the condition of its Lands.
11. Nothing in this Agreement shall be construed in a manner such that Apex has any easement, lease, interest in, or right-of-way over or upon any of Burnbrae's lands on which the chicken egg laying operation is located. Burnbrae agrees that, as often as it becomes necessary for Apex or their agents, servants,

employees, or independent contractors, to enter upon Burnbrae's property located at Kleefeld, Manitoba, for the purposes herein before mentioned, such access shall be gained in an expeditious and reasonable manner, and will be performed without undo interference with the reasonable occupation, use and possession of Burnbrae.

12. Burnbrae shall indemnify and save harmless Apex from and against any and all liability to, and actions and proceedings by, any person brought or taken by any reason of any loss or damage, or alleged loss or damage, caused or claimed to have been caused, or arising out of or claim to arise out of, (i) Burnbrae, including its agents, servants or employees, gaining access to the Lands; and (ii) any breach by Burnbrae of any law, regulation, policy or other applicable government requirement in regards to Burnbrae's obligations in this Agreement . Likewise, Apex shall indemnify and save harmless Burnbrae against and from any and all liability to, and actions and proceedings by, and person brought or taken by reason of any loss or damage, or alleged loss or damage, caused or claimed to have been caused, or arising out of or claimed to arise out of, (i) Apex, including its agents, servants or employees, gaining access to Burnbrae's property located in Kleefeld, Manitoba; and (ii) any breach by Apex of any law, regulation, policy or other applicable government requirement in regards to Apex's obligations in this Agreement..
13. The invalidity of any provision of this Agreement or any covenant herein contained on the part of either party shall not affect the validity of any other provision or covenant hereof or herein contained.
14. This Agreement may be executed in one or more counterparts (either originally or by facsimile), each of which once executed shall constitute an original and all of which taken together shall constitute one and the same document.

IN WITNESS WHEREOF the parties have executed this Agreement as of the date first above written.

**APEX FARMS LTD.**

Per:   
John Wiebe, President

Per:   
Dustin Wiebe,

**BURNBRAE FARMS LIMITED**

- 5 -

Per:   
John Heuthorst, Director of Poultry Operations

**MANURE APPLICATION FIELD CHARACTERISTICS TABLE**



	A	B	C	D	E	F	G	H	I	J
Field	Legal Description	Rural Municipality	O/C/L/A	Total Acreage	Setbacks, including features	Net Acreage for Manure Application	Agriculture Capability Class and Subclass	Soil Phosphorus (ppm Olsen P) 0-6 inches	Development Plan Designation	Zoning
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

**Total Net Acreage for Manure Application:**

--

- 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 (ex. C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).
- D. \_\_\_\_\_ Enter the total acreage for the parcel.
- E. \_\_\_\_\_ Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (ex. 8m, Order 3 drain).
- F. \_\_\_\_\_ 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.
- G. \_\_\_\_\_ Enter the agriculture capability class and subclass ratings for the acreage available for manure application.
- H. \_\_\_\_\_ 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 12 months old and must be completed by an accredited soil-testing laboratory.
- I. \_\_\_\_\_ Indicate the Development Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008: AG).
- J. \_\_\_\_\_ Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009: AG 80).

Animal Type (A)	Animal Sub-type (B)	Daily Manure Production				Production Period <sup>2</sup> (Days) (G)	Number of Animals <sup>3</sup> (Capacity) (H)	Total Manure Volume (ft <sup>3</sup> ) (F <sub>X</sub> GxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)	
		References (C)	Manure Type (D)	Default Manure Production (ft <sup>3</sup> /animal/day) (E)	Operation Manure Production <sup>1</sup> (ft <sup>3</sup> /animal/day) (F)					
Dairy (milking cows <sup>4</sup> and associated livestock)	Free Stall	Table 6, pg 59, FPGs for Dairy 1995	Semi-Solid <sup>5</sup>	3.5				-	0.0	
			Solid	3.4				-		
			Liquid <sup>5</sup>	3.5				-	0.0	
	Tie Stall		Semi-Solid <sup>5</sup>	3.6					-	0.0
			Solid	3.5					-	
			Liquid <sup>5</sup>	3.6					-	0.0
Loose Housing		Solid	3.0				-			
Milking Parlour Manure and Washwater		Liquid	0.5							
Beef	Beef cows including associated livestock	pg 117, FPGs for Hogs 1998	Solid	1.2				-		
	Backgrounder (200 day)		Solid	0.73				-		
	Summer pasture / replacement heifers		Solid	0.85				-		
	Feeder cattle		Solid	1.1				-		
Pigs	Sows - farrow to finish (234 - 254 lbs)	MAFRI website, FPGs for Pigs 2007	Liquid	2.3				-	0.0	
	Sows - farrow to wean (up to 11 lbs)		Liquid	0.8				-	0.0	
	Sows - farrow to nursery (51 lbs)		Liquid	1				-	0.0	
	Weanlings, Nursery (11 - 51 lbs)		Liquid	0.1				-	0.0	
	Grower / Finisher (51 - 249 lbs)		Liquid	0.25				-	0.0	
Animal Type	Type of Operation	Yearly Manure Production			Production Period <sup>2</sup> (Days)	Number of Birds <sup>3</sup> (Capacity)	Total Manure Volume (ft <sup>3</sup> ) (F/365xGxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)		
		Default Manure Production (ft <sup>3</sup> /year/bird space)	Operation Manure Production <sup>1</sup> (ft <sup>3</sup> /year/bird space)							
Chickens	Broilers – floor <sup>6</sup>	Table 3, pg 85, FPGs for Poultry 2000	1.23					-		
	Broiler breeder hens <sup>7</sup>		2.3					-		
	Broiler breeder pullets <sup>6</sup>		0.99					-		
	Roasters – floor <sup>6</sup>		1.16					-		
	Layers – cage <sup>8</sup>		2.33	1.25	365	90,000	112,500	700,875.0		
	Layers – floor <sup>7</sup>		1.68					-		
	Layers – solid pack <sup>9</sup>							-		
	Pullets – cage <sup>8</sup>		0.71	0.5	365	37,500	18,750	116,812.5		
	Pullets – floor <sup>6</sup>		0.75					-		
Pullets – solid pack <sup>9</sup>						-				
Turkeys	Broilers <sup>6</sup>	Table 3, pg 85, FPGs for Poultry 2000	2.83					-		
	Heavy toms <sup>6</sup>		5.58					-		
	Heavy hens <sup>6</sup>		3.32					-		

131,250 1,313

Sizing of a manure storage facility in accordance with all requirements of the *Livestock Manure and Mortalities Management Regulation* (M.R. 42/98) is the responsibility of the operator.

