

Site Assessment

For Large Livestock Operation Proposals

(300 Animal Units or more) whenever a municipal conditional use approval is required

1.0 Purpose

The establishment or expansion of a livestock operation that has 300 Animal Units or more and requires a municipal conditional use approval is subject to Part 7 of [The Planning Act](#). This includes a review by the provincial Livestock Technical Review Committee (TRC). The [Technical Review Committee Regulation](#) requires a site assessment be undertaken by the proponent to help the committee complete its review and allow the public to comment on the proposal.

2.0 Assistance

For assistance in completing this Site Assessment form, the following resources are available:

- [Site Assessment Footnotes](#)
- [Site Assessment Supporting Documents](#)
- The [Land Use and Development Web Application](#) for Municipal Tax Roll Numbers, development plans and zoning by-law information.
- [Manitoba Agriculture and Resource Development Contacts](#) for assistance with animal unit calculations, manure application field acreage calculations, agriculture capability and Manitoba Agricultural Services Corporation yields.
- [Manitoba Conservation and Climate Contacts](#) for information on environmental regulatory requirements.
- [Livestock Technical Review Co-ordination Unit](#) for additional help.

3.0 Description of Livestock Operation

Legal name of operation:

Westfarm Holding Co. Ltd.

Name of municipality:

Rural Municipality of Brokenhead

Legal description: quarter, section, township, range, meridian or river lot(s):

NW 1/4 33-14-08 E1

Municipal tax roll number(s):

473700.00

Prepare a Location Map of the project site. (see [Location Map Example¹](#)).

- 1. Location Map attached. SAA - 1 of 65

4.0 Nature of the Project²

Indicate if the proposal is for a new or expanding livestock operation:

- New operation
- Expansion of existing operation

If the operation is expanding, indicate when the operation was established:

State operation's original name if different from current:

Describe what is being proposed:

This is a proposed new Hutterite colony site that is a daughter site to Greenwald Colony Farms. The colony will be developed slowly over a number of years. We are requesting a multiyear phased conditional use order that will allow the colony to grow and expand at a pace based on population growth and market conditions.

Proposing phased construction of mixed livestock operation. At full build-out (approximately 20 years of growth at site), site will include broiler operation, swine operation, as well as a layer barn. The proposal also includes an all-barn (turkeys, ducks, dairy) for personal use by Westfarm Colony.

State if any existing buildings will be replaced or demolished. If existing buildings will be reused or expanded, state how they will be reused or expanded. (Note: Certain proposals involving the replacement or alteration of existing animal housing may be exempted from conditional use approvals and provincial technical reviews. To determine if you may be eligible, refer to the [Frequently Asked Questions](#) document and contact your municipal office.

N/A

5.0 Current and Proposed Type and Size of Operation³

Using the [Animal Units Calculator](#) insert the total number of animals for each animal category associated with the current and proposed operation.

2. Animal Units Calculator attached. SAA - 2 of 65

6.0 Animal Confinement

Based on the nature of the proposed project, indicate each type of animal confinement facility or confined livestock area to be found on site (post construction). Note animal category of each facility or area and its size and check off the type of project it is.

Table 6-1: Animal Confinement

| Type of structure | | Structure size (square footage) | Type of project | | | |
|--|----------------------------------|------------------------------------|------------------|-------------|------------|--------------------|
| Animal confinement facility ⁴ | | | New construction | Replacement | Alteration | Use existing as is |
| Barn | Animal category | | | | | |
| (1) | Broiler Barn | 38,556 | ✓ | | | |
| (2) | Hog (Gestation - Farrow) Barn | 75 000 | ✓ | | | |
| (3) | Hog (Weanling - Finish) Barn | 150 000 | ✓ | | | |
| (4) | All-Barn (Ducks, Turkeys, Dairy) | 5 500 | ✓ | | | |
| (5) | Layer Barn | 13 145 | ✓ | | | |
| (6) | | | | | | |
| Outdoor area | | | | | | |
| (1) | | | | | | |
| (2) | | | | | | |
| (3) | | | | | | |
| Confined livestock area⁵ | | | | | | |
| Feedlot | | | | | | |
| Paddock | Beef cattle (feeders) | 9750 | ✓ | | | |
| Corral | | | | | | |
| Exercise yard | | | | | | |
| Holding area | | | | | | |

6.1 Project Site Plan

Prepare a Project Site Plan. Show all existing and proposed buildings, additions to existing buildings and any existing or proposed confined livestock areas as well as separation distances. See the [Project Site Plan Example and Guide](#) for assistance.⁶

3. Project Site Plan attached. SAA - 3 of 65

6.2 Project Sites Unsuitable for Development⁷

Will the proposed confined livestock area and/or manure storage facility be located within Nutrient Management Zone N4⁸ or any Nutrient Buffer Zone?⁹

Yes No

7.0 Water Source

Indicate the type of water source for the operation (check all that apply):

Pipeline (public)/water cooperative

Proposed well – location: NE 35-14-07 E1, NW 36-14-07 E1 (location indicated on SAA - 39 of 65)

Existing well – location: _____

Surface water – source and location: _____

Other, describe: _____

Will livestock have direct access to surface water (not including dugouts)?

Yes No

If yes, identify the name of the surface water feature(s):

N/A

7.1 Water Requirements¹⁰

Estimate the total water use for your project using the appropriate water requirement calculator listed below:

- For non-dairy operations, use the [Water Requirement Calculator](#).
- For commercial dairy operations, use the [Dairy Barn Water Requirement Calculator](#).

Maximum daily water use: 18 998
 Imperial gallons Litres

Maximum annual water use: 6 934 343
 Imperial gallons Cubic decameters

4a. Water Requirement Calculator attached. SAA - 4 of 65

4b. Dairy Barn Water Requirement Calculator attached. N/A

8.0 Siting and Land Use Planning Considerations¹¹

8.1 Development Plan¹²

Using the [Land Use and Development Web Application](#) or the municipality's development plan, provide the following information:

Table 8-1: Development Plan

| | |
|--|---|
| Name of planning district (if applicable) | Brokenhead River Planning District |
| Name of municipality | Rural Municipality of Brokenhead |
| Development plan by-law number | Brokenhead River Planning District Development Plan adopted by By-law No.21 |
| Land use designation of project site | Rural/Agricultural |

8.2 Zoning By-law¹³

Using the [Land Use and Development Web Application](#) and the municipality's zoning by-law, provide the following information:

Table 8-2: Zoning By-law

| Zoning by-law number: <u>By-law No. 1688</u> | | |
|---|----------------------------------|---|
| Identify zone of project site: <u>A80 - Rural and Agricultural Zone</u> | | |
| Identify minimum project site requirements as per zoning by-law: | | |
| | Proposed project site dimensions | Zoning by-law project site requirements |
| Minimum site area | 148.5 acres | 80 acres |
| Minimum site width | 2520 ft | 1200 ft |
| Minimum front yard | 328 ft | 75 feet |
| Minimum side and rear yard | 328 ft | 25 feet |

8.3 Separation Distances (zoning by-law)¹⁴

Using the proposed size of the operation (see [Animal Units Calculator](#)) and the type of animal housing and manure storage facility, complete the following table.

Table 8-3: Separation Distances

| | Indicate minimum separation distance required in the zoning by-law to the following listed land use features (if applicable). Check appropriate box(es): | | If land use feature is less than the minimum separation distance required in the zoning by-law complete this section: | |
|------------------------------------|---|---|---|---|
| | <input checked="" type="checkbox"/> Earthen manure storage facility or <input type="checkbox"/> Feedlot | <input checked="" type="checkbox"/> Animal confinement facility or <input type="checkbox"/> Non-earthen manure storage facility | Provide actual distance | Provide location or name of feature (e.g., Red River) |
| Residence/dwelling | N/A ft <i>2 527 ft</i> | 1000 ft <i>1 263 ft</i> | N/Aft | |
| Designated area (non-agricultural) | N/A ft <i>10 105 ft</i> | N/A ft <i>2 057 ft</i> | N/A ft | |

If any separation distance is less than the zoning by-law minimum, a variance order will be required from the municipality.

**as Zoning By-law No. 1688 does not provide separation distances for EMSF nor to designated areas, separation distances have been provided as ten percent higher than those identified in the Provincial Planning Regulation 81/2011, per the Brokenhead River Development Plan.*

8.4 Land Use Map

Indicate the following on a Land Use Map (see [Land Use Map Example](#)):

- a) Location of the project site.
- b) Land uses and significant features including dwellings (not related to the proposal) within a three-kilometre radius of the project site.

5. Land Use Map attached. SAA - 5 of 65

9.0 Abandoned Wells¹⁵

Are there any known unsealed abandoned wells on the project site or spread fields?

Yes No

If yes, identify the location(s) on the Project Site Plan or on the Spread Field Maps as applicable.

10.0 Manure Production/Storage and Mortalities (Dead Animal) Disposal¹⁶

10.1 Manure Type

What type(s) of manure will be generated?

Solid Semi-solid Liquid

Beef, Broilers, Layers Dairy Hogs

10.2 Manure Storage Type and Construction

Indicate if the operation is planning to construct, modify or expand a manure storage facility,¹⁷ or use an existing manure storage facility:

Construct

Expand

Modify

Use existing

Not applicable

What type of manure storage will be used by the operation? Check all that are applicable:

Concrete tank

Steel tank

Earthen manure storage facility

Permanent solid manure storage facility

Molehill manure storage facility

Under-barn concrete manure storage facility (30-day capacity or greater)

Permanent manure composting facility

Field storage

10.3 Mortalities (Dead Animal) Disposal¹⁸

Indicate the type of mortalities disposal:

- Rendering
- Composting
- Incineration (in approved incinerator only)
- Other (describe): _____

Does the proposal include a permanent site for composting mortalities that will use manure?¹⁹

- Yes No

If yes, identify the location(s) on the Project Site Plan.

10.4 Proposed Setback Distances from Water and Property Lines

Use the following table to indicate the proposed setback distances from water and property lines. Provide the name of the feature.

Table 10-4: Setback Distances from Water and Property Lines

| Feature | Structures | Minimum setback distance (m) ²⁰ | Proposed setback distance (m) | Provide location or name of feature (e.g., Red River) |
|---|-----------------------------|--|-------------------------------|---|
| Surface watercourses, sinkholes, spring or well | Manure storage facility | 100 m | 1408m | Brokenhead River |
| | Field storage | 100 m | | |
| | Manure composting site | 100 m | | |
| | Confined livestock area | 100 m | 1084 m | Brokenhead River |
| | Mortalities disposal site | 100 m | | |
| | Mortalities composting site | 100 m | | |
| Property line | Manure storage facility | 100 m | 100m, 234m | North PL, East PL |
| | Manure composting site | 100 m | | |
| | Confined livestock area | 100 m | 100m, 100m | North PL, West PL |
| | Mortalities composting site | 100 m | | |

If any setback distances have not been met, provide explanation below:

10.5 Building in Flood Areas²¹

Using the links below, determine if any proposed structure will be in a Designated Flood Area.

[Upper Red River Valley Designated Flood Area](#) *As the site is near the flood hazard boundary of the Brokenhead River, appropriate flood protection berms will be designed by and implemented under the supervision of an engineer registered to practice in the Province of Manitoba.*

[Lower Red River Designated Flood Area](#)

Are any of the proposed structures in a Designated Flood Area?

Yes No

11.0 Odour Control Measures (project site)

Indicate which odour control measures are planned.

Manure storage cover:

Yes No Not applicable

If yes, type of cover:

Shelterbelt planting:

Yes No Existing shelterbelt

Other measure (specify):

Agitate and spread liquid manure on non-windy days.

12.0 Land Available for Manure Application²²

12.1 Land Calculation

Fill out and attach the [Manitoba Land Calculator](#)²³ to determine the minimum number of acres for the manure nutrients.

From the calculator, indicate:

Acres for Nitrogen uptake:²⁴ 2170

Acres for Phosphorus removal:²⁴ 2770

- 6. Copies of long-term Manitoba Agricultural Services Corporation (MASC) yields²⁵ attached. SAA - 6
- 7. Manitoba Land Calculator attached. SAA - 30 of 65

Contact Manitoba Agriculture and Resource Development at 204-918-0325 in Winnipeg if assistance is required.

12.2 Long-Term Environmental Sustainability

From the land calculator, indicate acres for Phosphorus balance:²⁶ 5539

I acknowledge that the amount of acres indicated in the Manitoba Land Calculator up to 5539 acres may be required for Phosphorus balance (one times crop P₂O₅ removal) and the long-term environmental sustainability of the operation.

12.3 Characteristics of Manure Application Fields²⁷

Fill out and attach the [Manure Application Field Characteristics Table](#).

Provide Spread Field Maps of land available for manure application along with their agricultural capability (see [Spread Field Map Example](#)).

For all land available for manure application, attach copies of soil test reports that are no more than 36 months old and that demonstrate that soil phosphorus levels are below 60 ppm Olsen P in the top six inches (15 centimeters) of soil.

Have the regulatory setbacks²⁸ and all water features been observed and excluded from land base calculations for this operation?

Yes No

- 8. Manure Application Field Characteristics Table attached. SAA - 38 of 65
- 9. Spread Field Map (showing agricultural capability and field boundaries) attached. SAA 39 of 65
- 10. Soil test reports for the land available for manure application attached. SAA - 40 of 65

13.0 Manure Transportation and Application Equipment

Will a commercial manure applicator be used?²⁹

- Yes No

Identify the proposed transportation method:

- Tanker
 Dragline
 Solid spreader
 Other: _____

Identify the proposed application method (check all that apply):

- Full/true injection liquid manure
 Partial injection (Aerway or Coulter)
 Low-level broadcast application solid manure
 High-level broadcast application solid manure
 Immediate incorporation
 Incorporate within 48 hours
 No incorporation – provide reason: _____

13.1 Season of Application

Identify the proposed timing of application (check all that apply):

- Spring
 Summer (e.g., to a growing crop)
 Fall

13.2 Manure Application on Lands Subject to Frequent Flooding or Inundation³⁰

Are any of the lands available for manure application located in the [Red River Valley Special Management Area](#) or another area that is subject to flooding on an average basis at least once every five years?

- Yes No

14.0 Projected Truck Haul Routes and Access Points³¹

Complete the following table.

Table 14-1: Truck Haul Routes and Access Points

| Vehicle type | Estimated average number of times per day accessing | | Access from PTH/PR onto site will mainly require a left or right hand turn (please check one) | | | | Access onto PTH/PR from site will mainly require a left or right hand turn (please check one) | | | | |
|-----------------|---|----------------------|---|-------|----------------------|-------|---|-------|----------------------|-------|--|
| | Provincial Trunk Highway (PTH) | Provincial Road (PR) | Provincial Trunk Highway (PTH) | | Provincial Road (PR) | | Provincial Trunk Highway (PTH) | | Provincial Road (PR) | | |
| | | | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | LEFT | RIGHT | |
| Truck | | 1/week | | | | ✓ | | | | ✓ | |
| Tractor trailer | | 3/week | | | | ✓ | | | | ✓ | |
| Other, specify | | | | | | | | | | | |

Identify on a map the roads and access points that will be used for the proposed operation (see [Truck Haul Routes and Access Points Map Example](#)).

11. Truck Haul Routes and Access Points Map attached. SAA - 5 of 65

15.0 Conservation Data Centre Report

(only required for new project sites and non-agricultural land being converted to cropland)

A Conservation Data Centre report must be requested and the response attached to this Site Assessment. The request may be submitted electronically to: https://gov.mb.ca/sd/environment_and_biodiversity/cdc/index.html.

12. Conservation Data Centre Report attached. SAA - 60 of 65

Were rare species identified in the Conservation Data Centre Report?

- Yes No See note in 17.0 Additional Information

16.0 Supporting Documents Checklist

Check off the supporting documents attached to this submission.

- 1. Location Map [Site Assessment Appendices - 1 of 65](#)
- 2. Animal Units Calculator [Site Assessment Appendices - 2 of 65](#)
- 3. Project Site Plan [Site Assessment Appendices - 3 of 65](#)
- 4a. Water Requirement Calculator [Site Assessment Appendices - 4 of 65](#)
- 4b. Dairy Barn Water Requirement Calculator
- 5. Land Use Map [Site Assessment Appendices - 5 of 65](#)
- 6. Copies of long-term Manitoba Agricultural Services Corporation (MASC) yields [SAA - 6 of 65](#)
- 7. Manitoba Land Calculator [Site Assessment Appendices - 30 of 65](#)
- 8. Manure Application Field Characteristics Table [Site Assessment Appendices - 38 of 65](#)
- 9. Spread Field Map (showing agricultural capability and field boundaries) [SAA - 39 of 65](#)
- 10. Soil test reports for the land available for manure application (no more than 36 months old) [SAA - 40 of 65](#)
- 11. Truck Haul Routes and Access Point Map ([on Land Use Map](#)) [Site Assessment Appendices - 5 of 65](#)
- 12. Conservation Data Centre Report (only for new project sites and non-agricultural land being converted to cropland) [Site Assessment Appendices - 60 of 65](#)
- 13. Contact information and privacy publication notice (attach separately)
- 14. Conditional Use Application [attached separately](#)
- 15. Other, specify: Threatened Species Correspondence (see below) [Site Assessment Appendices - 64 of 65](#)

17.0 Additional Information

Include any additional information you deem helpful for the Technical Review Committee to review your proposal.

Note from Section 15.0 - The Conservation Data Centre identified one (1) "threatened" species located within 2km of the footprint boundary, and an additional two (2) species of "special concern" and two (2) species deemed "threatened" that are expected to be "in the broader area and similar habitats". Per conversations with John Dunlop, Sr. Permits Officer with Canadian Wildlife Service, it was determined that no endangered species permits are required for the proposed development at the site. Correspondence has been included in Site Assessment Appendices - Page 64 of 65.

After receiving responses from the public, the following corrections were made and the application was resubmitted as Rev 1 in March 2022:

Page 1: Municipal Tax Roll Number

Page 2: Clarified description of commercial vs personal use for barns

Page 7: Clarified species generating types of manure

Page 12: corrected truck access turning

Page 14: Updated declaration for revised document

SAA 5: Added 12 non-associated residences within Public Hearing radius

SAA 5: Added correct truck haul route

SAA 39: Removed hatch on residence in NE 25-14-8; area already excluded from land application

SAA 39: Removed incorrect truck haul route (now shown on SAA 5)

18.0 Declaration

I do hereby verify that the information contained in the Site Assessment, and all required supporting documents, are accurate and complete to my knowledge.