**Instructions and footnotes:**

- <sup>1</sup> ENTER the manure production estimate for your operation. If no estimate is available, use the default value provided in column E. References for default daily and yearly manure production are provided in column C.
- <sup>2</sup> ENTER the number of days worth of manure that will be produced. For earthen manure storage facilities the minimum storage requirement is 400 days. For steel and concrete manure storage facilities the minimum storage requirement is 250
- <sup>3</sup> ENTER the total number of animals or birds that the operation can hold (e.g. barn or feedlot capacity).
- <sup>4</sup> Milking cows includes all lactating and dry cows.
- <sup>5</sup> Default manure production estimates for semi-solid and liquid dairy manure include manure and washwater from the milking parlour.
- <sup>6</sup> 2 inches of wood shavings or 4 inches of straw placed on floor. Manure and litter removed from barn at 25% moisture content, with a density of 20 lb/ft<sup>3</sup>
- <sup>7</sup> One-third litter floor, two-thirds slatted floor. Manure and litter removed from barn at 40% moisture content, with a density of 25 lb/ft<sup>3</sup>
- <sup>8</sup> Manure removed from barn at 90% moisture content with a density of 59 lb/ft<sup>3</sup>
- <sup>9</sup> Poultry operations using litter (solid pack) must provide an estimate of yearly manure production

**Manure production values based on current industry rate utilized in sizing dry manure storage.**

Report Number: C16291-10336  
 Account Number: 06352

**A & L Canada Laboratories Inc.**  
 2136 Jetstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664



C16291-10336



To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDUC  
 204-388-6888

For: D.P. WIEBE

Field: S1/2

50 acres

SA-01

Reported Date:

Printed Date: Oct 19, 2016

**SOIL TEST REPORT**

Page: 1 / 1

Sample Number	Legal Land Descript:	Depth	Lab Number	Organic Matter	Phosphorus - P Bicarb	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base % K % Mg % Ca % H % Na	Saturations % K % Ca % H % Na	
1A		6	19928	5.4	21M	27M	276H	1345 VH	4240M	7.5	33.3	2.1	33.7	63.8	0.8
1B		12	19929	4.2	5VL	6VL	121M	1505 VH	3730M	7.6	31.8	1.0	39.4	58.6	1.6
1C		24	19930	3.8			159M	1465 VH	3680M	7.7	31.6	1.3	38.7	58.3	2.3

Sulfur S ppm lbs/ac Nitrate Nitrogen NO3-N ppm lbs/ac Zinc Zn ppm Manganese Mn ppm Iron Fe ppm Copper Cu ppm Boron B ppm Soluble Salts mmhos/cm Saturation %P Aluminum Al ppm Saturation %Al Potassium K/Mg Ratio ENR Chloride Cl ppm Sodium Na ppm

1A 8 VL 14 4 VL 7 3.0M 39H 63 VH 2.4H 0.6M 9H 385 0.0G 0.06 67 65M  
 1B 8 VL 14 2 VL 4 1.3L 24M 56 VH 2.2H 0.4L 2L 323 0.0G 0.03 54 114H  
 1C 8 VL 29 1 VL 4 1 VL 4 24M 56 VH 2.2H 0.4L 2L 323 0.0G 0.03 54 166 VH

W VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

**SOIL FERTILITY GUIDELINES (lbs/ac)**

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1A	Soybeans	Barley (Feed)	100 bu	0.0	88	30	15	0	0	75	0.5	0	0	0	0.0
1A	Soybeans	Barley (Feed) Bid	100 bu	0.0	88	55	35	0	0	75	0.5	0	0	0	0.0

\* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.  
 \* If this report contains soil in excess of 7500 ppm Ca it may or may not effect the calculated Cation Exchange Capacity. Excessive seed placed fertilizer can cause injury.  
 \* The results of this report relate to the sample submitted and analyzed.  
 \* Crop yield is influenced by a number of factors in addition to soil fertility.  
 \* No guarantee or warranty concerning crop performance is made by A & L.  
 A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.secca.ca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By: Ian McLachlin, Vice President

Report Number: C16298-10228  
 Account Number: 06352

**A & L Canada Laboratories Inc.**  
 2136 Jelstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664



To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDDUC  
 204-388-6988

For: DP WIEBE

Field: S5

SA-05

Reported Date: Printed Date: Oct 19, 2016 SOIL TEST REPORT Page: 1 / 1

Sample Number	Legal Land Descrpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na
1A		6	16634	6.2	44H	119H	589 VH	1420 VH	4510 M	6.6	6.8	38.6	3.9 30.7 58.5 5.8 1.1
1B		12	16635	3.4	7L	10L	337H	1755 VH	5500 M	7.4	7.4	43.6	2.0 33.6 63.1 1.7
1C		24	16636	2.9			325 H	1985 VH	7200 M	7.7		54.4	1.5 30.4 66.1 2.3

Sample Number	Sulfur S ppm	Nitrate Nitrogen NO3-N ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts mmhos/cm	Saturation %P	Aluminum Al ppm	Saturation %Al	Chloride Cl ppm	Sodium Na ppm
1A	35 VL	63	10 M	18	7.6H	7L	96 VH	2.3H	0.6M	23H	661	0.1G	0.13 75
1B	20 VL	36	7 L	13	1.3L	6L	67 VH	2.9H	0.7M	3M	464	0.0G	0.06 46
1C	32 VL	115	11 M	40									0.05 41

W VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC  
 SOIL FERTILITY GUIDELINES (lbs/ac)

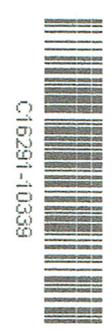
Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P205	K20	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1A	Soybeans	Barley (Feed)	90 bu	0.0	67	10	15	0	0	45	0.0	8	0	0	0.0
1A	Soybeans	Barley (Feed) Bld	90 bu	0.0	67	25	30	0	0	45	0.0	8	0	0	0.0

\* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.  
 \* If this report contains soil in excess of 7500 ppm Ca it may or may not effect the calculated Cation Exchange Capacity. Excessive seed placed fertilizer can cause injury.  
 \* The results of this report relate to the sample submitted and analyzed.  
 \* Crop yield is influenced by a number of factors in addition to soil fertility.  
 \* No guarantee or warranty concerning crop performance is made by A & L.  
 A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.secca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By: Ian McLachlin, Vice President

Report Number: C16291-10339  
 Account Number: 06352

**A & L Canada Laboratories Inc.**  
 2136 Jellstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664



To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDDUC  
 204-388-6888

For: D.P. WIEBE

Field: S6

SA-06

Reported Date: Printed Date: Oct 19, 2016 SOIL TEST REPORT Page: 1 / 1

Sample Number	Legal Land Descript:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na
1A		6	19937	5.1	35 H	63 H	344 VH	1065 VH	3460 M	7.6	27.1	3.3	32.8 63.9
1B		12	19938	3.7	14 M	23 L	250 H	1245 VH	3120 M	7.4	26.7	2.4	38.9 58.5
1C		24	19939	3.7			249 H	1060 VH	3490 M	7.6	27.0	2.4	32.7 64.6

Sample Number	Sulfur S ppm	Nitrate Nitrogen NO3-N ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts mmhos/cm	Saturation %P	Aluminum Al ppm	Saturation %Al	K/Mg Ratio	ENR	Chloride Cl ppm	Sodium Na ppm
1A	6 VL	11	2.6 L	25 M	105 VH	1.5 H	0.5 L		24 H	340	0.0 G	0.10	64		29 L
1B	3 VL	5	1.1 L	11 L	86 VH	2.3 H	0.3 VL		8 H	386	0.0 G	0.06	49		43 M
1C	7 VL	25	3 VL	11									0.07	49	52 M

W VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC  
**SOIL FERTILITY GUIDELINES (lbs/ac)**

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1A	Soybeans	Wheat Red Spring	70 bu	0.0	77	15	15	0	0	70	0.5	4	0	1	0.0
1A	Soybeans	Wheat Red Spring Bl	70 bu	0.0	77	25	35	0	0	70	0.5	4	0	1	0.5

\* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.  
 \* If this report contains soil in excess of 7500 ppm Ca it may or may not effect the calculated Cation Exchange Capacity. Excessive seed placed fertilizer can cause injury.  
 \* The results of this report relate to the sample submitted and analyzed.  
 \* Crop yield is influenced by a number of factors in addition to soil fertility.  
 \* No guarantee or warranty concerning crop performance is made by A & L.  
 A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.secca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By: Ian McLachlin, Vice President

Report Number: C17103-10016  
 Account Number: 06352

# A & L Canada Laboratories Inc.



To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDDUC  
 204-388-6888

For: D.P. WIEBE

Field: S7

SA-07

Reported Date: Printed Date: Apr 18, 2017 SOIL TEST REPORT Page: 1 / 1

Sample Number	Legal Land Descpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na
1A		6	63524	5.5	40 H	68 H	359 VH	1380 VH	4220 L	7.0	38.8	2.4	29.6 54.4 12.7 0.9
1B		12	63525	3.9	13 M	21 M	242 H	1480 VH	4740 M	7.4	37.0	1.7	33.4 64.1 1.3
1C		24	63526	3.3			220 M	1600 VH	5480 M	7.7	41.8	1.3	31.9 65.5 1.7

W VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre		N	P205	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
				N	P205											
1A	Soybeans	Canola	50 bu	0.0	17	17	15	20	0	0	55	0.0	0	0	0	2.0
1A	Soybeans	Canola build	50 bu	0.0	17	17	30	30	0	0	55	0.0	0	0	0	2.0

### SOIL FERTILITY GUIDELINES (lbs/ac)

\* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.  
 \* If this report contains soil in excess of 7500 ppm Ca it may or may not effect the calculated Cation Exchange Capacity. Excessive seed placed fertilizer can cause injury.  
 \* Crop yield is influenced by a number of factors in addition to soil fertility.  
 \* No guarantee or warranty concerning crop performance is made by A & L.  
 A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.scca.ca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By: Ian McLachlin, Vice President

Report Number: C17103-10015  
 Account Number: 06352

# A & L Canada Laboratories Inc.



2136 Jeilstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664

To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDDUC  
 204-388-6888

For: D.P. WIEBE

Field: S8

5A-08

Reported Date:

Printed Date: Apr 18, 2017

## SOIL TEST REPORT

Page: 1 / 1

Sample Number	Legal Land Descript:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na
1A		6	63521	5.5	25 G	38 G	367 VH	1255 VH	4720 M	7.1	38.7	2.4	27.0 60.9 8.7 0.9
1B		12	63522	4.3	6 L	9 L	250 H	1310 VH	4630 M	7.4	35.1	1.8	31.1 66.0 1.5
1C		24	63523	4.3			234 H	1545 VH	4780 M	7.6	38.1	1.6	33.8 62.7 2.4

W VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

### SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1A	Barley (Feed)	Canola	50 bu	0.0	114	15	20	0	0	35	0.5	0	0	0	1.5
1A	Barley (Feed)	Canola build	50 bu	0.0	114	30	30	0	0	35	0.5	0	0	0	1.5

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 \* If this report contains soil in excess of 7500 ppm Ca it may or may not effect the calculated Cation Exchange Capacity. Excessive seed placed fertilizer can cause injury.  
 \* Crop yield is influenced by a number of factors in addition to soil fertility.  
 \* The results of this report relate to the sample submitted and analyzed.  
 \* No guarantee or warranty concerning crop performance is made by A & L.  
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Results Authorized By: Ian McLachlin, Vice President

Report Number: C17108-10146  
 Account Number: 06352

# A & L Canada Laboratories Inc.



2136 Jetstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664

To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDUK  
 204-388-6888

For: D.P. WIEBE

Field: FIELD\_99

SA-09

Reported Date: Printed Date: Apr 20, 2017 SOIL TEST REPORT Page: 1 / 1

Sample Number	Legal Land Descript:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na	Sulfur S lbs/ac	Nitrate Nitrogen NO3-N ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts mmhos/cm	Saturation %P	Aluminum Al ppm	Saturation %Al	K/Mg Ratio	ENR	Chloride Cl ppm	Sodium Na ppm	
1A		6	66830	6.3	48 H	110 H	390 VH	1310 VH	4380 L	6.1	6.4	41.3	2.4 26.4 53.0 17.1 1.1	520 VH	936	13 M	23	11.1 VH	10 L	116 VH	2.5 H	0.9 M	16 H	868	0.2 G	0.09	76	104 H	
1B		12	66831	4.2	16 M	24 M	257 M	2015 VH	6950 M	7.0	7.0	60.7	1.1 27.7 57.3 12.7 1.3	1430 VH	2574	12 M	22	2.5 L	10 L	68 VH	2.3 H	1.2 M	6 H	503	0.0 G	0.04	54	179 H	
1C		24	66832	4.3			204 M	1930 VH	4790 L	7.1	7.1	45.5	1.2 35.4 52.7 8.6 2.2	517 VH	1861	9 L	32												230 VH

VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC  
 SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B

\* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.  
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 \* Crop yield is influenced by a number of factors in addition to soil fertility.  
 \* The results of this report relate to the sample submitted and analyzed.  
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Results Authorized By: Ian McLachlin, Vice President

Report Number: C16315-10212  
 Account Number: 06352

# A & L Canada Laboratories Inc.

2136 Jeltstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664  
 C16315-10212

To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDDUC  
 204-388-6888

For: D.P. WIEBE

Farm: S 11  
 Field: NE 32-6-3E

*Deslaberry*

SA-11



Reported Date: Printed Date: Nov 14, 2016 SOIL TEST REPORT Page: 1 / 1

Sample Number	Legal Land Descrpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na
1A		6	60495	5.4	24 G	49 H	366 VH	1420 VH	4240 M	6.8	6.8	36.7	2.6 32.2 57.7 6.1 1.4
1B		12	60496	3.3	6 L	9 L	275 H	1835 VH	5060 M	7.5	7.5	42.1	1.7 36.3 60.1 2.3
1C		24	60497	3.3			244 M	1965 VH	5760 M	7.7	7.7	47.1	1.3 34.8 61.2 3.2

Sample Number	Sulfur S ppm	Nitrate Nitrogen NO3-N ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts mmhos/cm	Saturation %P	Aluminum Al ppm	Saturation %Al	K/Mg Ratio	ENR	Chloride Cl ppm	Sodium Na ppm
1A	45 VL	81	6 L	11	4.3 M	9 L	87 VH	1.9 H	0.6 M	11 H	549	0.0 G	0.08	67	118 H
1B	28 VL	50	4 VL	7	1.7 L	7 L	74 VH	2.8 H	0.7 M	3 M	479	0.0 G	0.05	45	226 VH
1C	28 VL	101	7 L	25									0.04	45	345 VH

W VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC  
 SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1A	Soybeans	Wheat Red Spring	70 bu	0.0	74	15	15	0	0	35	0.0	8	0	0	0.0
1A	Soybeans	Wheat Red Spring Bl	70 bu	0.0	74	25	35	0	0	35	0.0	8	0	0	0.5

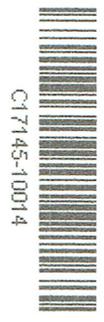
\* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.  
 \* If this report contains soil in excess of 7500 ppm Ca it may or may not effect the calculated Cation Exchange Capacity. Excessive seed placed fertilizer can cause injury.  
 \* The results of this report relate to the sample submitted and analyzed.  
 \* Crop yield is influenced by a number of factors in addition to soil fertility.  
 \* No guarantee or warranty concerning crop performance is made by A & L.  
 A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.secca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By: *[Signature]* Ian McLachlin, Vice President

Report Number: C17145-10014  
 Account Number: 06352

# A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664



To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDUC  
 204-388-6888

For: D.P. WIEBE

Field: SE1 7 3E

Reported Date: Printed Date: Jun 2, 2017

## SOIL TEST REPORT

Sample Number	Legal Land Descrpt:	Depth	Lab Number	Organic Matter	Phosphorus - P Bicarb	P - P Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturation % K % Mg % Ca % H % Na
1A		6	89660	5.4	32 G	59 H	287 VH	1165 VH	2280 VL	6.2	6.7	25.7	2.9 37.8 44.4 13.5 1.5
1B		12	89661	4.9	22 G	41 G	297 H	2260 VH	3720 L	7.4		38.7	2.0 48.7 48.1 1.9

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### SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1A		Soybeans	45 bu	2.0	5	25	40	0	0	35	0.0	0	0	0	0.0

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 \* The results of this report relate to the sample submitted and analyzed.  
 \* Crop yield is influenced by a number of factors in addition to soil fertility.  
 \* No guarantee or warranty concerning crop performance is made by A & L.  
 A&L Canada Laboratories Inc. is accredited by the Standards Council of Canada for specific tests as listed on www.secca and by the Canadian Association for Laboratory Accreditation as listed on www.cala.ca

Results Authorized By: Ian McLachlin, Vice President

Report Number: C17128-10219  
 Account Number: 06352

# A & L Canada Laboratories Inc.



2136 Jetstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664

To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDUC  
 204-388-6888

For: D.P WIEBE

Field: L+M RR 6079

Reported Date: Printed Date-May 10, 2017

## SOIL TEST REPORT

Sample Number	Legal Land Descrpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	%K	Percent Base %Mg	Saturations %Ca	%H	%Na
1A		6	82819	5.3	17M	26M	345 VH	2100 VH	3280 L	7.7	7.7	35.2	2.5	49.8	46.6		1.7
1B		12	82820	3.9	5L	6VL	268 H	2490 VH	4570 L	7.9	7.9	45.1	1.5	46.0	50.6		2.5
1C		24	82821	3.5			241 M	2720 VH	5410 L	8.1	8.1	51.9	1.2	43.7	52.1		3.6

W VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

### SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1A	VL	110	53 VH	95	2.2L	27M	63 VH	3.2 VH	1.3H	6H	525	0.0G	0.05	66	140H
1B	VL	115	9 L	16	1.4L	13L	51 VH	3.0H	0.5L	2L	452	0.0G	0.03	51	259 VH
1C	M	497	8 L	29											424 VH

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 \* No guarantee or warranty concerning crop performance is made by A & L.  
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Results Authorized By: Ian McLachlin, Vice President