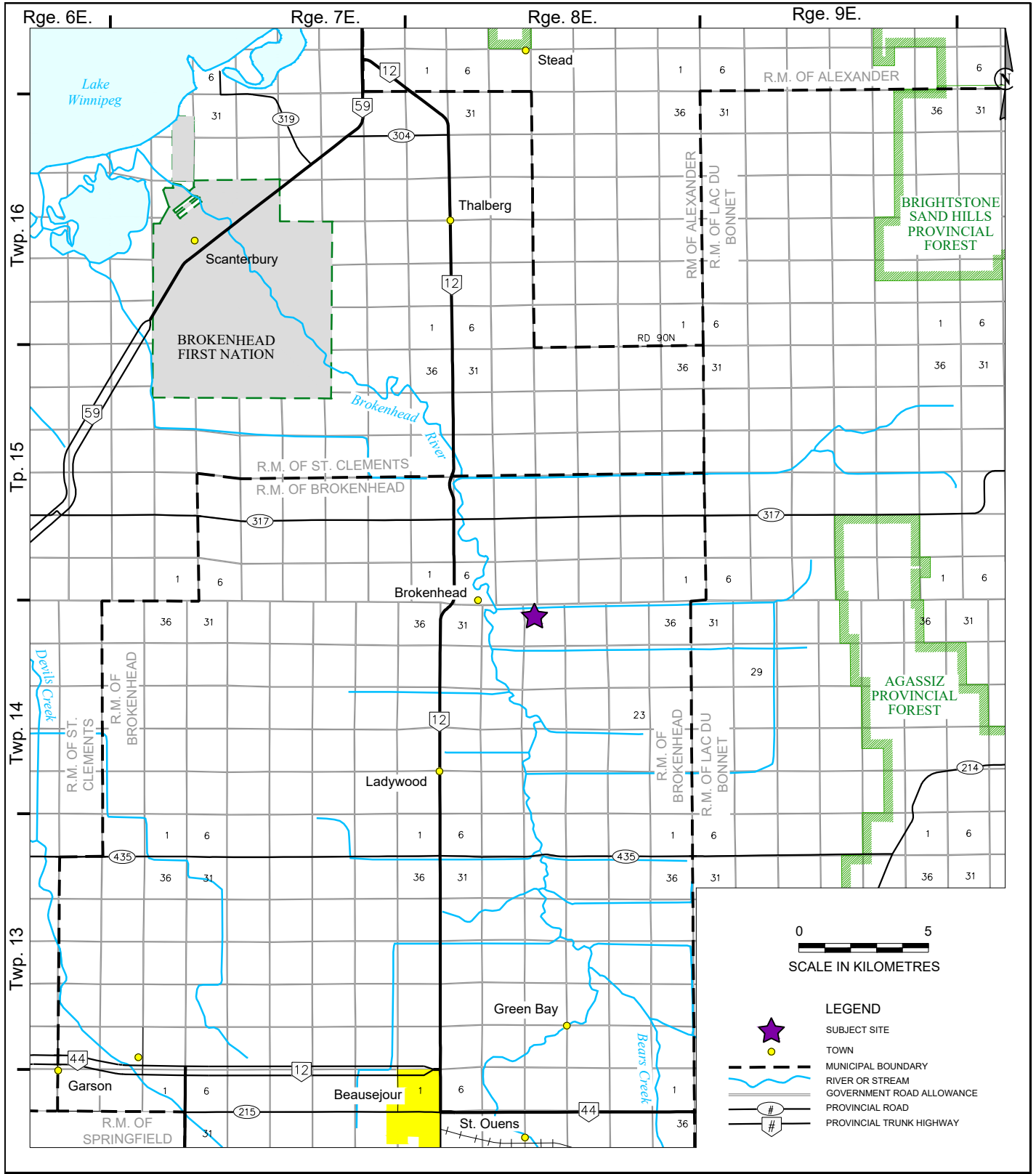
Date: 2022/03/22

(YYYY/MMM/DD)

Name: Jason Hofer

(print clearly)

Signature: Jason Hofer



- LEGEND**
- SUBJECT SITE
 - TOWN
 - MUNICIPAL BOUNDARY
 - RIVER OR STREAM
 - GOVERNMENT ROAD ALLOWANCE
 - PROVINCIAL ROAD
 - PROVINCIAL TRUNK HIGHWAY

| DESIGNED BY: KD | | REVIEWED BY: DB | PROJECT NAME: GREENWALD COLONY NEW SITE DEVELOPMENT RM OF BROKENHEAD | | DRAWING TITLE: LOCATION PLAN | | | | | | | | |
|--|------|---------------------------------------|--|--|--|-----------|--|--|--|--|--|---------------------------------------|-----------------------------|
| DRAWN BY: CR | | PROJECT START DATE: APRIL 27, 2021 | | 1331 Princess Ave. Brandon, Manitoba R7A 0R4 Tel: (204) 728-7364 Fax: (204) 728-4418 | | | | | | | | | |
| PLOT SIZE: 8 1/2 x 11 | | SCALE: N.T.S. | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">REVISIONS</td> </tr> </tbody> </table> | | NO. | DATE | BY | DESCRIPTION | REVISIONS | | | | | | PROJECT NUMBER: BMCE-20-155 | DRAWING NO.: SK-1 |
| NO. | DATE | BY | DESCRIPTION | | | | | | | | | | |
| REVISIONS | | | | | | | | | | | | | |

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 | | - | 3 | 6 |
| | 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 | | - | | - |
| Beef | Veal calves | 0.13 | | - | | - |
| | Beef cows including associated livestock | 1.25 | | - | | - |
| | Backgrounder | 0.5 | | - | | - |
| | Summer pasture / replacement heifers | 0.625 | | - | | - |
| Pigs | Feeder cattle | 0.769 | | - | 25 | 19 |
| | Sows - farrow to finish (234-254 lbs) | 1.25 | | - | 950 | 1,188 |
| | 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 | | - | | - |
| Chickens | Growers / Finishers (51-249 lbs) | 0.143 | | - | | - |
| | Broilers | 0.005 | | - | 50,000 | 250 |
| | Roasters | 0.01 | | - | | - |
| | Layers | 0.0083 | | - | 11,000 | 91 |
| | Pullets | 0.0033 | | - | | - |
| | Broiler breeder pullets | 0.0033 | | - | | - |
| | Broiler breeder hens | 0.01 | | - | | - |
| Turkeys | Broilers | 0.01 | | - | 1,500 | 15 |
| | Heavy Toms | 0.02 | | - | | - |
| | Heavy Hens | 0.01 | | - | | - |
| Horses | Mares | 1.333 | | - | | - |
| Sheep | Ewes | 0.2 | | - | | - |
| | Feeder lambs | 0.063 | | - | | - |
| Other Livestock | Type: Ducks | 0.0170 | | - | 800 | 14 |
| | Type: | | | - | | - |
| Total Current: | | | | - | Total Proposed: | 1,583 |

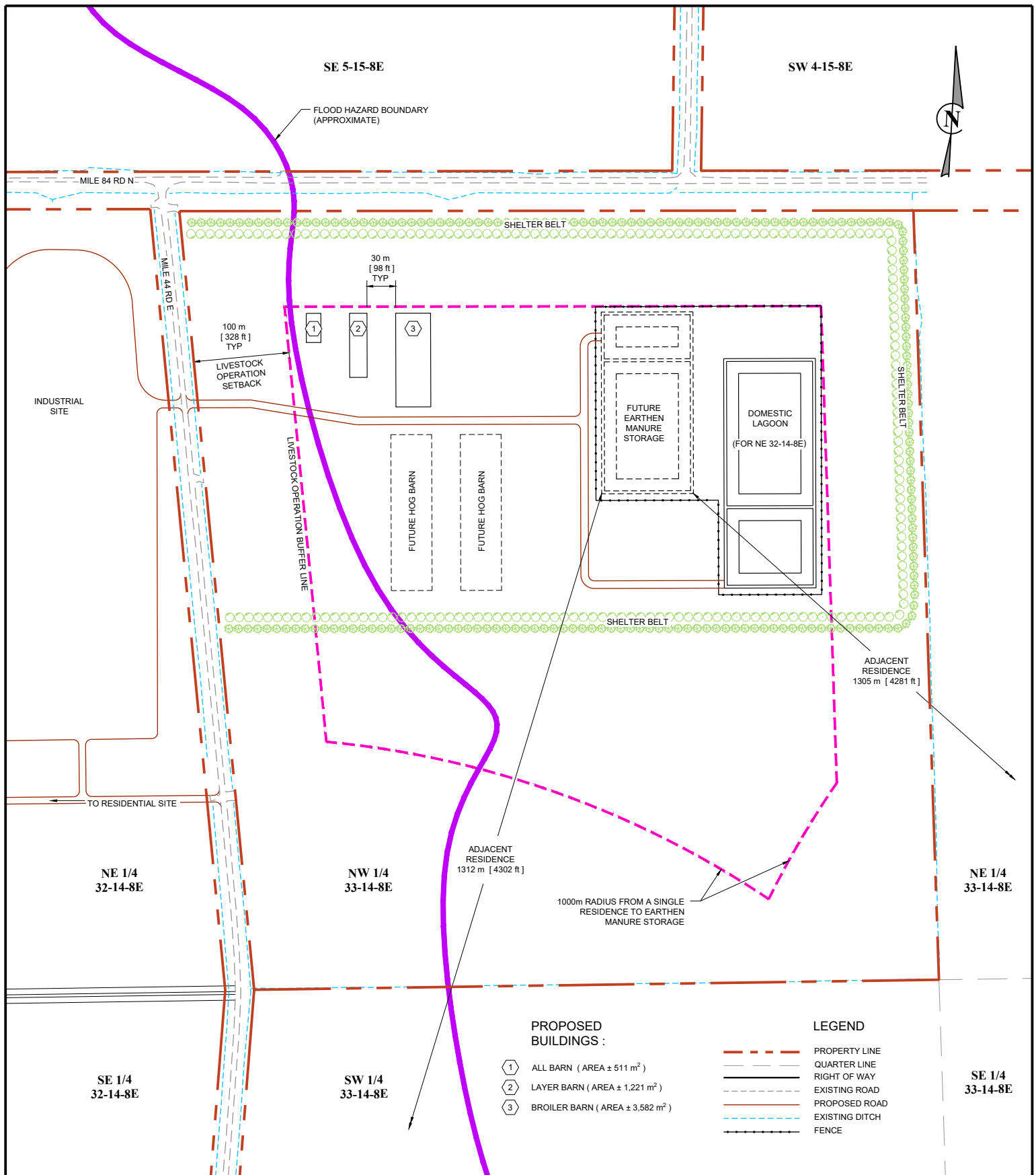
Footnotes:

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 [Manitoba Agriculture and Resource Development](#)



PROPOSED BUILDINGS :

- ① ALL BARN (AREA ± 511 m²)
- ② LAYER BARN (AREA ± 1,221 m²)
- ③ BROILER BARN (AREA ± 3,582 m²)

LEGEND

- — — — — PROPERTY LINE
- — — — — QUARTER LINE
- — — — — RIGHT OF WAY
- — — — — EXISTING ROAD
- — — — — PROPOSED ROAD
- — — — — EXISTING DITCH
- — — — — FENCE

| | |
|--------------------|--------------|
| DESIGNED BY: | REVIEWED BY: |
| KD | DB |
| DRAWN BY: | |
| JA | |
| PROJECT START DATE | |
| APRIL 27, 2021 | |
| PLOT SIZE: | |
| 8 1/2 x 11 | |
| SCALE: | |
| N.T.S. | |

PROJECT NAME:

**GREENWALD COLONY
NEW SITE DEVELOPMENT
RM OF BROKENHEAD**

BURNS MAENDEL
CONSULTING ENGINEERS LTD.

903 Rosser Ave.
Brandon, Manitoba
R7A 0L3
Tel: (204) 728-7364
Fax: (204) 728-4418

| | |
|--------------------|--------------|
| DRAWING TITLE: | |
| SITE PLAN | |
| PROJECT NUMBER: | DRAWING NO.: |
| BMCE-20-155 | SK-3 |

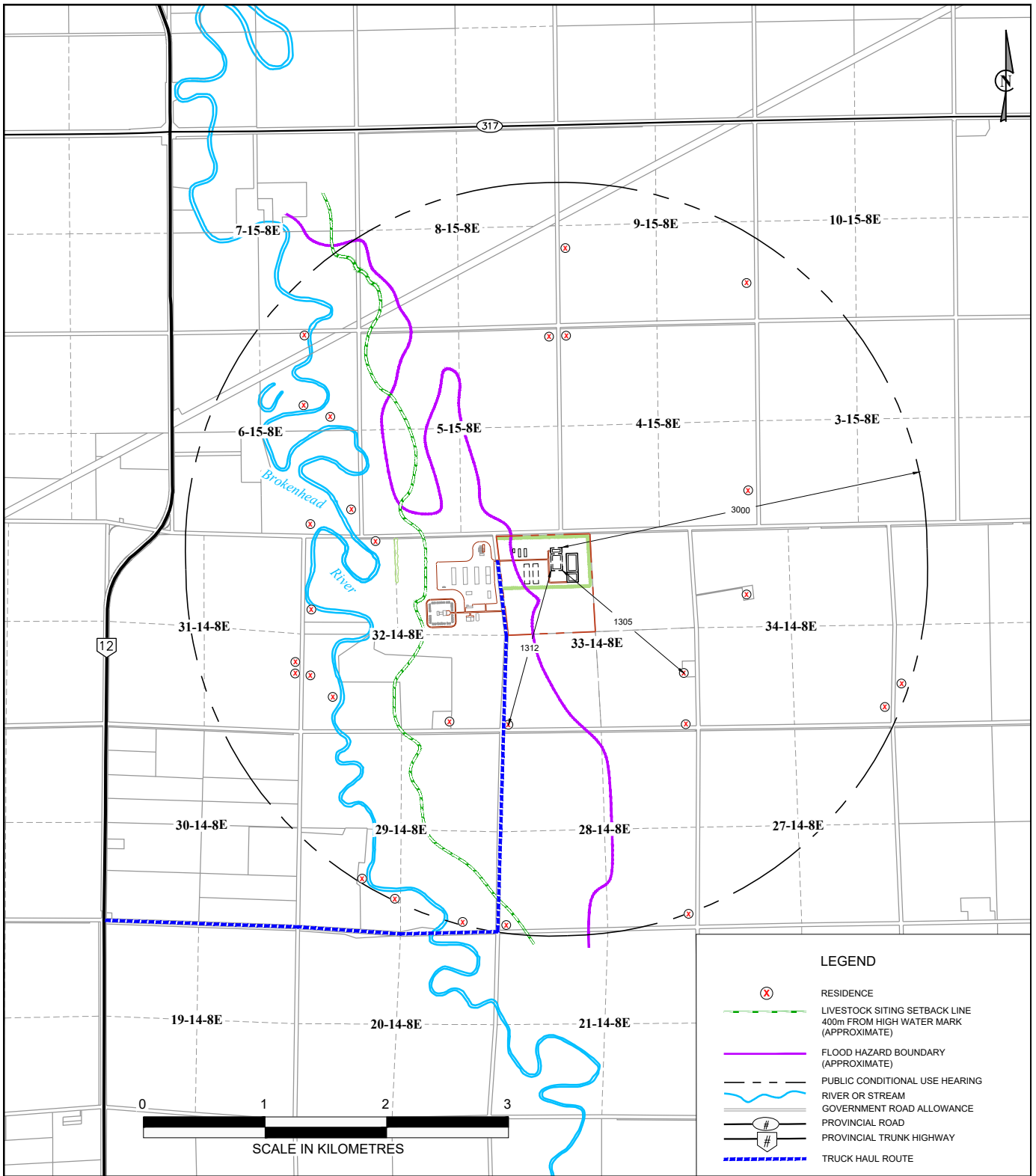
| NO. | DATE | BY | DESCRIPTION |
|-----|--------------|----|--------------------------|
| A | MAR 29, 2022 | JA | ISSUED FOR CLIENT REVIEW |

REVISIONS

| Livestock Type | Description | Number of Animals | Water Use Estimates | | Livestock Water Use |
|--|---|-------------------------|---------------------------|----------------------|----------------------------|
| | | | Imp Gal /day/animal | Additional Washwater | Imp gal/day/animal |
| Dairy | | | | | |
| Mature Cows*, including associated livestock | no plate coolers or plate coolers with water reused | 3 | 54 | 0% | 162 |
| Mature Cows*, including associated livestock | plate coolers without water reused | | 82 | 0% | 0 |
| Beef | | | | | |
| Beef Cows, including associated livestock | | | 15 | 0% | 0 |
| Backgrounder | | 8 | 10 | 0% | 80 |
| Summer Pasture/ Replacement Heifers | | 8 | 12 | 0% | 96 |
| Feedlot Cattle | | 9 | 19 | 0% | 171 |
| Pigs | | | | | |
| Sows, farrow to weanling (5kg) | | | 5.5 | 0% | 0.0 |
| Sows, farrow to nursery (23kg) | | | 9.5 | 0% | 0.0 |
| Sows, farrow to finish | | 950 | 26.7 | 0% | 25365.0 |
| Weanlings (5-23kg) | | | 1.0 | 0% | 0.0 |
| Grower/Finishers | | | 2.0 | 0% | 0.0 |
| Boars (artificial insemination operations) | | | 4.0 | 0% | 0.0 |
| Chicken | | | | | |
| Broilers | | 50000 | 0.035 | 10% | 1925.00 |
| Roasters | | | 0.04 | 10% | 0.00 |
| Layers | | 11000 | 0.055 | 10% | 665.50 |
| Pullets | | | 0.04 | 10% | 0.00 |
| Broiler Breeder Pullets | | | 0.04 | 10% | 0.00 |
| Broiler Breeder Hens | | | 0.07 | 10% | 0.00 |
| Turkey | | | | | |
| Broilers | | 2300 | 0.13 | 10% | 328.90 |
| Heavy Toms | | | 0.16 | 10% | 0.00 |
| Heavy Hens | | | 0.16 | 10% | 0.00 |
| Horse | | | | | |
| PMU Mares, including associated livestock | | | 13.9 | 0% | 0.0 |
| Sheep | | | | | |
| Feeder Lambs | | | 1.1 | 0% | 0.0 |
| Ewes, including associated livestock | | | 3.9 | 0% | 0.0 |
| Livestock Total (Imp Gal/day) | | | | | 28793.4 |
| Livestock Total (Litres/day) | | | | | 130894.8 |
| Households** | | | | | |
| | | Number of People | Water Use Estimate | | Household Water Use |
| Persons | | 150 | Imp Gal/day/person | | |
| | | | 33 | | 4950 |
| Grand Total (Imp Gal/day) | | | | | 33743.4 |
| Grand Total (Litres/day) | | | | | 153397.5 |

* Mature cows means all of the lactating and dry cows.

** Include household consumption when a household is on site.



LEGEND

- RESIDENCE
- LIVESTOCK SITING SETBACK LINE
400m FROM HIGH WATER MARK
(APPROXIMATE)
- FLOOD HAZARD BOUNDARY
(APPROXIMATE)
- PUBLIC CONDITIONAL USE HEARING
- RIVER OR STREAM
- GOVERNMENT ROAD ALLOWANCE
- PROVINCIAL ROAD
- PROVINCIAL TRUNK HIGHWAY
- TRUCK HAUL ROUTE

| DESIGNED BY: KD | | REVIEWED BY: DB | | | | | | | | | |
|---|------------|--------------------|--|-----|------|----|-------------|---|------------|----|--|
| DRAWN BY: CR | | | | | | | | | | | |
| PROJECT START DATE APRIL 27, 2021 | | | | | | | | | | | |
| PLOT SIZE: 8 1/2 x 11 | | | | | | | | | | | |
| SCALE: N.T.S. | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>2022-03-02</td> <td>CR</td> <td>ADDED RESIDENCES ALTERED TRUCK HAUL ROUTE</td> </tr> </tbody> </table> | | | | NO. | DATE | BY | DESCRIPTION | A | 2022-03-02 | CR | ADDED RESIDENCES ALTERED TRUCK HAUL ROUTE |
| NO. | DATE | BY | DESCRIPTION | | | | | | | | |
| A | 2022-03-02 | CR | ADDED RESIDENCES ALTERED TRUCK HAUL ROUTE | | | | | | | | |
| REVISIONS | | | | | | | | | | | |

PROJECT NAME:
**GREENWALD COLONY
NEW SITE DEVELOPMENT
RM OF BROKENHEAD**

1331 Princess Ave.
Brandon, Manitoba
R7A 0R4
Tel: (204) 728-7364
Fax: (204) 728-4418

BURNS MAENDEL
CONSULTING ENGINEERS LTD.

| | |
|---------------------------------------|----------------------------|
| DRAWING TITLE: LAND USE MAP | |
| PROJECT NUMBER: BMCE-20-155 | DRAWING NO: SK-2 |





MMPP - Variety Yield Data Browser

Select Municipalities or MASC Risk Areas

Tip: Click or touch the 'X' (at right) in these tip balloons to hide them permanently. ✕


Tip: Click or touch the button below to select Municipalities or MASC Risk Areas. ✕

Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the  icon ✕ to clear all selected items.


 

Select Crop(s)

Tip: If more than one crop is selected, the Yield Variety Data will be returned, but 'Top Varieties by Acres' and 'Top Varieties by Yield' charts won't be generated. ✕

Select Varieties

Select Year Range

1993 1998 2002 2007 2012 2016

to

Search Summary

178 records returned

842 farm varieties grown on 179,280.0 acres

Average Yield

0.831 Tonnes (36.6 Bushels) per acre

Summary includes aggregate data from 'below minimum tolerance' records

Variety Yield 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.

Copy to Clipboard

Save as XLS

Showing 1 to 100 of 178 entries

First Previous Next Last

Search Summary

178 records returned

842 farm varieties grown on 179,280.0 acres

Average Yield

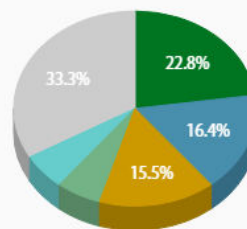
Rectangular Snip

0.831 Tonnes (36.6 Bushels) per acre

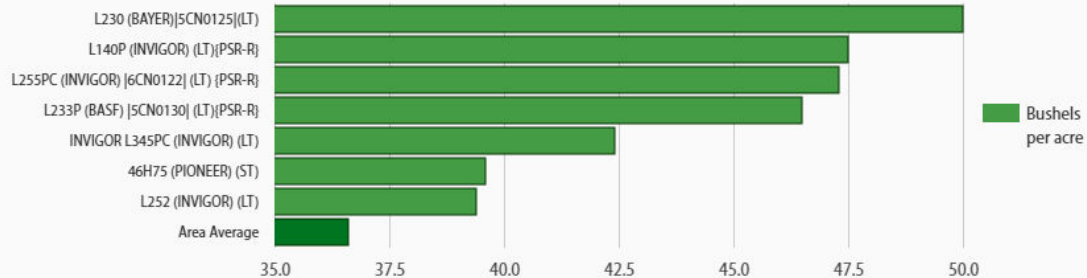
Summary includes aggregate data from 'below minimum tolerance' records

Top Varieties by Acres

- L233P (BASF) [5CN0130] (LT){PSR-R}
- 5440 (INVIGOR) [PHS04-690] (LT)
- L140P (INVIGOR) (LT){PSR-R}
- L252 (INVIGOR) (LT)
- L130 (INVIGOR) (LT)
- Other Varieties



Top Varieties by Yield



| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) |
|--------|------------------|------------------|---|-------|----------|---------------------|
| + 2017 | BROKENHEAD | ARGENTINE CANOLA | L233P (BASF) 5CN0130 (LT) {PSR-R} | 9 | 1,933.0 | 1.389 Tonnes |
| + 2017 | BROKENHEAD | ARGENTINE CANOLA | L140P (INVIGOR) (LT){PSR-R} | 34 | 9,502.0 | 1.300 Tonnes |
| + 2017 | BROKENHEAD | ARGENTINE CANOLA | 46H75 (PIONEER) (ST) | 3 | 527.0 | 1.173 Tonnes |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | 5440 (INVIGOR) PHS04-690 (LT) | 14 | 2,589.0 | 1.138 Tonnes |
| + 2017 | BROKENHEAD | ARGENTINE CANOLA | L230 (BAYER) 5CN0125 (LT) | 4 | 807.0 | 1.134 Tonnes |
| + 2018 | BROKENHEAD | ARGENTINE CANOLA | L233P (BASF) 5CN0130 (LT) {PSR-R} | 36 | 11,237.0 | 1.135 Tonnes |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | L130 (INVIGOR) (LT) | 11 | 1,937.0 | 1.130 Tonnes |
| + 2019 | BROKENHEAD | ARGENTINE CANOLA | L140P (INVIGOR) (LT){PSR-R} | 7 | 2,169.0 | 1.119 Tonnes |
| + 2018 | BROKENHEAD | ARGENTINE CANOLA | L255PC (INVIGOR) 6CN0122 (LT) {PSR-R} | 3 | 553.0 | 1.112 Tonnes |
| + 2019 | BROKENHEAD | ARGENTINE CANOLA | L233P (BASF) 5CN0130 (LT) {PSR-R} | 44 | 13,126.0 | 1.083 Tonnes |
| + 2017 | BROKENHEAD | ARGENTINE CANOLA | L252 (INVIGOR) (LT) | 6 | 511.0 | 1.077 Tonnes |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | 2012 CL (NEXERA) (ST) | 4 | 932.0 | 1.068 Tonnes |
| + 2018 | BROKENHEAD | ARGENTINE CANOLA | L140P (INVIGOR) (LT){PSR-R} | 24 | 4,751.0 | 1.068 Tonnes |
| + 2018 | BROKENHEAD | ARGENTINE CANOLA | L252 (INVIGOR) (LT) | 7 | 1,236.0 | 1.057 Tonnes |
| + 2015 | BROKENHEAD | ARGENTINE CANOLA | L140P (INVIGOR) (LT){PSR-R} | 12 | 2,710.0 | 1.042 Tonnes |
| + 2019 | BROKENHEAD | ARGENTINE CANOLA | L255PC (INVIGOR) 6CN0122 (LT) {PSR-R} | 4 | 546.0 | 1.032 Tonnes |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | L150 (INVIGOR) (LT) | 11 | 2,662.0 | 1.016 Tonnes |
| + 2015 | BROKENHEAD | ARGENTINE CANOLA | L252 (INVIGOR) (LT) | 25 | 4,573.0 | 0.987 Tonnes |
| + 2015 | BROKENHEAD | ARGENTINE CANOLA | 5440 (INVIGOR) PHS04-690 (LT) | 12 | 2,389.0 | 0.974 Tonnes |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) |
|--------|------------------|------------------|-------------------------------------|-------|----------|---------------------|
| + 2020 | BROKENHEAD | ARGENTINE CANOLA | INVIGOR L345PC (INVIGOR) (LT) | 8 | 1,539.0 | 0.961 Tonnes |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | L159 (INVIGOR) (LT) | 7 | 1,181.0 | 0.943 Tonnes |
| + 2015 | BROKENHEAD | ARGENTINE CANOLA | VR 9560 CL (PROVEN) (ST) | 5 | 864.0 | 0.937 Tonnes |
| + 2020 | BROKENHEAD | ARGENTINE CANOLA | L233P (BASF) [5CN0130] (LT) {PSR-R} | 51 | 14,569.0 | 0.923 Tonnes |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | 2016 CL (NEXERA) (ST) | 4 | 700.0 | 0.888 Tonnes |
| + 2016 | BROKENHEAD | ARGENTINE CANOLA | L140P (INVIGOR) (LT){PSR-R} | 37 | 8,635.0 | 0.840 Tonnes |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | L120 (INVIGOR) (LT) | 4 | 533.0 | 0.825 Tonnes |
| + 2020 | BROKENHEAD | ARGENTINE CANOLA | DKLL 82 SC (DEKALB) (LT) | 9 | 2,081.0 | 0.812 Tonnes |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | L150 (INVIGOR) (LT) | 7 | 1,209.0 | 0.760 Tonnes |
| + 2016 | BROKENHEAD | ARGENTINE CANOLA | L252 (INVIGOR) (LT) | 17 | 3,210.0 | 0.755 Tonnes |
| + 2015 | BROKENHEAD | ARGENTINE CANOLA | L120 (INVIGOR) (LT) | 3 | 1,019.0 | 0.754 Tonnes |
| + 2015 | BROKENHEAD | ARGENTINE CANOLA | L130 (INVIGOR) (LT) | 6 | 1,105.0 | 0.701 Tonnes |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 9590 (INVIGOR) (LT) | 7 | 1,180.0 | 0.693 Tonnes |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 5440 (INVIGOR) [PHS04-690] (LT) | 40 | 7,865.0 | 0.684 Tonnes |
| + 2014 | BROKENHEAD | ARGENTINE CANOLA | L252 (INVIGOR) (LT) | 12 | 1,252.0 | 0.682 Tonnes |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 5440 (INVIGOR) [PHS04-690] (LT) | 28 | 7,367.0 | 0.672 Tonnes |
| + 2016 | BROKENHEAD | ARGENTINE CANOLA | 46H75 (PIONEER) (ST) | 3 | 641.0 | 0.670 Tonnes |
| + 2014 | BROKENHEAD | ARGENTINE CANOLA | L130 (INVIGOR) (LT) | 22 | 5,015.0 | 0.616 Tonnes |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | L130 (INVIGOR) (LT) | 10 | 1,711.0 | 0.610 Tonnes |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) |
|--------|------------------|------------------|--------------------------------------|-------|---------|---------------------|
| + 2016 | BROKENHEAD | ARGENTINE CANOLA | PV 200 CL (PROVEN) (ST) | 4 | 1,087.0 | 0.590 Tonnes |
| + 2014 | BROKENHEAD | ARGENTINE CANOLA | L159 (INVIGOR) (LT) | 8 | 1,690.0 | 0.568 Tonnes |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | L150 (INVIGOR) (LT) | 18 | 2,848.0 | 0.559 Tonnes |
| + 2014 | BROKENHEAD | ARGENTINE CANOLA | 5440 (INVIGOR) PHS04-690 (LT) | 16 | 3,797.0 | 0.518 Tonnes |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | L130 (INVIGOR) (LT) | 4 | 930.0 | 0.498 Tonnes |
| + 2014 | BROKENHEAD | ARGENTINE CANOLA | VR 9560 CL (PROVEN) (ST) | 4 | 526.0 | 0.485 Tonnes |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 2012 CL (NEXERA) (ST) | 8 | 1,891.0 | 0.437 Tonnes |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 5440 (INVIGOR) PHS04-690 (LT) | 21 | 5,464.0 | 0.431 Tonnes |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 5770 (INVIGOR) (LT) | 8 | 1,206.0 | 0.346 Tonnes |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 5030 (INVIGOR) RHY01-403 (LT) | 9 | 2,022.0 | 0.326 Tonnes |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 5020 (INVIGOR) RHY01/597 (LT) | 10 | 2,542.0 | 0.260 Tonnes |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 9590 (INVIGOR) (LT) | 21 | 3,872.0 | 0.233 Tonnes |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 9553 (PROVEN) (RT) | 3 | 589.0 | 0.117 Tonnes |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | SW WIZZARD (LANTMANNEN) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 1768S (AGRIPROGRESS) 30326-A5 (RT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 43E01 (RT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 45A51 (PIONEER) NS2335 (RT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 45H28 (PIONEER) (RT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 45H29 (PIONEER) (RT) | Below | Minimum | Tolerance |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) |
|--------|------------------|------------------|--------------------------------------|-------|---------|---------------------|
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 45H73 (PIONEER) [04N205] (ST) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 45P70 (PIONEER) [04N201L] (ST) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 45S51 (PIONEER) (RT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 46A76 (PIONEER) [NS2804] (ST) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 46P50 (PIONEER) [03N322R] (RT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 71-40 CL (DEKALB) (ST) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 72-65 RR (DEKALB) (RT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 8440 (INVIGOR) [PHS04-781] (LT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 9451 (SW SEED) [SWF5208RR] (RT) | Below | Minimum | Tolerance |
| + 2010 | BROKENHEAD | ARGENTINE CANOLA | 9557S (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | CL 2061 RR (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | VT BARRIER (VITERRA) [9552] (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | VT 500 G (PROVEN) [9556] (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 1145 (INVIGOR HEALTH) (LT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 1768S (AGRIPROGRESS) [30326-A5] (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 2012 CL (NEXERA) (ST) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 45A51 (PIONEER) [NS2335] (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 45P70 (PIONEER) [04N201L] (ST) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 45S52 (PIONEER) (RT) | Below | Minimum | Tolerance |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) |
|--------|------------------|------------------|---------------------------------|-------|---------|---------------------|
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 46A52 (PIONEER) NS2501 (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 46A76 (PIONEER) NS2804 (ST) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 5020 (INVIGOR) RHY01/597 (LT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 5030 (INVIGOR) RHY01-403 (LT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 5770 (INVIGOR) (LT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 72-65 RR (DEKALB) (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 9553 (PROVEN) (RT) | Below | Minimum | Tolerance |
| + 2011 | BROKENHEAD | ARGENTINE CANOLA | 9557S (RT) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | CL 2061 RR (RT) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | VR 9560 CL (PROVEN) (ST) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | VT 500 G (PROVEN) 9556 (RT) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | V2035 (VICTORY) 07H730 (RT) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 1950 (CANTERRA) (RT) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 1990 (CANTERRA) (RT) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 45H73 (PIONEER) 04N205I (ST) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 45P70 (PIONEER) 04N201L (ST) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 46A76 (PIONEER) NS2804 (ST) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 46H75 (PIONEER) (ST) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 5525 CL (BRETTYOUNG) (ST) | Below | Minimum | Tolerance |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) |
|--------|------------------|------------------|-------------------------------|-------|---------|---------------------|
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 73-75 RR (DEKALB) (RT) | Below | Minimum | Tolerance |
| + 2012 | BROKENHEAD | ARGENTINE CANOLA | 9557S (RT) | Below | Minimum | Tolerance |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | L156H (INVIGOR HEALTH) (LT) | Below | Minimum | Tolerance |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | VR 9560 CL (PROVEN) (ST) | Below | Minimum | Tolerance |
| + 2013 | BROKENHEAD | ARGENTINE CANOLA | VT 500 G (PROVEN) [9556] (RT) | Below | Minimum | Tolerance |

Show entries

First

Previous

Next

Last

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MMPP - Variety Yield Data Browser

Select Municipalities or MASC Risk Areas

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Select Crop(s)

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Select Varieties

Select Year Range


 to

Search Summary

128 records returned

922 farm varieties grown on 200,540.0 acres

Average Yield

1.493 Tonnes (54.9 Bushels) per acre

Summary includes aggregate data from 'below minimum tolerance' records

Variety Yield 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.

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Showing 1 to 100 of 128 entries

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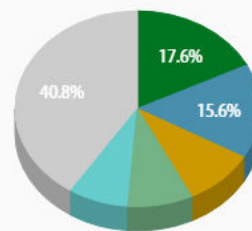
Average Yield

1.493 Tonnes (54.9 Bushels) per acre

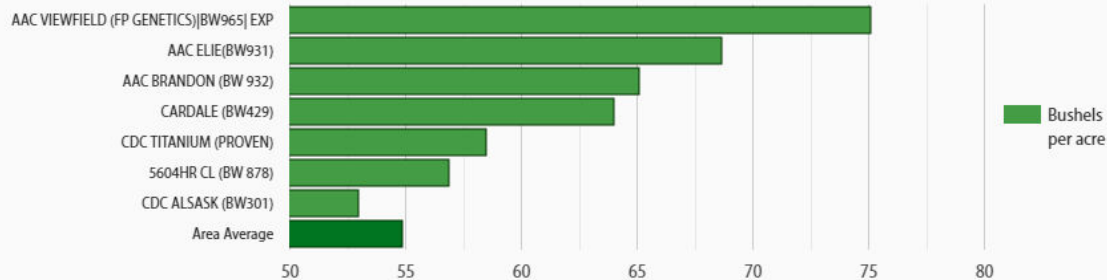
Summary includes aggregate data from 'below minimum tolerance' records

Top Varieties by Acres

- GLENN
- AAC BRANDON (BW 932)
- CARDALE (BW429)
- AC DOMAIN (BW 148)
- CARBERRY (BW874)
- Other Varieties