Report Number: C17128-10217  
 Account Number: 06352

# A & L Canada Laboratories Inc.

2136 Jetstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664



To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDUC  
 204-388-6888

For: D.P. WIEBE

Field: N RR 6079

*N 1/2 of SL-00N1*

Reported Date: Printed Date: May 10, 2017

## SOIL TEST REPORT

Sample Number	Legal Land Descrpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	CEC meq/100g	Percent Base Saturations %K %Mg %Ca %H %Na
1A		6	82813	5.8	15 M	24 M	261 H	1255 VH	4380 M	7.8	33.0	2.0 31.7 66.4
1B		12	82814	3.9	10 M	14 L	222 M	1595 VH	5110 M	8.0	39.5	1.4 33.7 64.8
1C		24	82815	5.1			263 H	1700 VH	4900 M	7.9	39.5	1.7 35.9 62.0

Sample Number	Sulfur S ppm	Nitrate Nitrogen NO3-N ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts mmhos/cm	Saturation %p	Aluminum Al ppm	Saturation %Al	K/Mg Ratio	Chloride Cl ppm	Sodium Na ppm
1A	16 VL	29	37 H	67	2.3 L	31 H	48 H	2.3 H	1.5 H	8 H	380	0.0 G	0.06	71
1B	8 VL	14	15 M	27	1.5 L	13 L	51 VH	2.4 H	0.8 M	7 H	252	0.0 G	0.04	51
1C	25 VL	90	32 H	115									0.05	64

W VL = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

### SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B
1A		Canola	60 bu	0.0	124	35	25	0	0	65	1.0	0	0	0	1.0
1A		Canola build	60 bu	0.0	124	45	35	0	0	65	1.0	0	0	0	1.0

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Results Authorized By: Ian McLachlin, Vice President

Report Number: C17128-10220  
 Account Number: 06352

# A & L Canada Laboratories Inc.

2136 Jesstream Road, London, Ontario, N5V 3P5  
 Telephone: (519) 457-2575 Fax: (519) 457-2664



To: PATERSON GRAIN  
 P.O. BOX 356  
 25 HERITAGE TRAIL  
 NIVERVILLE, MB R0A 1E0  
 Attn: AARON BOLDUC  
 204-388-6888

For: D.P WIEBE

Field: O RR 6079

*N<sub>2</sub> of SL-000*

Reported Date: Printed Date: May 10, 2017

## SOIL TEST REPORT

Sample Number	Legal Land Descrpt:	Depth	Lab Number	Organic Matter	Phosphorus - P ppm	Bray-P1	Potassium K ppm	Magnesium Mg ppm	Calcium Ca ppm	pH	pH Buffer	CEC meq/100g	Percent Base Saturations % K % Mg % Ca % H % Na
1A		6	82822	6.8	25 G	34 M	345 VH	1265 VH	4740 M	7.8	35.2	2.5	30.0 67.4
1B		12	82823	4.3	5 L	6 VL	209 M	1525 VH	5740 M	8.0	42.1	1.3	30.2 68.2
1C		24	82824	4.2			227 M	1960 VH	5580 M	8.0	45.3	1.3	36.1 61.6

Sample Number	Sulfur S lbs/ac	Nitrate Nitrogen NO3-N ppm	Zinc Zn ppm	Manganese Mn ppm	Iron Fe ppm	Copper Cu ppm	Boron B ppm	Soluble Salts mmhos/cm	Saturation %P	Aluminum Al ppm	Saturation %Al	K/Mg Ratio	ENR	Chloride Cl ppm	Sodium Na ppm
1A	12 VL	22	40 VH	72	2.3 L	33 H	52 VH	2.8 H	1.1 M	11 H	409	0.0 G	0.08	81	41 L
1B	8 VL	14	13 M	23	1.2 L	12 L	46 H	2.4 H	0.5 L	3 M	231	0.0 G	0.04	55	74 M
1C	10 VL	36	11 M	40										54	156 H

W = VERY LOW, L = LOW, M = MEDIUM, H = HIGH, VH = VERY HIGH, G = GOOD, MA = MARGINAL, MT = MODERATE PHYTO-TOXIC, T = PHYTO-TOXIC, ST = SEVERE PHYTO-TOXIC

### SOIL FERTILITY GUIDELINES (lbs/ac)

Sample Number	Previous Crop	Intended Crop	Yield Goal	Lime Tons/Acre	N	P2O5	K2O	Mg	Ca	S	Zn	Mn	Fe	Cu	B

\* Recs are based on building nutrients to a level to maintain soil health. Banding and/or precision placement techniques can be utilized to increase fertilizer efficiency.  
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 \* No guarantee or warranty concerning crop performance is made by A & L.  
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Results Authorized By: Ian McLachlin, Vice President

# Water Requirement Calculation Table

Livestock	Number	IG/day per animal in winter	IG/day per animal in summer	IG/day (Imperial gallons per day)
<b>Beef/Dairy/Bison *</b>				
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	-
<b>Horses</b>				
Horses		8	11	-
<b>Hogs</b>				
Sow (Farrow/wean)		6.5		-
Dry Sow/Boar		4		-
Feeder		3		-
Nursery (33 lb.)		2		-
<b>Chickens</b>				
Broilers		0.035		-
Roasters/Pullets	37,500	0.04		1,500
Layers	90,000	0.055		4,950
Breeders		0.07		-
<b>Turkeys</b>				
Turkey Growers		0.13		-
Turkey Heavies		0.16		-
<b>Sheep/Goats</b>				
Sheep/Goats		2		-
Ewes/Does		3		-
Lambs/Kids (90 lb.)		1.6		-
<b>TOTAL (IG/day)</b>				<b>6,450</b>
*** TOTAL with 10% wash water				<b>7,095</b>

\* 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
7,095	2,589,675	IG
29,322	10,702,421	litres
0.029	11	cubic decametres (dam <sup>3</sup> )

Enter this number on page 7 of Application Form.