Top Varieties by Yield



| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|------------------|--|-------|---------|---------------------|-----------------------|
| 2018 | BROKENHEAD | RED SPRING WHEAT | AAC ELIE(BW931) | 7 | 1,969.0 | 2.137 Tonnes | 78.5 Bushels |
| 2017 | BROKENHEAD | RED SPRING WHEAT | GLENN | 6 | 1,098.0 | 2.135 Tonnes | 78.4 Bushels |
| 2020 | BROKENHEAD | RED SPRING WHEAT | AAC VIEWFIELD (FP GENETICS)]BW965] EXP | 21 | 5,826.0 | 2.098 Tonnes | 77.1 Bushels |
| 2017 | BROKENHEAD | RED SPRING WHEAT | AAC ELIE(BW931) | 7 | 1,696.0 | 2.092 Tonnes | 76.9 Bushels |
| 2018 | BROKENHEAD | RED SPRING WHEAT | CARDALE (BW429) | 14 | 4,587.0 | 2.052 Tonnes | 75.4 Bushels |
| 2019 | BROKENHEAD | RED SPRING WHEAT | AAC VIEWFIELD (FP GENETICS)]BW965] EXP | 15 | 3,047.0 | 1.937 Tonnes | 71.2 Bushels |
| 2017 | BROKENHEAD | RED SPRING WHEAT | AAC BRANDON (BW 932) | 19 | 4,288.0 | 1.923 Tonnes | 70.7 Bushels |
| 2017 | BROKENHEAD | RED SPRING WHEAT | CARDALE (BW429) | 18 | 3,512.0 | 1.912 Tonnes | 70.3 Bushels |
| 2020 | BROKENHEAD | RED SPRING WHEAT | AAC ELIE(BW931) | 14 | 3,526.0 | 1.870 Tonnes | 68.7 Bushels |
| 2017 | BROKENHEAD | RED SPRING WHEAT | AC DOMAIN (BW 148) | 4 | 891.0 | 1.854 Tonnes | 68.1 Bushels |
| 2017 | BROKENHEAD | RED SPRING WHEAT | CDC STANLEY (BW880) | 8 | 1,770.0 | 1.836 Tonnes | 67.5 Bushels |
| 2018 | BROKENHEAD | RED SPRING WHEAT | AAC BRANDON (BW 932) | 37 | 7,918.0 | 1.836 Tonnes | 67.5 Bushels |
| 2020 | BROKENHEAD | RED SPRING WHEAT | AAC BRANDON (BW 932) | 33 | 7,808.0 | 1.777 Tonnes | 65.3 Bushels |
| 2020 | BROKENHEAD | RED SPRING WHEAT | CARDALE (BW429) | 6 | 792.0 | 1.773 Tonnes | 65.2 Bushels |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|------------------|-----------------------|-------|---------|---------------------|-----------------------|
| 2019 | BROKENHEAD | RED SPRING WHEAT | AAC BRANDON (BW 932) | 36 | 9,453.0 | 1.755 Tonnes | 64.5 Bushels |
| 2017 | BROKENHEAD | RED SPRING WHEAT | CARBERRY (BW874) | 5 | 1,025.0 | 1.738 Tonnes | 63.8 Bushels |
| 2019 | BROKENHEAD | RED SPRING WHEAT | AAC ELIE(BW931) | 15 | 3,787.0 | 1.726 Tonnes | 63.4 Bushels |
| 2013 | BROKENHEAD | RED SPRING WHEAT | CDC STANLEY (BW880) | 11 | 2,377.0 | 1.694 Tonnes | 62.2 Bushels |
| 2013 | BROKENHEAD | RED SPRING WHEAT | GLENN | 34 | 8,728.0 | 1.692 Tonnes | 62.2 Bushels |
| 2019 | BROKENHEAD | RED SPRING WHEAT | CARDALE (BW429) | 12 | 2,616.5 | 1.623 Tonnes | 59.7 Bushels |
| 2015 | BROKENHEAD | RED SPRING WHEAT | CARDALE (BW429) | 13 | 2,680.0 | 1.611 Tonnes | 59.2 Bushels |
| 2018 | BROKENHEAD | RED SPRING WHEAT | CDC TITANIUM (PROVEN) | 6 | 615.0 | 1.592 Tonnes | 58.5 Bushels |
| 2015 | BROKENHEAD | RED SPRING WHEAT | CARBERRY (BW874) | 21 | 4,601.0 | 1.569 Tonnes | 57.7 Bushels |
| 2013 | BROKENHEAD | RED SPRING WHEAT | AC DOMAIN (BW 148) | 8 | 2,454.0 | 1.564 Tonnes | 57.5 Bushels |
| 2015 | BROKENHEAD | RED SPRING WHEAT | 5604HR CL (BW 878) | 3 | 613.0 | 1.550 Tonnes | 56.9 Bushels |
| 2013 | BROKENHEAD | RED SPRING WHEAT | CARBERRY (BW874) | 19 | 3,748.0 | 1.542 Tonnes | 56.7 Bushels |
| 2018 | BROKENHEAD | RED SPRING WHEAT | CDC STANLEY (BW880) | 6 | 998.0 | 1.544 Tonnes | 56.7 Bushels |
| 2015 | BROKENHEAD | RED SPRING WHEAT | GLENN | 13 | 2,705.0 | 1.500 Tonnes | 55.1 Bushels |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|------------------|---------------------|-------|---------|---------------------|-----------------------|
| 2013 | BROKENHEAD | RED SPRING WHEAT | KANE (BW342) | 6 | 2,062.0 | 1.485 Tonnes | 54.6 Bushels |
| 2012 | BROKENHEAD | RED SPRING WHEAT | CDC ALSASK (BW301) | 6 | 1,494.0 | 1.465 Tonnes | 53.8 Bushels |
| 2013 | BROKENHEAD | RED SPRING WHEAT | AC BARRIE (BW 661) | 6 | 785.0 | 1.464 Tonnes | 53.8 Bushels |
| 2012 | BROKENHEAD | RED SPRING WHEAT | GLENN | 31 | 7,568.0 | 1.460 Tonnes | 53.6 Bushels |
| 2016 | BROKENHEAD | RED SPRING WHEAT | CARDALE (BW429) | 22 | 4,726.0 | 1.436 Tonnes | 52.8 Bushels |
| 2012 | BROKENHEAD | RED SPRING WHEAT | CARBERRY (BW874) | 10 | 1,077.0 | 1.431 Tonnes | 52.6 Bushels |
| 2014 | BROKENHEAD | RED SPRING WHEAT | AC DOMAIN (BW 148) | 4 | 1,052.0 | 1.431 Tonnes | 52.6 Bushels |
| 2016 | BROKENHEAD | RED SPRING WHEAT | AAC ELIE(BW931) | 4 | 818.0 | 1.423 Tonnes | 52.3 Bushels |
| 2015 | BROKENHEAD | RED SPRING WHEAT | CDC STANLEY (BW880) | 15 | 2,703.0 | 1.421 Tonnes | 52.2 Bushels |
| 2011 | BROKENHEAD | RED SPRING WHEAT | CDC ALSASK (BW301) | 6 | 1,050.0 | 1.412 Tonnes | 51.9 Bushels |
| 2012 | BROKENHEAD | RED SPRING WHEAT | AC DOMAIN (BW 148) | 15 | 3,329.0 | 1.385 Tonnes | 50.9 Bushels |
| 2015 | BROKENHEAD | RED SPRING WHEAT | AC DOMAIN (BW 148) | 6 | 1,549.0 | 1.373 Tonnes | 50.4 Bushels |
| 2011 | BROKENHEAD | RED SPRING WHEAT | GLENN | 18 | 4,064.0 | 1.347 Tonnes | 49.5 Bushels |
| 2012 | BROKENHEAD | RED SPRING WHEAT | KANE (BW342) | 11 | 4,069.0 | 1.330 Tonnes | 48.9 Bushels |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|------------------|----------------------|-------|---------|---------------------|-----------------------|
| 2020 | BROKENHEAD | RED SPRING WHEAT | CDC STANLEY (BW880) | 4 | 1,287.0 | 1.268 Tonnes | 46.6 Bushels |
| 2011 | BROKENHEAD | RED SPRING WHEAT | AC DOMAIN (BW 148) | 14 | 3,873.0 | 1.267 Tonnes | 46.5 Bushels |
| 2012 | BROKENHEAD | RED SPRING WHEAT | AC BARRIE (BW 661) | 7 | 1,170.0 | 1.259 Tonnes | 46.3 Bushels |
| 2016 | BROKENHEAD | RED SPRING WHEAT | GLENN | 14 | 2,417.0 | 1.240 Tonnes | 45.6 Bushels |
| 2016 | BROKENHEAD | RED SPRING WHEAT | AAC BRANDON (BW 932) | 11 | 1,876.0 | 1.215 Tonnes | 44.7 Bushels |
| 2011 | BROKENHEAD | RED SPRING WHEAT | AC CADILLAC (BW 689) | 4 | 527.0 | 1.205 Tonnes | 44.3 Bushels |
| 2016 | BROKENHEAD | RED SPRING WHEAT | CDC STANLEY (BW880) | 14 | 2,551.0 | 1.183 Tonnes | 43.5 Bushels |
| 2011 | BROKENHEAD | RED SPRING WHEAT | KANE (BW342) | 14 | 2,856.0 | 1.137 Tonnes | 41.8 Bushels |
| 2011 | BROKENHEAD | RED SPRING WHEAT | AC BARRIE (BW 661) | 8 | 1,623.0 | 1.119 Tonnes | 41.1 Bushels |
| 2014 | BROKENHEAD | RED SPRING WHEAT | KANE (BW342) | 6 | 1,881.0 | 1.103 Tonnes | 40.5 Bushels |
| 2014 | BROKENHEAD | RED SPRING WHEAT | CDC STANLEY (BW880) | 17 | 3,186.5 | 1.089 Tonnes | 40.0 Bushels |
| 2014 | BROKENHEAD | RED SPRING WHEAT | CARBERRY (BW874) | 20 | 3,784.0 | 1.066 Tonnes | 39.2 Bushels |
| 2016 | BROKENHEAD | RED SPRING WHEAT | CARBERRY (BW874) | 7 | 1,665.0 | 1.063 Tonnes | 39.1 Bushels |
| 2014 | BROKENHEAD | RED SPRING WHEAT | GLENN | 20 | 3,977.0 | 1.032 Tonnes | 37.9 Bushels |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|------------------|----------------------|-------|---------|---------------------|-----------------------|
| 2011 | BROKENHEAD | RED SPRING WHEAT | 5602HR (BW297) | 3 | 989.0 | 1.005 Tonnes | 36.9 Bushels |
| 2010 | BROKENHEAD | RED SPRING WHEAT | GLENN | 26 | 4,786.0 | 0.745 Tonnes | 27.4 Bushels |
| 2010 | BROKENHEAD | RED SPRING WHEAT | KANE (BW342) | 7 | 1,142.0 | 0.739 Tonnes | 27.1 Bushels |
| 2010 | BROKENHEAD | RED SPRING WHEAT | AC BARRIE (BW 661) | 12 | 3,618.0 | 0.715 Tonnes | 26.3 Bushels |
| 2010 | BROKENHEAD | RED SPRING WHEAT | AC DOMAIN (BW 148) | 13 | 4,006.0 | 0.666 Tonnes | 24.5 Bushels |
| 2010 | BROKENHEAD | RED SPRING WHEAT | 5602HR (BW297) | 12 | 2,037.0 | 0.557 Tonnes | 20.5 Bushels |
| 2010 | BROKENHEAD | RED SPRING WHEAT | AC CADILLAC (BW 689) | Below | Minimum | Tolerance | |
| 2010 | BROKENHEAD | RED SPRING WHEAT | CDC ALSASK (BW301) | Below | Minimum | Tolerance | |
| 2010 | BROKENHEAD | RED SPRING WHEAT | MCKENZIE (BW 205) | Below | Minimum | Tolerance | |
| 2010 | BROKENHEAD | RED SPRING WHEAT | NEEPAWA | Below | Minimum | Tolerance | |
| 2010 | BROKENHEAD | RED SPRING WHEAT | WASKADA (BW 357) | Below | Minimum | Tolerance | |
| 2011 | BROKENHEAD | RED SPRING WHEAT | NEEPAWA | Below | Minimum | Tolerance | |
| 2011 | BROKENHEAD | RED SPRING WHEAT | WASKADA (BW 357) | Below | Minimum | Tolerance | |
| 2011 | BROKENHEAD | RED SPRING WHEAT | 5603 HR | Below | Minimum | Tolerance | |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|------------------|-----------------------|-------|---------|---------------------|-----------------------|
| 2012 | BROKENHEAD | RED SPRING WHEAT | CDC STANLEY (BW880) | Below | Minimum | Tolerance | |
| 2012 | BROKENHEAD | RED SPRING WHEAT | NEEPAWA | Below | Minimum | Tolerance | |
| 2012 | BROKENHEAD | RED SPRING WHEAT | WASKADA (BW 357) | Below | Minimum | Tolerance | |
| 2012 | BROKENHEAD | RED SPRING WHEAT | 5602HR (BW297) | Below | Minimum | Tolerance | |
| 2012 | BROKENHEAD | RED SPRING WHEAT | 5603 HR | Below | Minimum | Tolerance | |
| 2013 | BROKENHEAD | RED SPRING WHEAT | CDC ALSASK (BW301) | Below | Minimum | Tolerance | |
| 2013 | BROKENHEAD | RED SPRING WHEAT | CDC VR MORRIS (BW423) | Below | Minimum | Tolerance | |
| 2013 | BROKENHEAD | RED SPRING WHEAT | NEEPAWA | Below | Minimum | Tolerance | |
| 2013 | BROKENHEAD | RED SPRING WHEAT | WASKADA (BW 357) | Below | Minimum | Tolerance | |
| 2013 | BROKENHEAD | RED SPRING WHEAT | 5602HR (BW297) | Below | Minimum | Tolerance | |
| 2013 | BROKENHEAD | RED SPRING WHEAT | 5603 HR | Below | Minimum | Tolerance | |
| 2014 | BROKENHEAD | RED SPRING WHEAT | AC BARRIE (BW 661) | Below | Minimum | Tolerance | |
| 2014 | BROKENHEAD | RED SPRING WHEAT | CARDALE (BW429) | Below | Minimum | Tolerance | |
| 2014 | BROKENHEAD | RED SPRING WHEAT | CDC ALSASK (BW301) | Below | Minimum | Tolerance | |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|------------------|-----------------------|-------|---------|---------------------|-----------------------|
| 2014 | BROKENHEAD | RED SPRING WHEAT | CDC VR MORRIS (BW423) | Below | Minimum | Tolerance | |
| 2014 | BROKENHEAD | RED SPRING WHEAT | NEEPAWA | Below | Minimum | Tolerance | |
| 2014 | BROKENHEAD | RED SPRING WHEAT | WASKADA (BW 357) | Below | Minimum | Tolerance | |
| 2014 | BROKENHEAD | RED SPRING WHEAT | WR859 CL (BW859) | Below | Minimum | Tolerance | |
| 2014 | BROKENHEAD | RED SPRING WHEAT | 5604HR CL (BW 878) | Below | Minimum | Tolerance | |
| 2015 | BROKENHEAD | RED SPRING WHEAT | AAC BRANDON (BW 932) | Below | Minimum | Tolerance | |
| 2015 | BROKENHEAD | RED SPRING WHEAT | AC BARRIE (BW 661) | Below | Minimum | Tolerance | |
| 2015 | BROKENHEAD | RED SPRING WHEAT | CDC ALSASK (BW301) | Below | Minimum | Tolerance | |
| 2015 | BROKENHEAD | RED SPRING WHEAT | KANE (BW342) | Below | Minimum | Tolerance | |
| 2015 | BROKENHEAD | RED SPRING WHEAT | NO VAR | Below | Minimum | Tolerance | |
| 2015 | BROKENHEAD | RED SPRING WHEAT | 5602HR (BW297) | Below | Minimum | Tolerance | |
| 2016 | BROKENHEAD | RED SPRING WHEAT | AC BARRIE (BW 661) | Below | Minimum | Tolerance | |
| 2016 | BROKENHEAD | RED SPRING WHEAT | AC DOMAIN (BW 148) | Below | Minimum | Tolerance | |
| 2016 | BROKENHEAD | RED SPRING WHEAT | CDC ALSASK (BW301) | Below | Minimum | Tolerance | |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|------------------|-----------------------|-------|---------|---------------------|-----------------------|
| 2016 | BROKENHEAD | RED SPRING WHEAT | CDC TITANIUM (PROVEN) | Below | Minimum | Tolerance | |
| 2016 | BROKENHEAD | RED SPRING WHEAT | KANE (BW342) | Below | Minimum | Tolerance | |

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MMPP - Variety Yield Data Browser

Select Municipalities or MASC Risk Areas

Tip: Click or touch the 'X' (at right) in these tip balloons to hide them permanently. ✕


Tip: Click or touch the button below to select Municipalities or MASC Risk Areas. ✕

Tip: Click or touch in the select boxes (below) to select at least one item from each list. Click or touch the  icon ✕ to clear all selected items.


 

Select Crop(s)

Tip: If more than one crop is selected, the Yield Variety Data will be returned, but 'Top Varieties by Acres' and 'Top Varieties by Yield' charts won't be generated. ✕

Select Varieties

Select Year Range



to

Search Summary

366 records returned

1,687 farm varieties grown on **373,718.5** acres

Average Yield

0.915 Tonnes (**33.6** Bushels) per acre

Summary includes aggregate data from 'below minimum tolerance' records

Variety Yield 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.

Copy to Clipboard

Save as XLS

Showing 1 to 100 of 366 entries

First

Previous

Next

Last

Search Summary

366 records returned

1,687 farm varieties grown on **373,718.5** acres

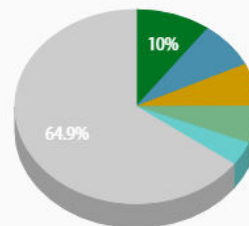
Average Yield

0.915 Tonnes (**33.6** Bushels) per acre

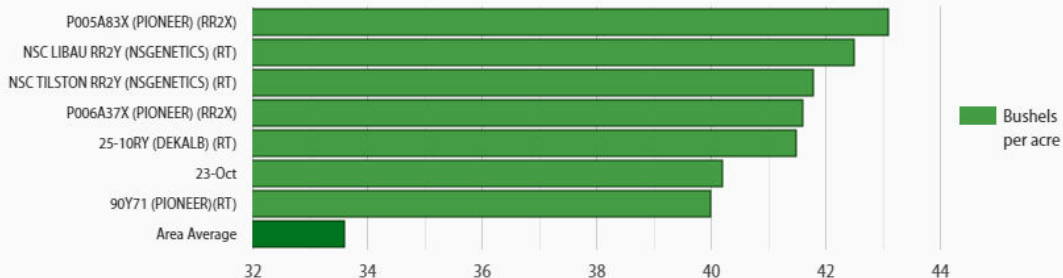
Summary includes aggregate data from 'below minimum tolerance' records

Top Varieties by Acres

- 24-10RY (DEKALB) (RT)
- OAC PRUDENCE (SECAN)[OAC 97-23]
- LS 003R24N (LEGEND) (RT)
- NO VAR
- LS 0036RR (LEGEND) [X0036RR] (RT)
- Other Varieties



Top Varieties by Yield



| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|----------|--|-------|---------|---------------------|-----------------------|
| 2016 | BROKENHEAD | SOYBEANS | 25-10RY (DEKALB) (RT) | 3 | 750.0 | 1.319 Tonnes | 48.5 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | NSC LIBAU RR2Y (NSGENETICS) (RT) | 7 | 1,243.0 | 1.279 Tonnes | 47.0 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | 900Y61 (PIONEER) (RT) | 4 | 836.0 | 1.230 Tonnes | 45.2 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | 25-10RY (DEKALB) (RT) | 3 | 765.0 | 1.216 Tonnes | 44.7 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | 24-10RY (DEKALB) (RT) | 17 | 5,865.0 | 1.203 Tonnes | 44.2 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | S0009-M2 (SYNGENTA) (RT) | 4 | 1,136.0 | 1.190 Tonnes | 43.7 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | 25-10RY (DEKALB) (RT) | 14 | 4,314.0 | 1.178 Tonnes | 43.3 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | P005A83X (PIONEER) (RR2X) | 3 | 828.0 | 1.173 Tonnes | 43.1 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | LS 003R22 (LEGEND)(RT) | 12 | 4,201.0 | 1.170 Tonnes | 43.0 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | P006T78R (PIONEER) (RT) | 5 | 648.0 | 1.170 Tonnes | 43.0 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | LS MISTRAL (LEGEND SEEDS) (RT) | 14 | 3,580.0 | 1.162 Tonnes | 42.7 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | 23-60RY (DEKALB) (RT) | 4 | 1,063.0 | 1.160 Tonnes | 42.6 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | 24-10RY (DEKALB) (RT) | 8 | 1,814.0 | 1.157 Tonnes | 42.5 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | LS 003R24N (LEGEND) (RT) | 21 | 7,096.0 | 1.154 Tonnes | 42.4 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | LS SOLAIRE (LEGEND) MKZ715A1-COYNN (RT) | 11 | 1,730.0 | 1.151 Tonnes | 42.3 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | 24-10RY (DEKALB) (RT) | 18 | 4,644.0 | 1.149 Tonnes | 42.2 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | LS 003R24N (LEGEND) (RT) | 6 | 3,963.0 | 1.141 Tonnes | 41.9 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | 900Y71 (PIONEER) (RT) | 7 | 938.0 | 1.141 Tonnes | 41.9 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | NSC TILSTON RR2Y (NSGENETICS) (RT) | 3 | 538.0 | 1.138 Tonnes | 41.8 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | S006-W5 (SYNGENTA) AR12010501 X2R00753 | 7 | 1,677.0 | 1.137 Tonnes | 41.8 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | TH 33003R2Y (THUNDER) (RT) | 6 | 578.0 | 1.132 Tonnes | 41.6 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | LS 004R21 (LEGEND)(RT) | 8 | 2,111.0 | 1.131 Tonnes | 41.6 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | P006A37X (PIONEER) (RR2X) | 6 | 1,129.0 | 1.132 Tonnes | 41.6 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | PS 0035 NR2 (PRIDE) EXP00313R2 (RT) | 12 | 1,518.0 | 1.128 Tonnes | 41.4 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | DKB005-52 (DEKALB) (RT) | 18 | 3,321.0 | 1.126 Tonnes | 41.4 Bushels |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|----------|--|-------|---------|---------------------|-----------------------|
| 2020 | BROKENHEAD | SOYBEANS | LS SOLAIRE (LEGEND) MKZ715A1-COYNN (RT) | 8 | 1,920.0 | 1.117 Tonnes | 41.1 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | LS 003R24N (LEGEND) (RT) | 19 | 4,032.0 | 1.116 Tonnes | 41.0 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | LS 003R22 (LEGEND)(RT) | 8 | 3,453.0 | 1.112 Tonnes | 40.9 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | GENTLEMAN (CEROM) | 4 | 702.0 | 1.107 Tonnes | 40.7 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | NO VAR | 4 | 1,451.0 | 1.109 Tonnes | 40.7 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | 24-10RY (DEKALB) (RT) | 21 | 3,520.0 | 1.103 Tonnes | 40.5 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | 23-60RY (DEKALB) (RT) | 12 | 2,314.0 | 1.100 Tonnes | 40.4 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | NO VAR | 7 | 1,921.0 | 1.096 Tonnes | 40.3 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | 23-Oct | 6 | 1,378.0 | 1.094 Tonnes | 40.2 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | 900Y71 (PIONEER) (RT) | 14 | 3,495.0 | 1.094 Tonnes | 40.2 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | P007A90R (PIONEER) (RT) | 7 | 1,731.0 | 1.094 Tonnes | 40.2 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | DKB005-52 (DEKALB) (RT) | 5 | 1,378.0 | 1.093 Tonnes | 40.1 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | S007-Y4 (SYNGENTA) (RT) | 10 | 2,262.0 | 1.091 Tonnes | 40.1 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | 24-10RY (DEKALB) (RT) | 10 | 1,534.0 | 1.090 Tonnes | 40.0 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | 90Y71 (PIONEER)(RT) | 3 | 729.0 | 1.088 Tonnes | 40.0 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | NSC BALMORAL RR2Y (NSGENETICS) (RT) | 3 | 680.0 | 1.083 Tonnes | 39.8 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | 25-10RY (DEKALB) (RT) | 7 | 1,834.0 | 1.083 Tonnes | 39.8 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | LS 002R24N (LEGEND) MKZ612A2 (RT) | 19 | 3,830.0 | 1.079 Tonnes | 39.6 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | HS 006RYS24 (HYLAND) (RT) | 5 | 601.0 | 1.076 Tonnes | 39.5 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | TH 32004R2Y (THUNDER) (RT) | 11 | 2,127.0 | 1.076 Tonnes | 39.5 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | RR ROSCO (HYLAND) PR31805RR (RT) | 8 | 997.0 | 1.072 Tonnes | 39.4 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | S007-Y4 (SYNGENTA) (RT) | 9 | 1,203.0 | 1.074 Tonnes | 39.4 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | LS 004R21 (LEGEND)(RT) | 23 | 5,211.0 | 1.068 Tonnes | 39.2 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | TH ASTRO R2Y (THUNDER) 32006R2Y (RT) | 3 | 647.0 | 1.066 Tonnes | 39.2 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | 23-10RY (DEKALB) (RT) | 10 | 2,721.0 | 1.060 Tonnes | 39.0 Bushels |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|----------|---------------------------------------|-------|---------|---------------------|-----------------------|
| 2020 | BROKENHEAD | SOYBEANS | LS 003R24N (LEGEND) (RT) | 4 | 990.0 | 1.061 Tonnes | 39.0 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | NSC NIVERVILLE RR2Y (NSGENETICS) (RT) | 4 | 518.0 | 1.060 Tonnes | 38.9 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | LS 004R21 (LEGEND)(RT) | 16 | 2,802.0 | 1.055 Tonnes | 38.8 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | 24-10RY (DEKALB) (RT) | 26 | 5,272.0 | 1.057 Tonnes | 38.8 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | 900Y61 (PIONEER) (RT) | 4 | 1,027.0 | 1.050 Tonnes | 38.6 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | PS 0035 NR2 (PRIDE) EXP00313R2 (RT) | 18 | 2,985.0 | 1.044 Tonnes | 38.4 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | LS 0036RR (LEGEND) X0036RR (RT) | 4 | 1,743.0 | 1.045 Tonnes | 38.4 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | NO VAR | 10 | 4,636.0 | 1.045 Tonnes | 38.4 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | PV 16S004 R2X (PROVEN) (RR2X) | 6 | 555.0 | 1.041 Tonnes | 38.3 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | NSC ANOLA RR2Y (NSGENETICS) (RT) | 5 | 577.0 | 1.037 Tonnes | 38.1 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | LS 0036RR (LEGEND) X0036RR (RT) | 5 | 1,451.0 | 1.035 Tonnes | 38.0 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | NSC STARBUCK (NSGENETICS) (RR2X) | 3 | 576.0 | 1.031 Tonnes | 37.9 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | S0009-M2 (SYNGENTA) (RT) | 10 | 1,576.0 | 1.032 Tonnes | 37.9 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | OAC ERIN (SEVITA) | 4 | 895.0 | 1.027 Tonnes | 37.7 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | LS NORTHWESTER (LEGEND) (RT) | 7 | 671.0 | 1.023 Tonnes | 37.6 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | P008T70R (PIONEER) (RT) | 11 | 1,664.0 | 1.021 Tonnes | 37.5 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | DKB005-52 (DEKALB) (RT) | 3 | 909.0 | 1.019 Tonnes | 37.4 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | LS 005R24 (LEGEND) MKZ1112A1 (RT) | 4 | 563.0 | 1.016 Tonnes | 37.3 Bushels |
| 2020 | BROKENHEAD | SOYBEANS | LS MISTRAL (LEGEND SEEDS) (RT) | 11 | 1,808.0 | 1.011 Tonnes | 37.2 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | NSC RICHER RR2Y (NSGENETICS) (RT) | 4 | 589.0 | 1.010 Tonnes | 37.1 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | 900Y71 (PIONEER) (RT) | 16 | 2,811.0 | 0.997 Tonnes | 36.7 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | NSC GLADSTONE RR2Y (NSGENETICS) (RT) | 11 | 1,682.0 | 0.990 Tonnes | 36.4 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | GENTLEMAN (CEROM) | 4 | 599.0 | 0.985 Tonnes | 36.2 Bushels |
| 2010 | BROKENHEAD | SOYBEANS | 25-04R (DEKALB) (RT) | 6 | 882.0 | 0.979 Tonnes | 36.0 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | NO VAR | 10 | 4,388.0 | 0.980 Tonnes | 36.0 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | 900Y61 (PIONEER) (RT) | 8 | 1,579.0 | 0.973 Tonnes | 35.7 Bushels |