Conversion Factor: 1 IGPM = 4.546 l/m

LOCATION: 5-6-5E

Well\_PID: 126929  
Owner: PURATONE/BURNBRAE FARMS  
Driller: Echo Drilling Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic,Livestock  
UTMX: 653415.75  
UTMY: 5479737.75  
Accuracy XY:  
UTMZ:  
Accuracy Z:  
Date Completed: 2003 Sep 12

WELL LOG

From (ft.)	To (ft.)	Log
0	175.0	SAND AND GRAVEL
175.0	204.0	RED SHALE
204.0	216.0	TILL
216.0	335.0	LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	223.0	CASING	5.00			INSERT	PVC
170.0	223.0	CASING	4.00			INSERT	
GALVANIZED							
223.0	335.0	OPEN HOLE	4.00				
10.0	223.0	CASING GROUT					
BENTONITE							

Top of Casing: 2.0 ft. above ground

PUMPING TEST

Date: 2003 Sep 12  
Pumping Rate: 75.0 Imp. gallons/minute  
Water level before pumping: 10.0 ft. below ground  
Pumping level at end of test: 120.0 ft. below ground  
Test duration: ??? hours, ?? minutes  
Water temperature: ?? degrees F

---

LOCATION: NE5-6-5E

Well\_PID: 52211  
Owner: HESTHER FARM  
Driller: GUY'S WELL DRILLING  
Well Name:  
Well Use: PRODUCTION  
Water Use: Livestock  
UTMX: 653808.305  
UTMY: 5480156.28  
Accuracy XY: UNKNOWN  
UTMZ:  
Accuracy Z:  
Date Completed: 1984 Jun 13

WELL LOG

From (ft.)	To (ft.)	Log
0	119.9	SAND
119.9	156.9	GRAVEL
156.9	170.9	TILL
170.9	172.9	BOULDER
172.9	196.9	SHALE; RED
196.9	200.9	LIMESTONE
200.9	207.9	SHALE; RED
207.9	339.8	BEDROCK

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	209.9	casing	5.00				PVC
199.9	339.8	open hole	4.80				

Top of Casing: 1.0 ft. below ground

PUMPING TEST

Date: 1984 Jun 13  
Pumping Rate: 50.0 Imp. gallons/minute  
Water level before pumping: 9.0 ft. below ground  
Pumping level at end of test: 20.0 ft. below ground  
Test duration: 1 hours, minutes  
Water temperature: ?? degrees F

---

LOCATION: NE5-6-5E

Well\_PID: 28618  
Owner: A DUECK  
Driller: EMIL MANKEY & SON  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic  
UTMX: 653808.305  
UTMY: 5480156.28  
Accuracy XY: UNKNOWN  
UTMZ:  
Accuracy Z:  
Date Completed: 1976 Apr 02

WELL LOG

From (ft.)	To (ft.)	Log
0	30.0	SAND AND GRAVEL WITH LAYER OF CLAY
30.0	72.0	SAND AND GRAVEL

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	67.0	casing	4.00			INSERT	BLACK
67.0	72.0	perforations	3.00		0.012	WIRE WOUND	S. S.

Top of Casing: ft. below ground

PUMPING TEST

Date:  
Pumping Rate: 25.0 Imp. gallons/minute  
Water level before pumping: 14.0 ft. below ground  
Pumping level at end of test: ?? ft. below ground  
Test duration: 1 hours, minutes  
Water temperature: ?? degrees F

---

LOCATION: NE5-6-5E

Well\_PID: 81023  
Owner: E FROESE  
Driller: Echo Drilling Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic,Livestock  
UTMX: 653808.305  
UTMY: 5480156.28  
Accuracy XY: UNKNOWN  
UTMZ:  
Accuracy Z:  
Date Completed: 1995 Dec 21

WELL LOG

From (ft.)	To (ft.)	Log
0	1.0	SOD AND BROWN LOAM
1.0	4.0	BROWN TILL
4.0	12.0	GRAVEL
12.0	26.0	BROWN TILL
26.0	49.0	FINE GREY SAND
49.0	55.0	GREY CLAY
55.0	65.0	FINE GREY SAND
65.0	73.0	GREY CLAY
73.0	87.9	FINE GREY-BLACK SAND
87.9	91.9	GREY CLAY

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	79.9	casing	5.00			INSERT	PVC
79.9	84.9	perforations	5.00		0.015	WIRE WOUND	S. S.
75.0	85.9	gravel pack				NO. 10-30	SILICA
S. 25.0	75.0	casing grout					casing

Top of Casing: 2.0 ft. below ground

PUMPING TEST

Date: 1995 Dec 21  
Pumping Rate: 8.0 Imp. gallons/minute  
Water level before pumping: 22.0 ft. below ground  
Pumping level at end of test: 79.9 ft. below ground  
Test duration: 2 hours, minutes  
Water temperature: ?? degrees F

---

LOCATION: NW5-6-5E

Well\_PID: 100856  
Owner: HENERY BRAUN  
Driller: Echo Drilling Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic,Livestock  
UTMX: 653000.388  
UTMY: 5480130.28  
Accuracy XY: 4 FAIR [350M-1KM] [WITHIN SECTION]  
UTMZ:  
Accuracy Z:  
Date Completed: 1996 Jun 12

WELL LOG

From (ft.)	To (ft.)	Log
0	1.0	BLACK LOAM
1.0	7.0	BROWN TILL
7.0	14.0	BROWN SAND
14.0	22.0	GREY TILL
22.0	39.0	GREY SAND
39.0	75.0	GREY TILL WITH NARROW SAND STRINGERS
75.0	110.0	FINE TO MEDIUM GREY-BLACK SAND
110.0	115.0	GREY TILL

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	97.0	CASING	5.00			INSERT	PVC
97.0	107.0	PERFORATIONS	5.00		0.015	WIRE WOUND	S. S.
80.0	110.0	GRAVEL PACK				NO. 10-30	SILICA

S.  
14.0 75.0 CASING GROUT  
BENTONITE

Top of Casing: 2.0 ft. above ground

PUMPING TEST

Date: 1996 Jun 12  
Pumping Rate: 75.0 Imp. gallons/minute  
Water level before pumping: 4.0 ft. below ground  
Pumping level at end of test: 95.0 ft. below ground  
Test duration: 2 hours, minutes  
Water temperature: ?? degrees F

---

LOCATION: SE5-6-5E

Well\_PID: 34887  
Owner: NEUFELD  
Driller: Friesen Drillers Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic  
UTMX: 653832.555  
UTMY: 5479351.61  
Accuracy XY: UNKNOWN  
UTMZ:  
Accuracy Z:  
Date Completed: 1978 Oct 17