| Year | Risk Area / R.M. | Crop | Variety | Farms | Acres | Yield/acre (Metric) | Yield/acre (Imperial) |
|------|------------------|----------|--------------------------------------|-------|---------|---------------------|-----------------------|
| 2016 | BROKENHEAD | SOYBEANS | LS 002R24N (LEGEND) MKZ612A2 (RT) | 8 | 1,407.0 | 0.972 Tonnes | 35.7 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | OAC PRUDENCE (SECAN) OAC 97-23 | 14 | 4,622.0 | 0.967 Tonnes | 35.5 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | 900Y61 (PIONEER) (RT) | 7 | 896.0 | 0.959 Tonnes | 35.3 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | P008T70R (PIONEER) (RT) | 4 | 759.0 | 0.959 Tonnes | 35.2 Bushels |
| 2014 | BROKENHEAD | SOYBEANS | LS 003R22 (LEGEND)(RT) | 4 | 3,512.0 | 0.950 Tonnes | 34.9 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | NSC RICHER RR2Y (NSGENETICS) (RT) | 3 | 605.0 | 0.948 Tonnes | 34.8 Bushels |
| 2018 | BROKENHEAD | SOYBEANS | P006T78R (PIONEER) (RT) | 6 | 1,121.0 | 0.948 Tonnes | 34.8 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | 24-10RY (DEKALB) (RT) | 23 | 7,269.0 | 0.946 Tonnes | 34.7 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | TH 33003R2Y (THUNDER) (RT) | 9 | 1,681.0 | 0.941 Tonnes | 34.6 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | TH 33003R2Y (THUNDER) (RT) | 4 | 1,165.0 | 0.931 Tonnes | 34.2 Bushels |
| 2013 | BROKENHEAD | SOYBEANS | NSC LIBAU RR2Y (NSGENETICS) (RT) | 4 | 654.0 | 0.924 Tonnes | 33.9 Bushels |
| 2016 | BROKENHEAD | SOYBEANS | NSC GLADSTONE RR2Y (NSGENETICS) (RT) | 10 | 2,007.0 | 0.918 Tonnes | 33.7 Bushels |
| 2012 | BROKENHEAD | SOYBEANS | OAC PRUDENCE (SECAN) OAC 97-23 | 14 | 4,083.0 | 0.907 Tonnes | 33.3 Bushels |
| 2014 | BROKENHEAD | SOYBEANS | TH 32004R2Y (THUNDER) (RT) | 4 | 1,065.0 | 0.900 Tonnes | 33.1 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | S0009-M2 (SYNGENTA) (RT) | 4 | 869.0 | 0.901 Tonnes | 33.1 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | NO VAR | 12 | 5,106.0 | 0.892 Tonnes | 32.8 Bushels |
| 2014 | BROKENHEAD | SOYBEANS | 24-10RY (DEKALB) (RT) | 22 | 5,885.0 | 0.890 Tonnes | 32.7 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | LS 003R22 (LEGEND)(RT) | 3 | 910.0 | 0.889 Tonnes | 32.7 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | LS 003R24N (LEGEND) (RT) | 29 | 9,120.0 | 0.871 Tonnes | 32.0 Bushels |
| 2015 | BROKENHEAD | SOYBEANS | OAC PRUDENCE (SECAN) OAC 97-23 | 13 | 3,689.0 | 0.845 Tonnes | 31.1 Bushels |
| 2017 | BROKENHEAD | SOYBEANS | P006T46R (PIONEER) (RT) | 14 | 2,864.0 | 0.841 Tonnes | 30.9 Bushels |
| 2010 | BROKENHEAD | SOYBEANS | LS 0036RR (LEGEND) X0036RR (RT) | 17 | 4,277.0 | 0.837 Tonnes | 30.7 Bushels |
| 2014 | BROKENHEAD | SOYBEANS | 23-60RY (DEKALB) (RT) | 5 | 793.0 | 0.824 Tonnes | 30.3 Bushels |
| 2019 | BROKENHEAD | SOYBEANS | LS MISTRAL (LEGEND SEEDS) (RT) | 9 | 2,297.0 | 0.826 Tonnes | 30.3 Bushels |

Show entries[First](#)[Previous](#)[Next](#)[Last](#)

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1a - Pigs

Operation Name: **Greenwald Colony Farms Ltd.**

| Operation Type | Storage Type | Volatilization | Animal Numbers (Places) | N Excreted Per Herd Adjusted for Storage N Loss (lb/yr/herd) | P2O5 Excreted Per Herd Per Year (lb/yr/herd) |
|------------------------|--------------------------|----------------|----------------------------|---|---|
| Gilts (Purchased) | Liquid Uncovered Earthen | 30% | | 0 | 0 |
| Boars | Liquid Uncovered Earthen | 30% | | 0 | 0 |
| Weanlings/Nursery | Liquid Uncovered Earthen | 30% | | 0 | 0 |
| Growers/Finishers | Liquid Uncovered Earthen | 30% | | 0 | 0 |
| Sows, farrow to 6.2 kg | Liquid Uncovered Earthen | 30% | | 0 | 0 |
| Sows, farrow to 28 kg | Liquid Uncovered Earthen | 30% | | 0 | 0 |
| Sows, farrow to finish | Liquid Uncovered Earthen | 30% | 950 | 257953 | 149831 |

Last Revised February 12, 2020

1b - Beef

Operation Name: **Greenwald Colony Farms Ltd.**

| Operation Type | Animal Category | Storage Type | Volatilization | Animal Numbers | Weight In (lb) | Weight Out (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) |
|----------------|---|---------------|----------------|----------------|----------------|-----------------|-----------------------|-----------------|-----------------------|--|--|--|
| Cow Calf | Mature Cows and Bred Heifers, plus associated livestock | Field Storage | 40% | | n/a | n/a | n/a | n/a | n/a | n/a | 0 | 0 |
| Feeder | Feedlot Cattle - long keep | Field Storage | 40% | | 581 | 1300 | 240 | 1.0 | 3.00 | 240 | 0 | 0 |
| Feeder | Feedlot Cattle - short keep | Field Storage | 40% | | 975 | 1300 | 116 | 1.0 | 2.80 | 116 | 0 | 0 |
| Feeder | Backgrounders - pasture | Field Storage | 40% | | 793 | 975 | 105 | 1.0 | 1.73 | 105 | 0 | 0 |
| Feeder | Backgrounders - confined | Field Storage | 40% | 25 | 500 | 793 | 180 | 1.0 | 1.63 | 180 | 715 | 331 |

Last Revised January 21, 2015

1c - Dairy

Operation Name:

Greenwald Colony Farms Ltd.

| Type | Storage Type | Volatilization | Animal Numbers | N Excreted Per Herd Adjusted for Storage N Loss (lb N/yr/herd) | P2O5 Excreted Per Herd Per Year (lb P2O5/year) |
|--|---------------------------------|----------------|----------------|--|--|
| Mature Cows, plus associated livestock | Liquid Uncovered Steel/Concrete | 20% | 3 | 1069.5 | 462.6 |

Last Revised October 18, 2019

1d -Sheep

| Operation Name | | Greenwald Colony Farms Ltd. | | | | | | | | |
|----------------------------|---------------|-----------------------------|----------------|-----------|------------|------------|--------------|-----------------|---|--|
| Sheep/Operation Type | Storage Type | Volatilization | Animal Numbers | Weight In | Weight Out | Ave Weight | Days on Feed | Cycles per Year | N Excreted per Flock adjusted for Loss lb/flock/yr | P2O5 Excreted Per Flock lb/flock/yr |
| | | | | lb | lb | lb | | | | |
| Ewes | Field Storage | 40% | 120 | 170 | 145 | 365 | 1 | 0 | 0 | |
| Replacement Ewes | Field Storage | 40% | 45 | 80 | 63 | 210 | 1 | 0 | 0 | |
| Rams | Field Storage | 40% | 100 | 200 | 150 | 365 | 1 | 0 | 0 | |
| Lambs | Field Storage | 40% | 8 | 45 | 27 | 70 | 1.4 | 0 | 0 | |
| Ewes, plus assoc livestock | Field Storage | 40% | n/a | n/a | n/a | n/a | n/a | 0 | 0 | |
| Feeder | Field Storage | 40% | 45 | 100 | 73 | 365 | 1 | 0 | 0 | |

1e - Poultry

Operation Name: **Greenwald Colony Farms Ltd.**

| Species / Commodity | Type of Operation | Storage Type | Volatilization | Bird Places | Weight in kg | Weight out kg | Days on Feed | Cycles per Year | N Excreted Adjusted for N Loss lb/flock/yr | P2O5 Excreted lb/flock/yr |
|---------------------|---------------------------------|-------------------|----------------|-------------|-----------------|------------------|-----------------|--------------------|---|---------------------------------|
| Chickens | Light Broilers | Solid Manure Shed | 20% | | 0.043 | 1.8 | 30 | 7 | 0 | 0 |
| Chickens | Broilers | Solid Manure Shed | 20% | 50000 | 0.043 | 2.275 | 35 | 7 | 34871 | 17378 |
| Chickens | Broiler Breeder Pullets | Solid Manure Shed | 20% | | 0.040 | 2.975 | 168 | 2 | 0 | 0 |
| Chickens | Broiler Breeder Hens | Solid Manure Shed | 20% | | 2.975 | 3.950 | 245 | 1 | 0 | 0 |
| Eggs | White Layer Pullets | Solid Manure Shed | 20% | | 0.040 | 1.355 | 133 | 2 | 0 | 0 |
| Eggs | White Layer Hens | Solid Manure Shed | 20% | 11000 | 1.355 | 1.875 | 357 | 1 | 11642 | 9629 |
| Eggs | White Breeder Pullets | Solid Manure Shed | 20% | | 0.040 | 1.240 | 119 | 2 | 0 | 0 |
| Eggs | White Breeder Hens | Solid Manure Shed | 20% | | 1.240 | 1.670 | 350 | 1 | 0 | 0 |
| Eggs | Brown Layer Pullets | Solid Manure Shed | 20% | | 0.040 | 1.630 | 133 | 2 | 0 | 0 |
| Eggs | Brown Layer Hens | Solid Manure Shed | 20% | | 1.630 | 2.025 | 357 | 1 | 0 | 0 |
| Eggs | Brown Breeder Pullets | Solid Manure Shed | 20% | | 0.040 | 1.407 | 119 | 2 | 0 | 0 |
| Eggs | Brown Breeder Hens | Solid Manure Shed | 20% | | 1.407 | 1.950 | 350 | 1 | 0 | 0 |
| Turkey | Broiler Turkey (0-9 wks) | Solid Manure Shed | 20% | 2300 | 0.070 | 4.950 | 63 | 5 | 4111 | 2223 |
| Turkey | Hen Turkey (0-11 wks) | Solid Manure Shed | 20% | | 0.070 | 6.650 | 77 | 4 | 0 | 0 |
| Turkey | Heavy Hens (0-14 wks) | Solid Manure Shed | 20% | | 0.070 | 9.750 | 98 | 3 | 0 | 0 |
| Turkey | Toms (0-14 wks) | Solid Manure Shed | 20% | | 0.070 | 13.000 | 98 | 3 | 0 | 0 |
| Turkey | Breeding Hen Growers (0-30 wks) | Solid Manure Shed | 20% | | 0.070 | 12.900 | 210 | 1 | 0 | 0 |
| Turkey | Breeding Hens (31-End of Lay) | Solid Manure Shed | 20% | | 12.900 | 12.400 | 252 | 1 | 0 | 0 |
| Turkey | Breeding Tom Grower (0-17 wks) | Solid Manure Shed | 20% | | 0.070 | 15.770 | 119 | 1 | 0 | 0 |
| Turkey | Breeding Tom Grower (17-30 wks) | Solid Manure Shed | 20% | | 15.770 | 25.000 | 91 | 1 | 0 | 0 |
| Turkey | Breeding Tom (31-End of Lay) | Solid Manure Shed | 20% | | 25.000 | 28.180 | 252 | 1 | 0 | 0 |

Last Revised November 26, 2019

| 2 - Crop Rotation | | | | | | | | | | |
|---|---|------|--------|--------|-------|---------|---------|-----------|--------|--------|
| Operation Name: Greenwald Colony Farms Ltd. | | | | | | | | | | |
| 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 | 36.6 | bu/ac | 1236 | 47047 | 87309 | 144308 |
| 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 | 33.6 | bu/ac | 1617 | 45638 | 210262 | 282522 |
| Sunflower | 1.1 | 2.8 | | lb/cwt | | cwt/ac | | - | - | - |
| Wheat - Spring | 0.59 | 1.5 | 2.11 | lb/bu | 54.9 | bu/ac | 695 | 22512 | 57233 | 80508 |
| Wheat - Winter | 0.51 | 1.04 | 1.35 | lb/bu | | bu/ac | | - | - | - |
| Total Acres | | | | | | | 3548 | 115197 | 354804 | 507338 |
| Estimated Average Removal/Uptake (lb/ac) | | | | | | | | 32.5 | 100.0 | 143.0 |
| Acres in Hanover and La Broquerie | | | | | | | | | | |
| Proportion in Hanover or La Broquerie | | | | | | | | 0% | | |
| Additional Acres | | | | | | | | | | |
| Crop Planned on Additional Acres | | | | | | | | | | |
| Total Acreage | | | | | | | 3548 | | | |
| *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: Greenwald Colony Farms Ltd.

| Species | Animal Category/Operation type | N (lb/year) | P2O5 (lb/year) |
|-----------------|---|----------------|-------------------|
| Pigs | Boars | 0 | 0 |
| | Weanlings/Nursery | 0 | 0 |
| | Growers/Finishers | 0 | 0 |
| | Sows, farrow to 5 kg | 0 | 0 |
| | Sows, farrow to 23 kg | 0 | 0 |
| | Sows, farrow to finish | 257953 | 149831 |
| 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 | 715 | 331 |
| Dairy | Lactating cow | 0 | 0 |
| | Lactating First Calf Heifer | 0 | 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 | 1069 | 463 |
| Sheep | Ewes | 0 | 0 |
| | Replacement Ewes | 0 | 0 |
| | Rams | 0 | 0 |
| | Lambs | 0 | 0 |
| | Ewes, plus assoc livestock | 0 | 0 |
| | Feeder | 0 | 0 |
| Chickens | Light Broilers | 0 | 0 |
| | Broilers | 34871 | 17378 |
| | Broiler Breeder Pullets | 0 | 0 |
| | Broiler Breeder Hens | 0 | 0 |
| Layers | White Layer Pullets | 0 | 0 |
| | White Layer Hens | 11642 | 9629 |
| | White Breeder Pullets | 0 | 0 |
| | White Breeder Hens | 0 | 0 |
| | Brown Layer Pullets | 0 | 0 |
| | Brown Layer Hens | 0 | 0 |
| | Brown Breeder Pullets | 0 | 0 |
| | Brown Breeder Hens | 0 | 0 |
| Turkeys | Broiler Turkey (0-9 wks) | 4111 | 2223 |
| | Hen Turkey (0-11 wks) | 0 | 0 |
| | Heavy Hens (0-14 wks) | 0 | 0 |
| | Toms (0-14 wks) | 0 | 0 |
| | Breeding Hen Growers (0-30 wks) | 0 | 0 |
| | Breeding Hens (31-End of Lay) | 0 | 0 |
| | Breeding Tom Grower (0-17 wks) | 0 | 0 |
| | Breeding Tom Grower (17-30 wks) | 0 | 0 |
| | Breeding Tom (31-End of Lay) | 0 | 0 |
| Total | | 310362 | 179855 |

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:** Greenwald Colony Farms Ltd.

| Nutrients Excreted | lbs |
|--|--------------|
| Nitrogen | 310362 |
| Phosphorus (P2O5) | 179855 |
| Crop Nutrient Use | |
| | lb/ac |
| Average Crop N Uptake | 143.0 |
| Average Crop Phosphorus (P2O5) Removal | 32.5 |
| Operation-specific Phosphorus (P2O5) Allowance | 64.9 |
| Land Available | |
| | 3548 |
| Land Base Required | |
| | acres |
| Acres for Nitrogen | 2170 |
| Acres for Phosphorus (P2O5) | 2770 |
| Phosphorus Balance | |
| | acres |
| Acres for Phosphorus Balance (1X) | 5539 |

Note: For lands located in Hanover and/or La Broquerie, the acres required for phosphorus are based on phosphorus balance (1X). For other lands, the acres required for phosphorus are based on twice crop phosphorus removal (2X). Land requirements for operations with lands inside and outside Hanover and/or La Broquerie are based on a weighted average.

Last revised November 26, 2019

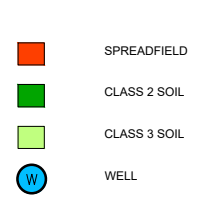
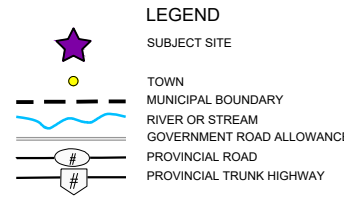
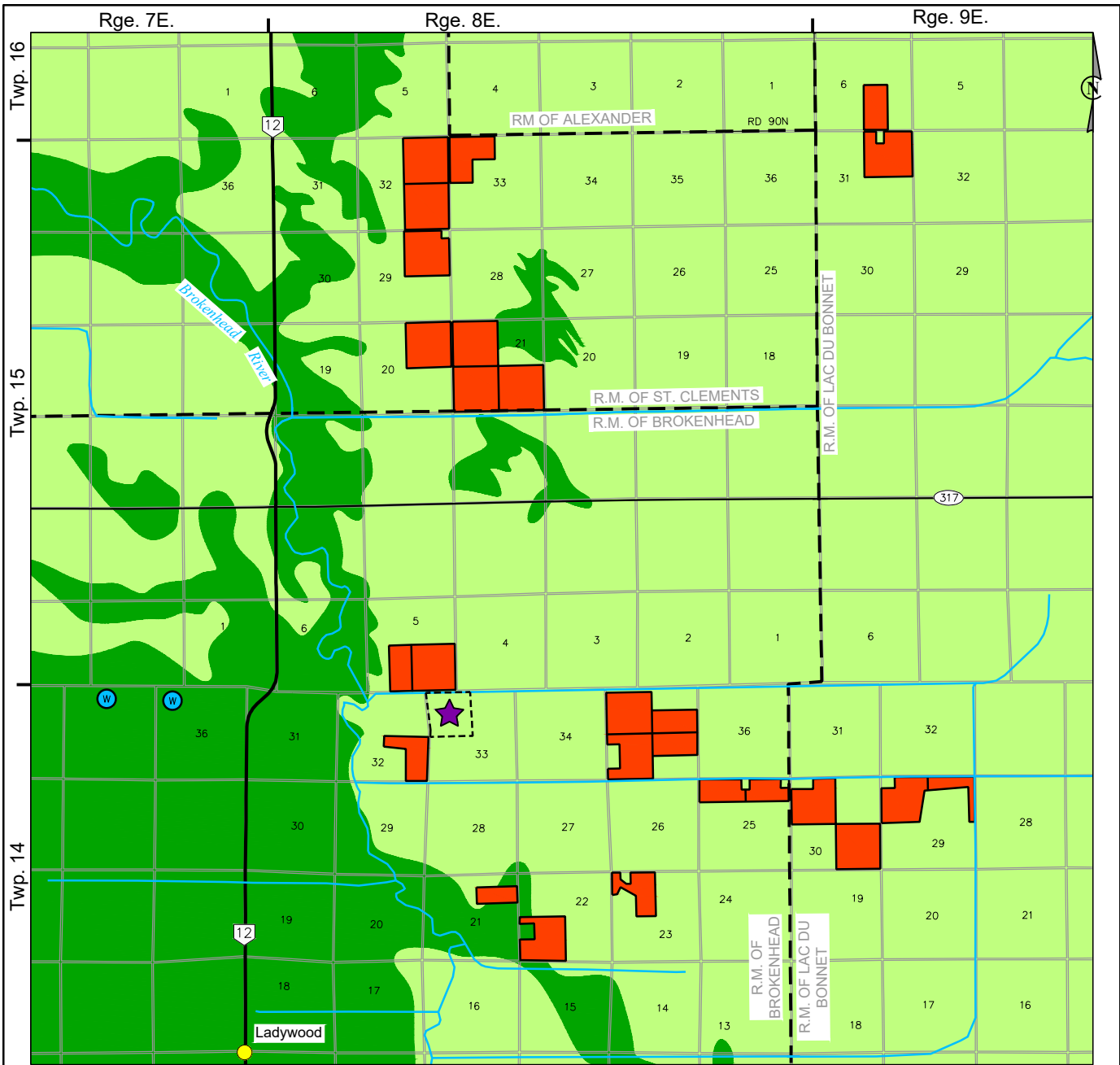
Manure Application Field Characteristics Table

| Field ID | A Legal description | B Rural Municipality | C O/C/L/A | D Setbacks, including features | E Net acreage for manure application | F Agriculture capability class and subclass | G Soil Phosphorus (ppm Olsen O) 0-6 inches |
|----------|------------------------|-------------------------|--------------|---|---|--|---|
| 22A | NW 21-15-08 E | St. Clements | O | N/A | 160 | Class 3, Class 2 | 16 |
| 22B | NE 20-15-08 E | St. Clements | O | N/A | 160 | Class 3 | 34 |
| 46 | NW 33-15-08 E | St. Clements | O | N/A | 120 | Class 3 | 11 |
| 47 | NE 32-15-08 E | St. Clements | O | Order 3 Drain in E ditch (3m setback) | 159.4 | Class 3 | 13 |
| 48 | SE 32-15-08E | St. Clements | O | Order 3 Drain in E & S ditches (3m setback) | 158.8 | Class 3 | 13 |
| 49 | NE 29-15-08 E | St. Clements | O | N/A | 155 | Class 3 | 13 |
| 58N | W-SE 06-16-09 E | Lac du Bonnet | O | N/A | 80 | Class 3 | 5 |
| 58S | NE 31-15-09 E | Lac du Bonnet | O | Order 2 drain in N ditch (area within ditch/drain) | 159 | Class 3 | 10 |
| 59 | SW 21-15-08 E | St. Clements | O | N/A | 160 | Class 3 | 9 |
| 59C | SE 21-15-08 E | St. Clements | O | N/A | 160 | Class 3 | 9 |
| 64 | N 1/2 N 25-14-08 E | Brokenhead | O | N/A | 150 | Class 3 | 12 |
| 65SE | SE 32-14-08 E | Brokenhead | O | Intermittent Stream (area within ditch/drain) | 99 | Class 3 | 13 |
| 66 | S-NW 33-14-08 E | Brokenhead | O | N/A | 60 | Class 3 | 14 |
| 67E | SE 5-15-08 E | Brokenhead | O | N/A | 160 | Class 3 | 16 |
| 67W | E-SW 05-15-08 E | Brokenhead | O | N/A | 80 | Class 3 | 16 |
| 68 | Pt. NE 21-14-08 E | Brokenhead | O | N/A | 45 | Class 2, Class 3 | 24 |
| 69 | Pt. Sw 22-14-8 | Brokenhead | O | N/A | 150 | Class 2, Class 3 | 12 |
| 70A | NW 35-14-08 E | Brokenhead | O | N/A | 160 | Class 3 | 12 |
| 70B | Pt. SW 35-14-08 E | Brokenhead | O | N/A | 150 | Class 3 | 12 |
| 70C | S-NE 35-14-08 E | Brokenhead | O | N/A | 80 | Class 3 | 12 |
| 70D | N-SE 35-14-08 E | Brokenhead | O | N/A | 65 | Class 3 | 12 |
| 92 | NW 23-14-08 E | Brokenhead | O | N/A | 102 | Class 3 | 14 |
| 93 | NW 30-14-09 E | Lac du Bonnet | O | Order 2 drain in W & N ditches (area within ditch/drain) | 134 | Class 3 | 9 |
| 94 | Pt. N 29-14-09 E | Lac du Bonnet | O | Intermittent Stream, Order 2 drain in N ditch, Order 1 drain in W ditch (area within ditch/drain) | 182 | Class 3 | 4 |
| 95 | SE 30-14-09 E | Lac du Bonnet | O | N/A | 160 | Class 3 | 8 |