WELL LOG

From (ft.)	To (ft.)	Log
0	20.0	SAND
20.0	79.9	TILL
79.9	139.9	BLUE CLAY
139.9	149.9	TILL
149.9	159.9	LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	150.9	casing	4.25			INSERT	BLACK
150.9	159.9	open hole	4.00				

Top of Casing: ft. below ground

PUMPING TEST

Date:  
Flowing Rate: 15.0 Imp. gallons/minute  
Water level before pumping: 4.0 ft. above ground  
Pumping level at end of test: 25.0 ft. below ground  
Test duration: hours, minutes  
Water temperature: ?? degrees F

---

LOCATION: SE5-6-5E

Well\_PID: 134538  
Owner: BURNBRAE FARMS  
Driller: Echo Drilling Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic  
UTMX: 653832.555  
UTMY: 5479351.61  
Accuracy XY:  
UTMZ:  
Accuracy Z:  
Date Completed: 2005 Oct 27

WELL LOG

From (ft.)	To (ft.)	Log
0	175.0	SAND AND GRAVEL
175.0	197.0	SHALE
197.0	208.0	TILL
208.0	330.0	LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	212.0	CASING	5.00			INSERT	PVC
212.0	230.0	OPEN HOLE	4.00				
10.0	80.0	CASING GROUT					

BENTONITE

Top of Casing: 2.0 ft. above ground

PUMPING TEST

Date: 2005 Oct 27  
Pumping Rate: 100.0 Imp. gallons/minute  
Water level before pumping: 4.0 ft. below ground  
Pumping level at end of test: 80.0 ft. below ground  
Test duration: ??? hours, ?? minutes  
Water temperature: ?? degrees F

---

LOCATION: SE5-6-5E

Well\_PID: 125910  
Owner: PURATONE - BURNBRAE FARMS  
Driller: Echo Drilling Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Livestock  
UTMX: 653832.555  
UTMY: 5479351.61  
Accuracy XY:  
UTMZ:  
Accuracy Z:  
Date Completed: 2003 Sep 12

WELL LOG

From (ft.)	To (ft.)	Log
0	15.0	BROWN TILL
15.0	90.0	SAND
90.0	175.0	SAND AND GRAVEL
175.0	214.0	RED SHALE
214.0	323.0	LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	221.0	CASING	5.00	5.50		INSERT	PVC
221.0	323.0	OPEN HOLE	4.00				
20.0	100.0	CASING GROUT					

BENTONITE

Top of Casing: 2.0 ft. above ground

PUMPING TEST

Date: 2003 Sep 12  
Pumping Rate: 75.0 Imp. gallons/minute  
Water level before pumping: 10.0 ft. below ground  
Pumping level at end of test: 145.0 ft. below ground  
Test duration: ??? hours, ?? minutes  
Water temperature: ?? degrees F

---

LOCATION: SW5-6-5E

Well\_PID: 34889  
Owner: J NEUFELD  
Driller: Friesen Drillers Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic  
UTMX: 653022.138  
UTMY: 5479327.11  
Accuracy XY: UNKNOWN  
UTMZ:  
Accuracy Z:  
Date Completed: 1978 Oct 30

WELL LOG

From (ft.)	To (ft.)	Log
0	25.0	SAND
25.0	35.0	TILL

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	20.0	casing	4.25			INSERT	BLACK
IRON							
20.0	25.0	perforations			0.018	WIRE WOUND	S. S.
18.0	30.0	gravel pack				NO. 10-30	SILICA
S.							

Top of Casing: ft. below ground

PUMPING TEST

Date:  
Pumping Rate: 7.0 Imp. gallons/minute  
Water level before pumping: 13.0 ft. below ground  
Pumping level at end of test: 22.0 ft. below ground  
Test duration: hours, minutes  
Water temperature: ?? degrees F

---

LOCATION: SW5-6-5E

Well\_PID: 138606  
Owner: FRAZER FARMS  
Driller: Echo Drilling Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic  
UTMX: 653022.138  
UTMY: 5479327.11  
Accuracy XY:  
UTMZ:  
Accuracy Z:  
Date Completed: 2006 Oct 13

WELL LOG

From (ft.)	To (ft.)	Log
0	23.0	BROWN TILL
23.0	35.0	CLAY
35.0	158.0	SANDY TILL
158.0	229.0	SHALE
229.0	335.0	LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	238.0	CASING	5.00	5.50		INSERT	PVC
238.0	335.0	OPEN HOLE	4.00				
10.0	80.0	CASING GROUT					OTHER

Top of Casing: 2.0 ft. above ground

PUMPING TEST

Date: 2006 Oct 13  
Pumping Rate: 75.0 Imp. gallons/minute  
Water level before pumping: 7.0 ft. below ground  
Pumping level at end of test: 80.0 ft. below ground  
Test duration: ??? hours, ?? minutes  
Water temperature: ?? degrees F

REMARKS

GRUNTHAL. WELL MUST BE VENTED.

---

LOCATION: SW5-6-5E

Well\_PID: 121928  
Owner: ED FROESE  
Driller: Echo Drilling Ltd.  
Well Name:  
Well Use: PRODUCTION  
Water Use: Domestic  
UTMX: 653022.138  
UTMY: 5479327.11  
Accuracy XY:  
UTMZ:  
Accuracy Z:  
Date Completed: 2002 Oct 23

WELL LOG

From (ft.)	To (ft.)	Log
0	15.0	TILL
15.0	30.0	CLAY
30.0	161.0	SANDY TILL
161.0	218.0	RED SHALE
218.0	330.0	LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	236.0	CASING	5.00	5.50		INSERT	PVC
236.0	330.0	OPEN HOLE	4.50				
10.0	236.0	CASING GROUT					

BENTONITE

Top of Casing: 2.0 ft. above ground

PUMPING TEST

Date: 2002 Oct 23  
Pumping Rate: 75.0 Imp. gallons/minute  
Water level before pumping: 7.0 ft. below ground  
Pumping level at end of test: 80.0 ft. below ground  
Test duration: ??? hours, ?? minutes  
Water temperature: ?? degrees F