Total net acreage for manure application: 3249.2 acres

- 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. Indicated how the land has been secured for manure application: O - Own / C - Crown / L - Lease / A - Agreement. Multiple designations may be used as appropriate.
 D. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature
 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.





| | | | |
|--------------------|------------|--------------------|---|
| DESIGNED BY: | KD | REVIEWED BY: | DB |
| DRAWN BY: | CR | PROJECT START DATE | |
| PROJECT START DATE | | APRIL 27, 2021 | |
| PLOT SIZE: | | 8 1/2 x 11 | |
| SCALE: | | N.T.S. | |
| A | 2022-03-02 | CR | UPDATED SPREADFIELD LOCATED AT NE-25-14-8 |
| NO. | DATE | BY | DESCRIPTION |
| REVISIONS | | | |

PROJECT NAME: **GREENWALD COLONY
NEW SITE DEVELOPMENT
RM OF BROKENHEAD**

1331 Princess Ave.
Brandon, Manitoba
R7A 0R4
Tel: (204) 728-7364
Fax: (204) 728-4418

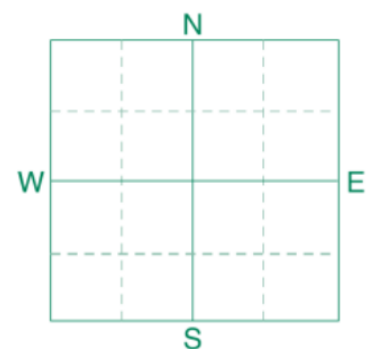
| | |
|---------------------------------------|----------------------------|
| DRAWING TITLE: SPREADFIELDS | |
| PROJECT NUMBER: BMCE-20-155 | DRAWING NO: SK-4 |



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

SOIL TEST REPORT

FIELD ID **GRN-64**
 SAMPLE ID
 FIELD NAME **Allen**
 COUNTY
 TWP **14** RANGE **08E**
 SECTION **25** QTR **N 1/2** ACRES **150**
 PREV. CROP **Wheat-Winter**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: TO0533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2940993** BOX # **2016**
 LAB # **NW69498**

Date Sampled **09/03/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|------------------------|----------------|-----|-----|------|-------------------------------|-------------------|-------------------------------|-----------------------------------|-------------------------------|---------------|------|-----|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 8 lb/acre | | | | | Soybeans | | Wheat-Spring | | Canola-bu | | | |
| | 6-24" 27 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | |
| | | | | | | 40 BU | | 60 BU | | 50 BU | | | |
| | 0-24" 35 lb/acre | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | |
| Phosphorus | Olsen 12 ppm | | | | | N | *** | N | 127 | N | 140 | | |
| Potassium | 284 ppm | | | | | P ₂ O ₅ | 30 Band * | P ₂ O ₅ | 38 Band * | P ₂ O ₅ | 45 Band * | | |
| Chloride | 0-24" 20 lb/acre | | | | | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | K ₂ O | 0 | | |
| Sulfur | 0-6" 26 lb/acre | | | | | Cl | 0 | Cl | 20 Broadcast | Cl | Not Available | | |
| | 6-24" 360 +lb/acre | | | | | S | 5 Band (Trial) | S | 0 | S | 15 Band | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 2.0 ppm | | | | | Cu | 0 | Cu | 0 | Cu | 0 | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 4.4 % | | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| | | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | % Base Saturation (Typical Range) | | | | |
| | | | | | | | | | % Ca | % Mg | % K | % Na | % H |
| | | | | | | 0-6" 8.2 | | | | | | | |
| Sol. Salts | 0-6" 0.59 mmho/cm | | | | | 6-24" 8.2 | | | | | | | |
| | 6-24" 0.88 mmho/cm | | | | | | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: 44 lb potassium chloride (0-0-60-50Cl) = 20 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

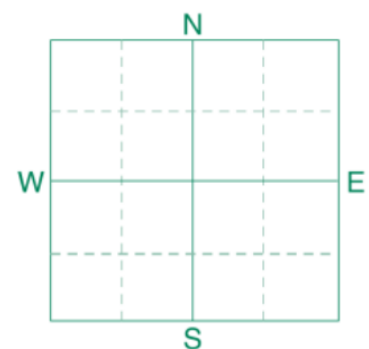
Crop 3: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-92**
 SAMPLE ID
 FIELD NAME **Ted**
 COUNTY
 TWP **14** RANGE **08E**
 SECTION **23** QTR **NW** ACRES **102**
 PREV. CROP **Wheat-Winter**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: TO0533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941000** BOX # **1956**
 LAB # **NW69499**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | | |
|----------------------|---------------------------|----------------|-----|-----|------|-------------------------------|----------------|-------------------------------|--------------------|-----------------------------------|---------------|-----|------|-----|
| | | VLow | Low | Med | High | | | | | | | | | |
| Nitrate | 0-6" 6-24" | ***** | | | | Soybeans | | Wheat-Spring | | Canola-bu | | | | |
| | | ***** | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | | |
| | | ***** | | | | 40 BU | | 60 BU | | 50 BU | | | | |
| | 0-24" | ***** | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | | |
| | | ***** | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | |
| | | ***** | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | | |
| Phosphorus | Olsen 14 ppm | ***** | | | | N | *** | N | 122 | N | 135 | | | |
| Potassium | 404 ppm | ***** | | | | P ₂ O ₅ | 30 Band * | P ₂ O ₅ | 38 Band * | P ₂ O ₅ | 45 Band * | | | |
| Chloride | 0-24" | ***** | | | | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | K ₂ O | 0 | | | |
| | 0-6" 6-24" | ***** | | | | Cl | 0 | Cl | 20 Broadcast | Cl | Not Available | | | |
| Sulfur | 12 lb/acre 330 lb/acre | ***** | | | | S | 7 Band (Trial) | S | 0 | S | 17 Band | | | |
| Boron | | ***** | | | | B | | B | | B | | | | |
| Zinc | | ***** | | | | Zn | | Zn | | Zn | | | | |
| Iron | | ***** | | | | Fe | | Fe | | Fe | | | | |
| Manganese | | ***** | | | | Mn | | Mn | | Mn | | | | |
| Copper | 1.43 ppm | ***** | | | | Cu | 0 | Cu | 0 | Cu | 0 | | | |
| Magnesium | | ***** | | | | Mg | | Mg | | Mg | | | | |
| Calcium | | ***** | | | | Lime | | Lime | | Lime | | | | |
| Sodium | | ***** | | | | Soil pH | | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | | |
| Org.Matter | 7.0 % | ***** | | | | Buffer pH | | | | % Ca | % Mg | % K | % Na | % H |
| Carbonate(CCE) | | ***** | | | | | | | | | | | | |
| Sol. Salts | 0-6" | ***** | | | | 0-6" | 7.8 | | | | | | | |
| | 6-24" | ***** | | | | 6-24" | 8.2 | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: 44 lb potassium chloride (0-0-60-50Cl) = 20 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

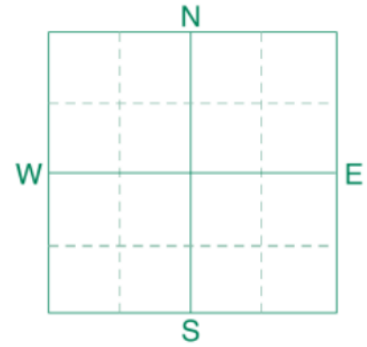
Crop 3: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-93**
SAMPLE ID
FIELD NAME **Ted**
COUNTY
TWP **14** RANGE **09E**
SECTION **30** QTR **NW** ACRES **134**
PREV. CROP **Wheat-Winter**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: **TO0533**
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941001** BOX # **2090**
LAB # **NW69500**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | | | | |
|----------------------|--------------|----------------|-----|-----|------|----------------------|-------------|----------------------|--------------------|--------------------------|---------------|-----------------------------------|------|-----|------|-----|
| | | VLow | Low | Med | High | | | | | | | | | | | |
| Nitrate | 0-6" | | | | | Soybeans | | Wheat-Spring | | Canola-bu | | | | | | |
| | 6-24" | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | | | | |
| | | | | | | 40 BU | | 60 BU | | 50 BU | | | | | | |
| | 0-24" | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | | | | |
| | 36 lb/acre | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | | | | |
| Phosphorus | Olsen 9 ppm | | | | | N | *** | N | 126 | N | 139 | | | | | |
| Potassium | 280 ppm | | | | | P2O5 | 30 Band * | P2O5 | 38 Band * | P2O5 | 45 Band * | | | | | |
| Chloride | 0-24" | | | | | K2O | 0 | K2O | 10 Band (Starter)* | K2O | 0 | | | | | |
| | 108 lb/acre | | | | | Cl | 0 | Cl | 0 | Cl | Not Available | | | | | |
| Sulfur | 0-6" | | | | | S | 0 | S | 0 | S | 10 Band | | | | | |
| | 6-24" | | | | | B | | B | | B | | | | | | |
| Boron | | | | | | Zn | | Zn | | Zn | | | | | | |
| Zinc | | | | | | Fe | | Fe | | Fe | | | | | | |
| Iron | | | | | | Mn | | Mn | | Mn | | | | | | |
| Manganese | | | | | | Cu | 0 | Cu | 0 | Cu | 0 | | | | | |
| Copper | 1.75 ppm | | | | | Mg | | Mg | | Mg | | | | | | |
| Magnesium | | | | | | Lime | | Lime | | Lime | | | | | | |
| Calcium | | | | | | Soil pH | | Buffer pH | | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | | |
| Sodium | | | | | | | | | | | | % Ca | % Mg | % K | % Na | % H |
| Org.Matter | 6.6 % | | | | | 0-6" 7.7 | | 6-24" 8.0 | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | | | | |
| Sol. Salts | 0-6" | | | | | | | | | | | | | | | |
| | 6-24" | | | | | | | | | | | | | | | |
| | 1.45 mmho/cm | | | | | | | | | | | | | | | |
| | 1.92 mmho/cm | | | | | | | | | | | | | | | |

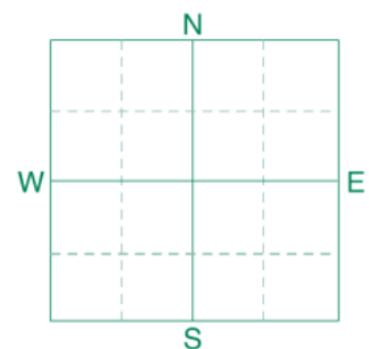
Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.
Crop 2: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.
Crop 3: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



Soil Analysis by Agvise Laboratories
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 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **GRN-94**
 SAMPLE ID
 FIELD NAME **Ted**
 COUNTY
 TWP **14** RANGE **09E**
 SECTION **29** QTR **PT. N1/2** ACRES **182**
 PREV. CROP **Wheat-Winter**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB ROE 0C0

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB ROA 1V0

REF # **2941002** BOX # **1951**
 LAB # **NW69501**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|--------------------|----------------|-----|-----|------|----------------------------------|--------------|----------------------------------|-------------|-----------------------------------|---------------|-----|--|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 8 lb/acre | | | | | Soybeans | | Wheat-Spring | | Canola-bu | | | |
| | 6-24" 27 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | |
| | 0-24" 35 lb/acre | | | | | 40 BU | | 60 BU | | 50 BU | | | |
| | | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | |
| Phosphorus | Olsen 4 ppm | | | | | N *** | | N 127 | | N 140 | | | |
| Potassium | 173 ppm | | | | | P ₂ O ₅ 38 | Band * | P ₂ O ₅ 43 | Band * | P ₂ O ₅ 53 | Band * | | |
| Chloride | 0-24" 48 lb/acre | | | | | K ₂ O 47 | Band * | K ₂ O 23 | Band * | K ₂ O 23 | Band * | | |
| | 0-6" 12 lb/acre | | | | | Cl 0 | | Cl 0 | | Cl | Not Available | | |
| Sulfur | 6-24" 360 +lb/acre | | | | | S 7 | Band (Trial) | S 0 | | S 17 | Band | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.08 ppm | | | | | Cu 0 | | Cu 0 | | Cu 0 | | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 3.9 % | | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.35 mmho/cm | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| | 6-24" 0.68 mmho/cm | | | | | | | % Ca | % Mg | % K | % Na | % H | |
| | | | | | | 0-6" 7.9 | | | | | | | |
| | | | | | | 6-24" 8.1 | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 A GVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 A GVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

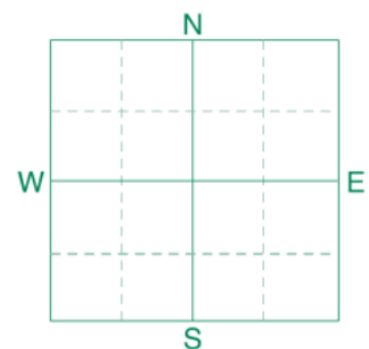
Crop 3: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 A GVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-95**
 SAMPLE ID
 FIELD NAME **Ted**
 COUNTY
 TWP **14** RANGE **09E**
 SECTION **30** QTR **SE** ACRES **160**
 PREV. CROP **Wheat-Winter**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: **TO0533**
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941003** BOX # **1951**
 LAB # **NW69502**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | | |
|----------------------|------------------------|----------------|-----|-----|------|-------------------------------|-----------------------|-------------------------------|---------------------------|-----------------------------------|----------------------|-----|------|-----|
| | | VLow | Low | Med | High | | | | | | | | | |
| Nitrate | 0-6" 9 lb/acre | | | | | Soybeans | | Wheat-Spring | | Canola-bu | | | | |
| | 6-24" 27 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | | |
| | | | | | | 40 BU | | 60 BU | | 50 BU | | | | |
| | 0-24" 36 lb/acre | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | | |
| Phosphorus | Olsen 8 ppm | | | | | N | *** | N | 126 | N | 139 | | | |
| Potassium | 273 ppm | | | | | P ₂ O ₅ | 32 Band * | P ₂ O ₅ | 38 Band * | P ₂ O ₅ | 45 Band * | | | |
| Chloride | 0-24" 116 lb/acre | | | | | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | K ₂ O | 0 | | | |
| Sulfur | 0-6" 26 lb/acre | | | | | Cl | 0 | Cl | 0 | Cl | Not Available | | | |
| | 6-24" 78 lb/acre | | | | | S | 5 Band (Trial) | S | 0 | S | 15 Band | | | |
| Boron | | | | | | B | | B | | B | | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | | |
| Copper | 1.25 ppm | | | | | Cu | 0 | Cu | 0 | Cu | 0 | | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | | |
| Sodium | | | | | | | | | | | | | | |
| Org.Matter | 4.8 % | | | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.61 mmho/cm | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | | |
| | 6-24" 0.59 mmho/cm | | | | | | | | | % Ca | % Mg | % K | % Na | % H |
| | | | | | | 0-6" 7.8 | | | | | | | | |
| | | | | | | 6-24" 8.2 | | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

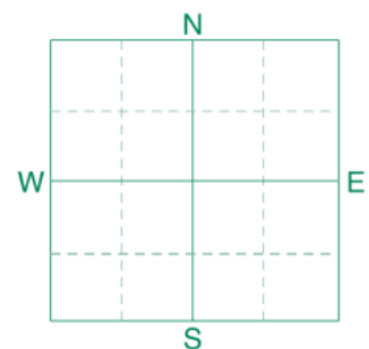
Crop 3: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



Soil Analysis by Agvise Laboratories
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Northwood: (701) 587-6010
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SOIL TEST REPORT

FIELD ID **GRN-22A**
 SAMPLE ID
 FIELD NAME **Arnold**
 COUNTY
 TWP **15** RANGE **08E**
 SECTION **21** QTR **NW** ACRES **160**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941077** BOX # **283**
 LAB # **NW138068**

Date Sampled **10/03/2020** Date Received **10/06/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | |
|----------------------|-------------------------|----------------|-----|-----|------|----------------------------------|-----------------|----------------------------------|-----------------------------------|----------------------------------|-----------------|------|
| | | VLow | Low | Med | High | | | | | | | |
| Nitrate | 0-6" 10 lb/acre | | | | | Wheat-Winter | | Canola-bu | | Wheat-Spring | | |
| | 6-24" 6 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | |
| | 0-24" 16 lb/acre | ***** | | | | 80 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 | |
| Phosphorus | Olsen 16 ppm | ***** | | | | N 161 | | N 144 | | N 131 | | |
| Potassium | 338 ppm | ***** | | | | P ₂ O ₅ 50 | Band * | P ₂ O ₅ 45 | Band * | P ₂ O ₅ 38 | Band * | |
| Chloride | 0-24" 16 lb/acre | ***** | | | | K ₂ O 10 | Band (Starter)* | K ₂ O 0 | | K ₂ O 10 | Band (Starter)* | |
| Sulfur | 0-6" 16 lb/acre | ***** | | | | Cl 24 | Broadcast | Cl | Not Available | Cl 24 | Broadcast | |
| | 6-24" 360 +lb/acre | ***** | | | | S 0 | | S 15 | Band | S 0 | | |
| Boron | | | | | | B | | B | | B | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | |
| Iron | | | | | | Fe | | Fe | | Fe | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | |
| Copper | 1.34 ppm | ***** | | | | Cu 0 | | Cu 0 | | Cu 0 | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | |
| Sodium | | | | | | | | | | | | |
| Org.Matter | 4.4 % | ***** | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.52 mmho/cm | ***** | | | | Soil pH | Buffer pH | Cation Exchange Capacity | % Base Saturation (Typical Range) | | | |
| | 6-24" 1.08 mmho/cm | ***** | | | | | | | % Ca | % Mg | % K | % Na |

Crop 1: 52 lb potassium chloride (0-0-60-50Cl) = 24 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

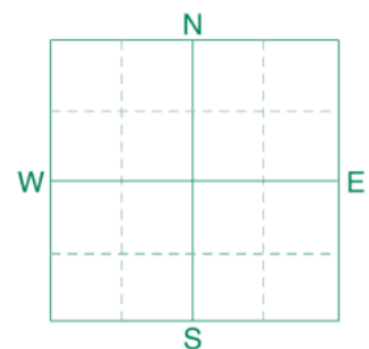
Crop 3: 52 lb potassium chloride (0-0-60-50Cl) = 24 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-22B**
 SAMPLE ID
 FIELD NAME **Arnold**
 COUNTY
 TWP **15** RANGE **08E**
 SECTION **20** QTR. **NE** ACRES **160**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941078** BOX # **283**
 LAB # **NW138069**

Date Sampled **10/03/2020** Date Received **10/06/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|-------------------------|----------------|-------------|-------------|---------|-------------------------------|---------------------------|-------------------------------|------------------|-----------------------------------|---------------------------|-----|------|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 14 lb/acre | ***** | | | | Wheat-Winter | | Canola-bu | | Wheat-Spring | | | |
| | 6-24" 6 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | |
| | 0-24" 20 lb/acre | | | | | 80 BU | | 50 BU | | 60 BU | | | |
| | | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | |
| | | Band/Maint. | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | | |
| | | LB/ACRE | APPLICATION | | LB/ACRE | APPLICATION | | LB/ACRE | APPLICATION | | | | |
| Phosphorus | Olsen 34 ppm | ***** | | | | N | 157 | N | 140 | N | 127 | | |
| Potassium | 372 ppm | ***** | | | | P ₂ O ₅ | 50 Band * | P ₂ O ₅ | 45 Band * | P ₂ O ₅ | 38 Band * | | |
| Chloride | 0-24" 28 lb/acre | ***** | | | | K ₂ O | 10 Band (Starter)* | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | | |
| Sulfur | 0-6" 18 lb/acre | ***** | | | | Cl | 12 Broadcast | Cl | | Cl | 12 Broadcast | | |
| | 6-24" 360 +lb/acre | ***** | | | | S | 0 | S | 15 Band | S | 0 | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.47 ppm | ***** | | | | Cu | 0 | Cu | 0 | Cu | 0 | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 4.7 % | ***** | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.48 mmho/cm | ***** | | | | Soil pH | 8.0 | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| | 6-24" 1.41 mmho/cm | ***** | | | | Buffer pH | 8.1 | | | % Ca | % Mg | % K | % Na |

Crop 1: 26 lb potassium chloride (0-0-60-50Cl) = 12 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

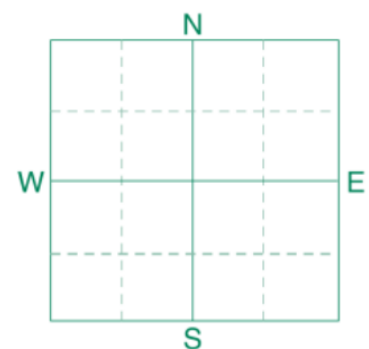
Crop 3: 26 lb potassium chloride (0-0-60-50Cl) = 12 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-46**
 SAMPLE ID
 FIELD NAME **Swark**
 COUNTY
 TWP **15** RANGE **08E**
 SECTION **33** QTR **NW** ACRES **120**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941079** BOX # **283**
 LAB # **NW138070**

Date Sampled **10/03/2020** Date Received **10/06/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|-------------------------|----------------|-------------|-------------|---------|-------------------------------|-----|----------------------|-----------------------------------|----------------------|-----------------|------|-----|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 10 lb/acre | ***** | | | | Wheat-Winter | | Canola-bu | | Wheat-Spring | | | |
| | 6-24" 3 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | |
| | 0-24" 13 lb/acre | | | | | 80 BU | | 50 BU | | 60 BU | | | |
| | | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | |
| | | Band/Maint. | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | | |
| | | LB/ACRE | APPLICATION | | LB/ACRE | APPLICATION | | LB/ACRE | APPLICATION | | | | |
| Phosphorus | Olsen 11 ppm | ***** | | | | N | 164 | | N | 147 | | | |
| Potassium | 312 ppm | ***** | | | | P ₂ O ₅ | 50 | Band * | P ₂ O ₅ | 45 | Band * | | |
| Chloride | 0-24" 20 lb/acre | ***** | | | | K ₂ O | 10 | Band (Starter)* | K ₂ O | 0 | Band (Starter)* | | |
| Sulfur | 0-6" 18 lb/acre | ***** | | | | Cl | 20 | Broadcast | Cl | | Not Available | | |
| | 6-24" 354 lb/acre | ***** | | | | S | 0 | | S | 15 | Band | | |
| Boron | | | | | | B | | | B | | | | |
| Zinc | | | | | | Zn | | | Zn | | | | |
| Iron | | | | | | Fe | | | Fe | | | | |
| Manganese | | | | | | Mn | | | Mn | | | | |
| Copper | 1.31 ppm | ***** | | | | Cu | 0 | | Cu | 0 | | | |
| Magnesium | | | | | | Mg | | | Mg | | | | |
| Calcium | | | | | | Lime | | | Lime | | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 5.3 % | ***** | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.41 mmho/cm | ***** | | | | Soil pH | 8.0 | | % Base Saturation (Typical Range) | | | | |
| | 6-24" 0.78 mmho/cm | ***** | | | | Buffer pH | 8.3 | | % Ca | % Mg | % K | % Na | % H |

Crop 1: 44 lb potassium chloride (0-0-60-50Cl) = 20 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

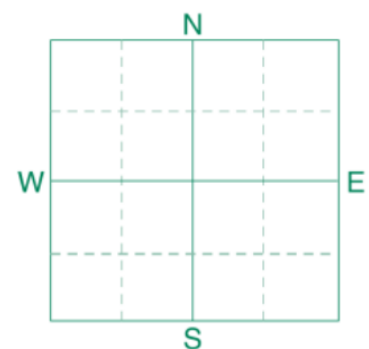
Crop 3: 44 lb potassium chloride (0-0-60-50Cl) = 20 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-47&48**
 SAMPLE ID
 FIELD NAME **Swark**
 COUNTY
 TWP **15** RANGE **08E**
 SECTION **32** QTRE **1/2** ACRES **320**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941080** BOX # **283**
 LAB # **NW138071**

Date Sampled **10/03/2020** Date Received **10/06/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|-------------------------|----------------|-----|-----|------|-------------------------------|---------------------------|-------------------------------|----------------------|-----------------------------------|---------------------------|-----|------|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 8 lb/acre | **** | | | | Wheat-Winter | Canola-bu | | Wheat-Spring | | | | |
| | 6-24" 3 lb/acre | | | | | YIELD GOAL | YIELD GOAL | | YIELD GOAL | | | | |
| | 0-24" 11 lb/acre | | | | | 80 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 | | |
| Phosphorus | Olsen 13 ppm | ***** | | | | N | 166 | N | 149 | N | 136 | | |
| Potassium | 308 ppm | ***** | | | | P ₂ O ₅ | 50 Band * | P ₂ O ₅ | 45 Band * | P ₂ O ₅ | 38 Band * | | |
| Chloride | 0-24" 20 lb/acre | ***** | | | | K ₂ O | 10 Band (Starter)* | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | | |
| Sulfur | 0-6" 30 lb/acre | ***** | | | | Cl | 20 Broadcast | Cl | Not Available | Cl | 20 Broadcast | | |
| | 6-24" 360 +lb/acre | ***** | | | | S | 0 | S | 15 Band | S | 0 | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.78 ppm | ***** | | | | Cu | 0 | Cu | 0 | Cu | 0 | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 4.1 % | ***** | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.5 mmho/cm | ***** | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| | 6-24" 1.16 mmho/cm | ***** | | | | | | | | % Ca | % Mg | % K | % Na |
| | | | | | | 0-6" 8.0 | | | | | | | |
| | | | | | | 6-24" 8.2 | | | | | | | |

Crop 1: 44 lb potassium chloride (0-0-60-50Cl) = 20 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

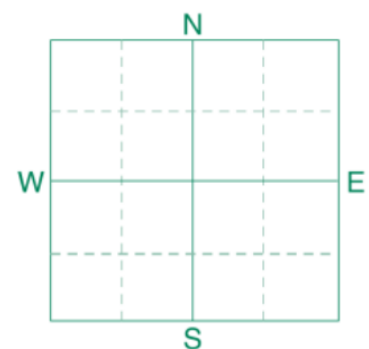
Crop 3: 44 lb potassium chloride (0-0-60-50Cl) = 20 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-49**
 SAMPLE ID
 FIELD NAME **Swark**
 COUNTY
 TWP **15** RANGE **08E**
 SECTION **29** QTR. **NE** ACRES **155**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941081** BOX # **279**
 LAB # **NW138072**

Date Sampled **10/03/2020** Date Received **10/06/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | | |
|----------------------|-------------------------|----------------|-----|-----|------|----------------------------------|----------------------|----------------------------------|----------------------|-----------------------------------|-----------------|-----|------|-----|
| | | VLow | Low | Med | High | | | | | | | | | |
| Nitrate | 0-6" 19 lb/acre | ***** | | | | Wheat-Winter | Canola-bu | | Wheat-Spring | | | | | |
| | 6-24" 9 lb/acre | | | | | YIELD GOAL | YIELD GOAL | | YIELD GOAL | | | | | |
| | 0-24" 28 lb/acre | | | | | 80 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 | | | |
| Phosphorus | Olsen 13 ppm | | | | | N 149 | | N 132 | | N 119 | | | | |
| Potassium | 372 ppm | | | | | P ₂ O ₅ 50 | Band * | P ₂ O ₅ 45 | Band * | P ₂ O ₅ 38 | Band * | | | |
| Chloride | 0-24" 24 lb/acre | | | | | K ₂ O 10 | Band (Starter)* | K ₂ O 0 | | K ₂ O 10 | Band (Starter)* | | | |
| Sulfur | 0-6" 92 lb/acre | | | | | Cl 16 | Broadcast | Cl | Not Available | Cl 16 | Broadcast | | | |
| | 6-24" 360 +lb/acre | | | | | S 0 | | S 10 | Band | S 0 | | | | |
| Boron | | | | | | B | | B | | B | | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | | |
| Copper | 1.32 ppm | | | | | Cu 0 | | Cu 0 | | Cu 0 | | | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | | |
| Sodium | | | | | | | | | | | | | | |
| Org.Matter | 6.1 % | | | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.64 mmho/cm | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | | |
| | 6-24" 1.47 mmho/cm | | | | | 0-6" 8.0 | | | | % Ca | % Mg | % K | % Na | % H |
| | | | | | | 6-24" 8.1 | | | | | | | | |

Crop 1: 35 lb potassium chloride (0-0-60-50Cl) = 16 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

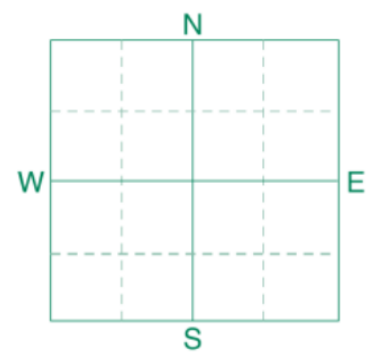
Crop 3: 35 lb potassium chloride (0-0-60-50Cl) = 16 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-58N**
 SAMPLE ID
 FIELD NAME **Kintop**
 COUNTY
 TWP **16** RANGE **09E**
 SECTION **6** QTR **WSE** ACRES **80**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB ROE 0C0

SUBMITTED BY: TO0533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB ROA 1V0

REF # **2941082** BOX # **279**
 LAB # **NW138073**

Date Sampled **10/03/2020** Date Received **10/06/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|-------------------|----------------|-----|-----|------|----------------------------------|-----------------|----------------------------------|---------------|-----------------------------------|-------------|-----|--|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 16 lb/acre | | | | | Wheat-Spring | | Canola-bu | | Soybeans | | | |
| | 6-24" 9 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | |
| | 0-24" 25 lb/acre | | | | | 60 BU | | 50 BU | | 40 BU | | | |
| | | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | |
| Phosphorus | Olsen 5 ppm | | | | | N 122 | | N 135 | | N *** | | | |
| Potassium | 279 ppm | | | | | P ₂ O ₅ 41 | Band * | P ₂ O ₅ 50 | Band * | P ₂ O ₅ 37 | Band * | | |
| Chloride | 0-24" 8 lb/acre | | | | | K ₂ O 10 | Band (Starter)* | K ₂ O 0 | | K ₂ O 0 | | | |
| Sulfur | 0-6" 34 lb/acre | | | | | Cl 32 | Broadcast | Cl | Not Available | Cl 0 | | | |
| | 6-24" 222 lb/acre | | | | | S 0 | | S 15 | Band | S 0 | | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.76 ppm | | | | | Cu 0 | | Cu 0 | | Cu 0 | | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 5.4 % | | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.45 mmho/cm | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| | 6-24" 0.5 mmho/cm | | | | | | | % Ca | % Mg | % K | % Na | % H | |
| | | | | | | 0-6" 7.8 | | | | | | | |
| | | | | | | 6-24" 8.2 | | | | | | | |

Crop 1: 70 lb potassium chloride (0-0-60-50Cl) = 32 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

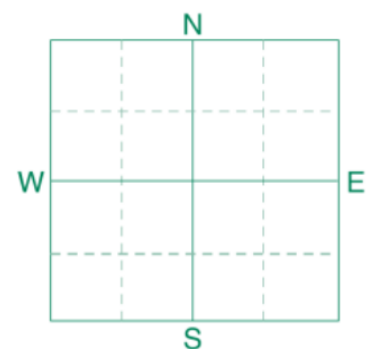
Crop 3: *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.



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

SOIL TEST REPORT

FIELD ID **GRN-58S**
 SAMPLE ID
 FIELD NAME **Kintop**
 COUNTY
 TWP **15** RANGE **09E**
 SECTION **31** QTR. **NE** ACRES **159**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: TO0533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941083** BOX # **283**
 LAB # **NW138074**

Date Sampled **10/03/2020** Date Received **10/06/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|-------------------------|----------------|-------------|-------------|---------|-------------------------------|------------------|-------------------------------|----------------------|-----------------------------------|---------------------------|-----|--|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 9 lb/acre | ***** | | | | Soybeans | | Canola-bu | | Wheat-Winter | | | |
| | 6-24" 6 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | |
| | 0-24" 15 lb/acre | | | | | 40 BU | | 50 BU | | 80 BU | | | |
| | | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | |
| | | Band/Maint. | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | | |
| | | LB/ACRE | APPLICATION | | LB/ACRE | APPLICATION | | LB/ACRE | APPLICATION | | | | |
| Phosphorus | Olsen 10 ppm | ***** | | | | N | *** | N | 145 | N | 162 | | |
| Potassium | 273 ppm | ***** | | | | P ₂ O ₅ | 30 Band * | P ₂ O ₅ | 45 Band * | P ₂ O ₅ | 50 Band * | | |
| Chloride | 0-24" 40 lb/acre | ***** | | | | K ₂ O | 0 | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | | |
| Sulfur | 0-6" 120 +lb/acre | ***** | | | | Cl | 0 | Cl | Not Available | Cl | 0 | | |
| | 6-24" 360 +lb/acre | ***** | | | | S | 0 | S | 10 Band | S | 0 | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.14 ppm | ***** | | | | Cu | 0 | Cu | 0 | Cu | 0 | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 4.5 % | ***** | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 1.07 mmho/cm | ***** | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| | 6-24" 1.61 mmho/cm | ***** | | | | | | % Ca | % Mg | % K | % Na | % H | |
| | | | | | | 0-6" 7.9 | | | | | | | |
| | | | | | | 6-24" 8.0 | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

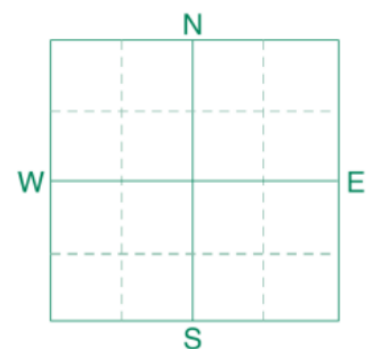
Crop 3: *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-65NE&SE&W**
 SAMPLE ID
 FIELD NAME **Mariash**
 COUNTY
 TWP **14** RANGE **08E**
 SECTION **32** QTR **E1/2 & PT. NW** ACRES **300**
 PREV. CROP **Canola-bu**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: **TO0533**
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941084** BOX # **2310**
 LAB # **NW73944**

Date Sampled **09/07/2020** Date Received **09/09/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | | |
|----------------------|-------------------------|----------------|-----|-----|------|-------------------------------|------------------|-------------------------------|---------------------------|-----------------------------------|---------------------------|-----|------|-----|
| | | VLow | Low | Med | High | | | | | | | | | |
| Nitrate | 0-6" 25 lb/acre | | | | | Soybeans | | Wheat-Spring | | Wheat-Winter | | | | |
| | 6-24" 36 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | | |
| | 0-24" 61 lb/acre | | | | | 40 BU | | 60 BU | | 80 BU | | | | |
| | | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | | |
| Phosphorus | Olsen 13 ppm | | | | | N | *** | N | 101 | N | 131 | | | |
| Potassium | 438 ppm | | | | | P ₂ O ₅ | 30 Band * | P ₂ O ₅ | 38 Band * | P ₂ O ₅ | 50 Band * | | | |
| Chloride | 0-24" 16 lb/acre | | | | | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | K ₂ O | 10 Band (Starter)* | | | |
| Sulfur | 0-6" 46 lb/acre | | | | | Cl | 0 | Cl | 24 Broadcast | Cl | 24 Broadcast | | | |
| | 6-24" 360 +lb/acre | | | | | S | 0 | S | 0 | S | 0 | | | |
| Boron | | | | | | B | | B | | B | | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | | |
| Copper | 1.45 ppm | | | | | Cu | 0 | Cu | 0 | Cu | 0 | | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | | |
| Sodium | | | | | | | | | | | | | | |
| Org.Matter | 5.3 % | | | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.53 mmho/cm | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | | |
| | 6-24" 1.21 mmho/cm | | | | | | | | | % Ca | % Mg | % K | % Na | % H |
| | | | | | | 0-6" 7.8 | | | | | | | | |
| | | | | | | 6-24" 8.2 | | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: 52 lb potassium chloride (0-0-60-50Cl) = 24 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

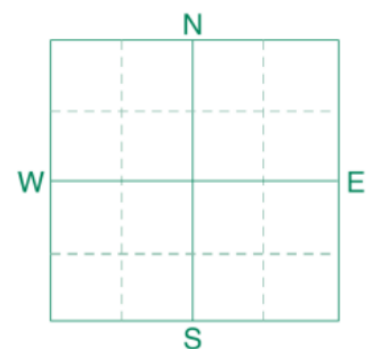
Crop 3: 52 lb potassium chloride (0-0-60-50Cl) = 24 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



Soil Analysis by Agvise Laboratories
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Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **GRN-66**
 SAMPLE ID
 FIELD NAME **Mariash**
 COUNTY
 TWP **14** RANGE **08E**
 SECTION **33** QTR **NW** ACRES **155**
 PREV. CROP **Canola-bu**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: **TO0533**
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941085** BOX # **2057**
 LAB # **NW69503**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | | |
|----------------------|---------|----------------|-----|-----|------|-------------------------------|-------------|-------------------------------|-----------------|-----------------------------------|-----------------|-----|------|-----|
| | | VLow | Low | Med | High | | | | | | | | | |
| Nitrate | 0-6" | ***** | | | | Soybeans | | Wheat-Spring | | Wheat-Winter | | | | |
| | 6-24" | ***** | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | | |
| | | ***** | | | | 40 BU | | 60 BU | | 80 BU | | | | |
| | 0-24" | ***** | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | | |
| | | ***** | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | |
| | | ***** | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | | |
| Olsen | 14 ppm | ***** | | | | N | *** | N | 132 | N | 162 | | | |
| Phosphorus | | ***** | | | | P ₂ O ₅ | 30 | P ₂ O ₅ | 38 | P ₂ O ₅ | 50 | | | |
| Potassium | 325 ppm | ***** | | | | | Band * | | Band * | | Band * | | | |
| Chloride | 0-24" | ***** | | | | K ₂ O | 0 | K ₂ O | 10 | K ₂ O | 10 | | | |
| | | ***** | | | | | | | Band (Starter)* | | Band (Starter)* | | | |
| Sulfur | 0-6" | ***** | | | | Cl | 0 | Cl | 16 | Cl | 16 | | | |
| | 6-24" | ***** | | | | | | | Broadcast | | Broadcast | | | |
| Boron | | ***** | | | | S | 0 | S | 0 | S | 0 | | | |
| Zinc | | ***** | | | | B | | B | | B | | | | |
| Iron | | ***** | | | | Zn | | Zn | | Zn | | | | |
| Manganese | | ***** | | | | Fe | | Fe | | Fe | | | | |
| Copper | 1.5 ppm | ***** | | | | Mn | | Mn | | Mn | | | | |
| Magnesium | | ***** | | | | Cu | 0 | Cu | 0 | Cu | 0 | | | |
| Calcium | | ***** | | | | Mg | | Mg | | Mg | | | | |
| Sodium | | ***** | | | | Lime | | Lime | | Lime | | | | |
| Org.Matter | 4.0 % | ***** | | | | | | | | | | | | |
| Carbonate(CCE) | | ***** | | | | | | | | | | | | |
| Sol. Salts | 0-6" | ***** | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | | |
| | 6-24" | ***** | | | | | | | | % Ca | % Mg | % K | % Na | % H |
| | | ***** | | | | 0-6" | 8.0 | | | | | | | |
| | | ***** | | | | 6-24" | 8.1 | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P205 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: 35 lb potassium chloride (0-0-60-50Cl) = 16 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P205 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