---

LOCATION: NW6-6-5E

Well\_PID: 111500  
Owner: ELITE SWINE  
Driller: Echo Drilling Ltd.  
Well Name: QUINFIELD FARMS PIG BARN  
Well Use: PRODUCTION  
Water Use: Livestock  
UTMX: 651368.644  
UTMY: 5480080.04  
Accuracy XY:  
UTMZ:  
Accuracy Z:  
Date Completed: 1999 Aug 24

WELL LOG

From (ft.)	To (ft.)	Log
0	50.0	BROWN TILL
50.0	160.0	GREY TILL
160.0	216.0	RED SHALE
216.0	330.0	LIMESTONE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	50.0	CASING	5.00			INSERT	PVC
50.0	330.0	OPEN HOLE	4.00				
0	218.0	CASING GROUT					CEMENT

Top of Casing: 2.0 ft. above ground

PUMPING TEST

Date: 1999 Aug 24  
Flowing Rate: 100.0 Imp. gallons/minute  
Water level before pumping: 10.0 ft. above ground  
Pumping level at end of test: ?? ft. below ground  
Test duration: ??? hours, ?? minutes  
Water temperature: ?? degrees F

REMARKS

FLOW RATE IS ESTIMATED

---

## Select Year Range



2011 to 2016

Search

## Search Summary

6 records returned

966 farm varieties grown on 193,430.0 acres

### Average Yield

0.929 Tonnes ( 41.0 Bushels ) per acre

### Average Fertilizer Application

Nitrogen: 118.4 lbs per acre

Phosphorus: 34.6 lbs per acre

Potassium: 5.0 lbs per acre

Sulphur: 12.3 lbs per acre

*Summary includes aggregate data from 'below minimum tolerance' records*

## Fertilizer Usage Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

Hide 'Below Min. Tolerance'

Year	Risk Area	Crop	Soil	Farms	Acres	Yield/acre (metric)	Yield/acre (imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)	Sulphur (lbs)
2014	Risk Area 12	Argentine Canola	c	153	28,577.0	1.159 Tonnes	51.1 Bushels	119.1	36.9	5.9	13.3
2013	Risk Area 12	Argentine Canola	c	172	31,472.0	1.119 Tonnes	49.3 Bushels	118.0	33.6	4.2	12.3
2015	Risk Area 12	Argentine Canola	c	159	31,804.0	1.022 Tonnes	45.1 Bushels	125.6	38.2	6.1	13.5
2016	Risk Area 12	Argentine Canola	c	128	24,522.0	0.826 Tonnes	36.4 Bushels	122.6	36.6	6.3	13.7
2011	Risk Area 12	Argentine Canola	c	197	45,700.0	0.768 Tonnes	33.8 Bushels	113.9	31.7	3.9	10.4
2012	Risk Area 12	Argentine Canola	c	157	31,355.0	0.751 Tonnes	33.1 Bushels	113.8	32.3	4.8	11.7

## Select Year Range



2011 to 2016

Search

## Search Summary

6 records returned

781 farm varieties grown on 140,425.9 acres

### Average Yield

1.613 Tonnes ( 59.3 Bushels ) per acre

### Average Fertilizer Application

Nitrogen: 107.1 lbs per acre

Phosphorus: 34.5 lbs per acre

Potassium: 6.9 lbs per acre

Sulphur: 3.6 lbs per acre

*Summary includes aggregate data from 'below minimum tolerance' records*

## Fertilizer Usage Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

Hide 'Below Min. Tolerance'

Year	Risk Area	Crop	Soil	Farms	Acres	Yield/acre (metric)	Yield/acre (imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)	Sulphur (lbs)
2014	Risk Area 12	Red Spring Wheat	c	114	21,138.0	1.865 Tonnes	68.5 Bushels	110.3	38.1	6.6	3.9
2013	Risk Area 12	Red Spring Wheat	c	130	22,266.0	1.773 Tonnes	65.1 Bushels	102.6	32.8	7.1	3.0
2012	Risk Area 12	Red Spring Wheat	c	130	22,154.8	1.724 Tonnes	63.3 Bushels	105.1	33.3	6.7	3.6
2015	Risk Area 12	Red Spring Wheat	c	146	24,434.0	1.701 Tonnes	62.5 Bushels	110.7	36.0	7.5	3.9
2016	Risk Area 12	Red Spring Wheat	c	114	20,548.0	1.518 Tonnes	55.8 Bushels	114.0	37.5	7.3	4.7
2011	Risk Area 12	Red Spring Wheat	c	147	29,885.1	1.226 Tonnes	45.1 Bushels	101.9	30.7	6.3	2.8

## Select Year Range




to



## Search Summary

**6 records returned**

470 farm varieties grown on 89,583.0 acres

### Average Yield

1.113 Tonnes ( 40.9 Bushels ) per acre

### Average Fertilizer Application

Nitrogen: 6.1 lbs per acre

Phosphorus: 33.0 lbs per acre

Potassium: 4.1 lbs per acre

Sulphur: 1.6 lbs per acre

*Summary includes aggregate data from 'below minimum tolerance' records*

## Fertilizer Usage Data

'Below Minimum Tolerance' records contain data from fewer than 3 producers or 500 acres, marked as such to retain producer anonymity. Data from these records is included in the Search Summary totals.

Year	Risk Area	Crop	Soil	Farms	Acres	Yield/acre (metric)	Yield/acre (imperial)	Nitrogen (lbs)	Phosphorus (lbs)	Potassium (lbs)	Sulphur (lbs)
2016	Risk Area 12	Soybeans	c	104	20,162.0	1.253 Tonnes	46.0 Bushels	7.4	35.0	4.8	3.1
2013	Risk Area 12	Soybeans	c	72	14,210.0	1.183 Tonnes	43.5 Bushels	6.0	32.4	1.5	0.9
2014	Risk Area 12	Soybeans	c	108	22,812.0	1.062 Tonnes	39.0 Bushels	4.0	34.3	4.9	1.3
2015	Risk Area 12	Soybeans	c	106	19,924.0	1.059 Tonnes	38.9 Bushels	4.3	34.8	5.6	1.6
2012	Risk Area 12	Soybeans	c	47	7,442.0	1.049 Tonnes	38.6 Bushels	10.2	26.8	2.9	0.5
2011	Risk Area 12	Soybeans	c	33	5,033.0	0.904 Tonnes	33.2 Bushels	11.9	23.3	0.8	1.1