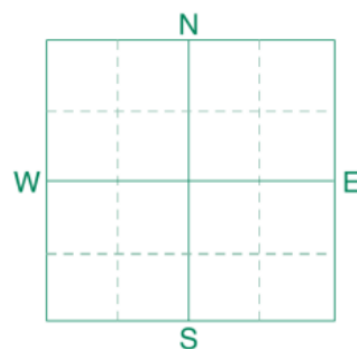
Crop 3: 35 lb potassium chloride (0-0-60-50Cl) = 16 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P205 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-67E&W**
 SAMPLE ID
 FIELD NAME **Mariash**
 COUNTY
 TWP **15** RANGE **08E**
 SECTION **5** QTR **SE & ESW** ACRES **240**
 PREV. CROP **Canola-bu**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: **TO0533**
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941086** BOX # **2310**
 LAB # **NW73945**

Date Sampled **09/07/2020** Date Received **09/09/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|-------|----------------|-----|-----|------|-------------------------------|-------------|--------------------------|-------------------------------|-----------------------------------|-----------------|------|-----|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" | | | | | Soybeans | | Wheat-Spring | | Wheat-Winter | | | |
| | 6-24" | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | |
| | | 22 lb/acre | | | | 40 BU | | 60 BU | | 80 BU | | | |
| | | 45 lb/acre | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | |
| | 0-24" | 67 lb/acre | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | |
| Phosphorus | Olsen | 16 ppm | | | | N | *** | N | 95 | N | 125 | | |
| Potassium | | 363 ppm | | | | P ₂ O ₅ | 30 | Band * | P ₂ O ₅ | 38 | Band * | | |
| Chloride | 0-24" | 12 lb/acre | | | | K ₂ O | 0 | | K ₂ O | 10 | Band (Starter)* | | |
| | | 52 lb/acre | | | | Cl | 0 | | Cl | 28 | Broadcast | | |
| Sulfur | 0-6" | 360 +lb/acre | | | | S | 0 | | S | 0 | | | |
| Boron | | | | | | B | | | B | | | | |
| Zinc | | | | | | Zn | | | Zn | | | | |
| Iron | | | | | | Fe | | | Fe | | | | |
| Manganese | | | | | | Mn | | | Mn | | | | |
| Copper | | 1.15 ppm | | | | Cu | 0 | | Cu | 0 | | | |
| Magnesium | | | | | | Mg | | | Mg | | | | |
| Calcium | | | | | | Lime | | | Lime | | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | | 5.1 % | | | | Soil pH | | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| Carbonate(CCE) | | | | | | Buffer pH | | | % Ca | % Mg | % K | % Na | % H |
| Sol. Salts | 0-6" | 0.41 mmho/cm | | | | 0-6" | 8.2 | | | | | | |
| | 6-24" | 0.94 mmho/cm | | | | 6-24" | 8.3 | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: 61 lb potassium chloride (0-0-60-50Cl) = 28 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

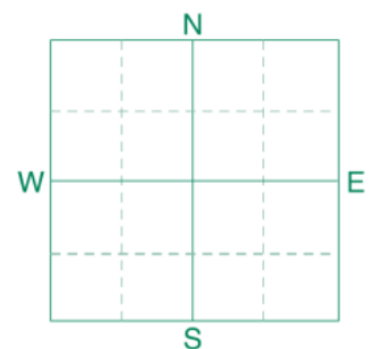
Crop 3: 61 lb potassium chloride (0-0-60-50Cl) = 28 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



Soil Analysis by Agvise Laboratories
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Northwood: (701) 587-6010
Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **GRN-68**
 SAMPLE ID
 FIELD NAME **Mariash**
 COUNTY
 TWP **14** RANGE **08E**
 SECTION **21** QTR **NE** ACRES **45**
 PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941087** BOX # **2057**
 LAB # **NW69504**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|------------------------|----------------|-----|-----|------|-------------------------------|----------------------|-------------------------------|----------------------|-----------------------------------|-----------------------|-----|------|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 8 lb/acre | | | | | Soybeans | Canola-bu | | Wheat-Winter | | | | |
| | 6-24" 21 lb/acre | | | | | YIELD GOAL | YIELD GOAL | | YIELD GOAL | | | | |
| | 0-24" 29 lb/acre | | | | | 40 BU | 50 BU | | 80 BU | | | | |
| | | | | | | SUGGESTED GUIDELINES | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | |
| Phosphorus | Olsen 24 ppm | | | | | N | *** | N | 146 | N | 163 | | |
| Potassium | 284 ppm | | | | | P ₂ O ₅ | 30 Band * | P ₂ O ₅ | 45 Band * | P ₂ O ₅ | 50 Band * | | |
| Chloride | 0-24" 8 lb/acre | | | | | K ₂ O | 0 | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | | |
| Sulfur | 0-6" 120 +lb/acre | | | | | Cl | 0 | Cl | Not Available | Cl | 32 Broadcast | | |
| | 6-24" 360 +lb/acre | | | | | S | 0 | S | 10 Band | S | 0 | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.32 ppm | | | | | Cu | 0 | Cu | 0 | Cu | 0 | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 3.7 % | | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| Sol. Salts | 0-6" 0.82 mmho/cm | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| | 6-24" 1.99 mmho/cm | | | | | | | | | % Ca | % Mg | % K | % Na |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

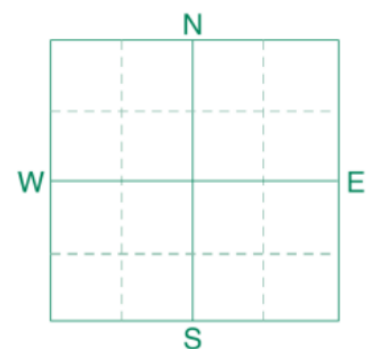
Crop 3: 70 lb potassium chloride (0-0-60-50Cl) = 32 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-69**
 SAMPLE ID
 FIELD NAME **Mariash**
 COUNTY
 TWP **14** RANGE **08E**
 SECTION **22** QTR **SW** ACRES **150**
 PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: **TO0533**
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941088** BOX # **1951**
 LAB # **NW69505**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | |
|----------------------|--------------|----------------|-----|-----|-------------------------------|----------------------|-------------------------------|----------------------|-----------------------------------|----------------------|-----|------|
| | | VLow | Low | Med | High | | | | | | | |
| Nitrate | 0-6" | ***** | | | | Soybeans | | Canola-bu | | Wheat-Winter | | |
| | 6-24" | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | |
| | | | | | | 40 BU | | 50 BU | | 80 BU | | |
| | 0-24" | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | |
| | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | |
| Phosphorus | Olsen 12 ppm | | | | N | *** | N | 115 | N | 132 | | |
| Potassium | 212 ppm | | | | P ₂ O ₅ | 30 Band * | P ₂ O ₅ | 45 Band * | P ₂ O ₅ | 50 Band * | | |
| Chloride | 0-24" | 8 lb/acre | | | K ₂ O | 47 Band * | K ₂ O | 23 Band * | K ₂ O | 30 Band * | | |
| | 0-6" | 40 lb/acre | | | Cl | 0 | Cl | Not Available | Cl | 32 Broadcast | | |
| Sulfur | 6-24" | 360 +lb/acre | | | S | 0 | S | 15 Band | S | 0 | | |
| Boron | | | | | B | | B | | B | | | |
| Zinc | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.0 ppm | | | | Cu | 0 | Cu | 0 | Cu | 0 | | |
| Magnesium | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | |
| Org.Matter | 6.2 % | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | |
| Sol. Salts | 0-6" | 0.5 mmho/cm | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| | 6-24" | 1.03 mmho/cm | | | 0-6" 8.2 | | | | % Ca | % Mg | % K | % Na |
| | | | | | 6-24" 8.2 | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

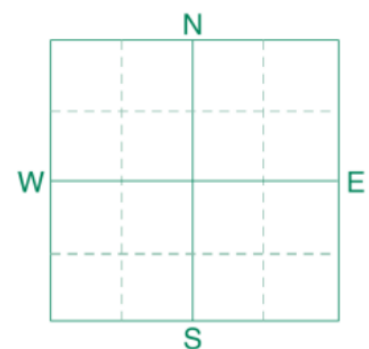
Crop 3: 70 lb potassium chloride (0-0-60-50Cl) = 32 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **GRN-70A&B**
 SAMPLE ID
 FIELD NAME **Italian**
 COUNTY
 TWP **14** RANGE **08E**
 SECTION **35** QTR **W 1/2** ACRES **310**
 PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: **TO0533**
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941089** BOX # **1905**
 LAB # **NW69506**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|-------------------------|----------------|-----|-----|------|-------------------------------|------------------|-------------------------------|----------------------|-----------------------------------|---------------------------|-----|--|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 8 lb/acre | | | | | Soybeans | | Canola-bu | | Wheat-Winter | | | |
| | 6-24" 15 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | |
| | 0-24" 23 lb/acre | ***** | | | | 40 BU | | 50 BU | | 80 BU | | | |
| | | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | |
| Phosphorus | Olsen 12 ppm | ***** | | | | N | *** | N | 152 | N | 169 | | |
| Potassium | 362 ppm | ***** | | | | P ₂ O ₅ | 30 Band * | P ₂ O ₅ | 45 Band * | P ₂ O ₅ | 50 Band * | | |
| Chloride | 0-24" 16 lb/acre | ***** | | | | K ₂ O | 0 | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | | |
| Sulfur | 0-6" 36 lb/acre | ***** | | | | Cl | 0 | Cl | Not Available | Cl | 24 Broadcast | | |
| | 6-24" 360 +lb/acre | ***** | | | | S | 0 | S | 15 Band | S | 0 | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.76 ppm | ***** | | | | Cu | 0 | Cu | 0 | Cu | 0 | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 5.0 % | ***** | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| | | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | |
| | | | | | | | | % Ca | % Mg | % K | % Na | % H | |
| | | | | | | 0-6" 7.9 | | | | | | | |
| Sol. Salts | 0-6" 0.61 mmho/cm | ***** | | | | 6-24" 8.0 | | | | | | | |
| | 6-24" 1.2 mmho/cm | ***** | | | | | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 A GVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 A GVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

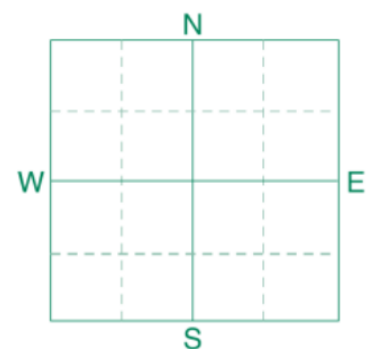
Crop 3: 52 lb potassium chloride (0-0-60-50Cl) = 24 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 A GVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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(http://www.agvise.com)
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Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **GRN-70C&D**
 SAMPLE ID
 FIELD NAME **Italian**
 COUNTY
 TWP **14** RANGE **08E**
 SECTION **35** QTR **SNE & NSE** ACRES **145**
 PREV. CROP **Wheat-Spring**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB **ROE 0C0**

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB **ROA 1V0**

REF # **2941090** BOX # **1977**
 LAB # **NW69507**

Date Sampled **09/02/2020** Date Received **09/04/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | | |
|----------------------|-------------------------|----------------|-----|-----|------|-------------------------------|------------------|-------------------------------|----------------------|-----------------------------------|---------------------------|-----|------|-----|
| | | VLow | Low | Med | High | | | | | | | | | |
| Nitrate | 0-6" 8 lb/acre | | | | | Soybeans | | Canola-bu | | Wheat-Winter | | | | |
| | 6-24" 15 lb/acre | | | | | YIELD GOAL | | YIELD GOAL | | YIELD GOAL | | | | |
| | 0-24" 23 lb/acre | ***** | | | | 40 BU | | 50 BU | | 80 BU | | | | |
| | | | | | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | SUGGESTED GUIDELINES | | | | |
| | | | | | | Band/Maint. | | Band/Maint. | | Band/Maint. | | | | |
| | | | | | | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | LB/ACRE | APPLICATION | | | |
| Phosphorus | Olsen 12 ppm | ***** | | | | N | *** | N | 152 | N | 169 | | | |
| Potassium | 424 ppm | ***** | | | | P ₂ O ₅ | 30 Band * | P ₂ O ₅ | 45 Band * | P ₂ O ₅ | 50 Band * | | | |
| Chloride | 0-24" 8 lb/acre | *** | | | | K ₂ O | 0 | K ₂ O | 0 | K ₂ O | 10 Band (Starter)* | | | |
| Sulfur | 0-6" 120 +lb/acre | ***** | | | | Cl | 0 | Cl | Not Available | Cl | 32 Broadcast | | | |
| | 6-24" 360 +lb/acre | ***** | | | | S | 0 | S | 10 Band | S | 0 | | | |
| Boron | | | | | | B | | B | | B | | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | | |
| Copper | 1.78 ppm | ***** | | | | Cu | 0 | Cu | 0 | Cu | 0 | | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | | |
| Sodium | | | | | | | | | | | | | | |
| Org.Matter | 5.3 % | ***** | | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | | |
| | | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | | % Base Saturation (Typical Range) | | | | |
| | | | | | | | | | | % Ca | % Mg | % K | % Na | % H |
| Sol. Salts | 0-6" 1.44 mmho/cm | ***** | | | | 0-6" 7.9 | | | | | | | | |
| | 6-24" 2.27 mmho/cm | ***** | | | | 6-24" 8.0 | | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

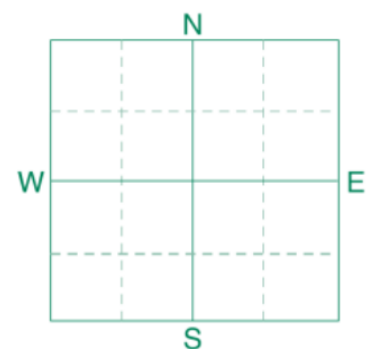
Crop 3: 70 lb potassium chloride (0-0-60-50Cl) = 32 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 50 K2O = 30 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.



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

SOIL TEST REPORT

FIELD ID **GRN-59&59C**
 SAMPLE ID
 FIELD NAME **Allan Schwark**
 COUNTY
 TWP **15** RANGE **08E**
 SECTION **21** QTRS **1/2** ACRES **320**
 PREV. CROP **Soybeans**



SUBMITTED FOR:
Greenwald Colony
Rick Hofer
Box 3140 RR#3
Beausejour, MB ROE 0C0

SUBMITTED BY: T00533
TONE AG CONSULTING LTD.
31022 RAT RIVER RD
PO BOX 557
ST PIERRE JOLYS, MB ROA 1V0

REF # **3074931** BOX # **283**
 LAB # **NW138973**

Date Sampled **10/03/2020** Date Received **10/06/2020** Date Reported **4/27/2021**

| Nutrient In The Soil | | Interpretation | | | | 1st Crop Choice | | 2nd Crop Choice | | 3rd Crop Choice | | | |
|----------------------|--------------------|----------------|-----|-----|------|---|----------------------|---|-----------------------------------|---|-------------|------|-----|
| | | VLow | Low | Med | High | | | | | | | | |
| Nitrate | 0-6" 11 lb/acre | | | | | Soybeans | Canola-bu | | Wheat-Spring | | | | |
| | 6-24" 6 lb/acre | | | | | YIELD GOAL | YIELD GOAL | | YIELD GOAL | | | | |
| | 0-24" 17 lb/acre | ***** | | | | 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 | | |
| Phosphorus | Olsen 9 ppm | ***** | | | | N *** | | N 143 | | N 130 | | | |
| Potassium | 369 ppm | ***** | | | | P ₂ O ₅ 30 Band * | | P ₂ O ₅ 45 Band * | | P ₂ O ₅ 38 Band * | | | |
| Chloride | 0-24" 12 lb/acre | **** | | | | K ₂ O 0 | | K ₂ O 0 | | K ₂ O 10 Band (Starter)* | | | |
| Sulfur | 0-6" 104 lb/acre | ***** | | | | Cl 0 | | Cl | Not Available | Cl 28 Broadcast | | | |
| | 6-24" 360 +lb/acre | ***** | | | | S 0 | | S 10 Band | | S 0 | | | |
| Boron | | | | | | B | | B | | B | | | |
| Zinc | | | | | | Zn | | Zn | | Zn | | | |
| Iron | | | | | | Fe | | Fe | | Fe | | | |
| Manganese | | | | | | Mn | | Mn | | Mn | | | |
| Copper | 1.55 ppm | ***** | | | | Cu 0 | | Cu 0 | | Cu 0 | | | |
| Magnesium | | | | | | Mg | | Mg | | Mg | | | |
| Calcium | | | | | | Lime | | Lime | | Lime | | | |
| Sodium | | | | | | | | | | | | | |
| Org.Matter | 4.6 % | ***** | | | | | | | | | | | |
| Carbonate(CCE) | | | | | | | | | | | | | |
| | | | | | | Soil pH | Buffer pH | Cation Exchange Capacity | % Base Saturation (Typical Range) | | | | |
| | | | | | | | | | % Ca | % Mg | % K | % Na | % H |
| | | | | | | 0-6" 8.0 | | | | | | | |
| Sol. Salts | 0-6" 0.74 mmho/cm | ***** | | | | 6-24" 8.2 | | | | | | | |
| | 6-24" 0.93 mmho/cm | ***** | | | | | | | | | | | |

Crop 1: *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 30 K2O = 47 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them. Soybean may respond to nitrogen if soybean history is limited and less than 60 lb/acre nitrate-N is present.

Crop 2: Limited data on crop response to chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 45 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Crop 3: 61 lb potassium chloride (0-0-60-50Cl) = 28 lb chloride. *CAUTION: Seed-placed fertilizer can cause injury.* Previous crop nitrogen credit: 15 lb/acre N. Previous crop nitrogen credit may be adjusted for local conditions. May respond to starter P & K, even on high soil tests. Crop nutrient removal: P2O5 = 38 K2O = 23 AGVISE Band/Maintenance guideline will build P & K test levels to the medium range over several years and then maintain them.

Kyla Dietrich

From: Murray, Colin (ARD) <Colin.Murray@gov.mb.ca>
Sent: Monday, April 12, 2021 12:55
To: Kyla Dietrich
Subject: DR K Dietrich Burns 20210329 Greenwald Colony NE-32-014-08E1 and NW-33-014-08E1 SAR

Hi Kyla

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 locations:

NE-32-014-08E1 and NW-33-014-08E1; 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-32-014-08E1 and NW-33-014-08E1:
No listed or tracked species occurrences found at this time.

2. Within 2km of the footprint boundary:
NE-32-014-08E1 and NW-33-014-08E1:

| INFORMAL TAXA | SCIENTIFIC NAME | COMMON NAME | SRANK | ESEA | SARA | COSEWIC |
|-------------------|------------------------------|-------------|-------|------|------------|------------|
| Vertebrate Animal | <i>Dolichonyx oryzivorus</i> | Bobolink | S3S4B | | Threatened | Threatened |

3. General area records low locational accuracy:
NE-32-014-08E1 and NW-33-014-08E1:

| INFORMAL TAXA | SCIENTIFIC NAME | COMMON NAME | SRANK | ESEA | SARA | COSEWIC |
|----------------|---|----------------------|-------|------|------|---------|
| Vascular Plant | <i>Ceanothus herbaceus</i> | New Jersey Tea | S2S3 | | | |
| Vascular Plant | <i>Claytosmunda claytoniana</i> | Interrupted Fern | S2S3 | | | |
| Vascular Plant | <i>Cyperus houghtonii</i> | Houghton's Flatsedge | S2S3 | | | |
| Vascular Plant | <i>Gentiana rubricaulis</i> | Closed Gentian | S3 | | | |
| Vascular Plant | <i>Hudsonia tomentosa</i> | False Heather | S3 | | | |
| Vascular Plant | <i>Lechea intermedia</i> var. <i>intermedia</i> | Large-pod Pinweed | S1? | | | |

4. Found in broader area and similar habitat:
NE-32-014-08E1 and NW-33-014-08E1:

| INFORMAL TAXA | SCIENTIFIC NAME | COMMON NAME | SRANK | ESEA | SARA | COSEWIC |
|---------------------|--------------------|-----------------------|-------|------|-----------------|-----------------|
| Invertebrate Animal | Danaus plexippus | Monarch | S3S4B | | Special Concern | Endangered |
| Vertebrate Animal | Riparia riparia | Bank Swallow | S4B | | Threatened | Threatened |
| Vertebrate Animal | Lithobates pipiens | Northern Leopard Frog | S4 | | Special Concern | Special Concern |
| Vertebrate Animal | Hirundo rustica | Barn Swallow | S4B | | 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.

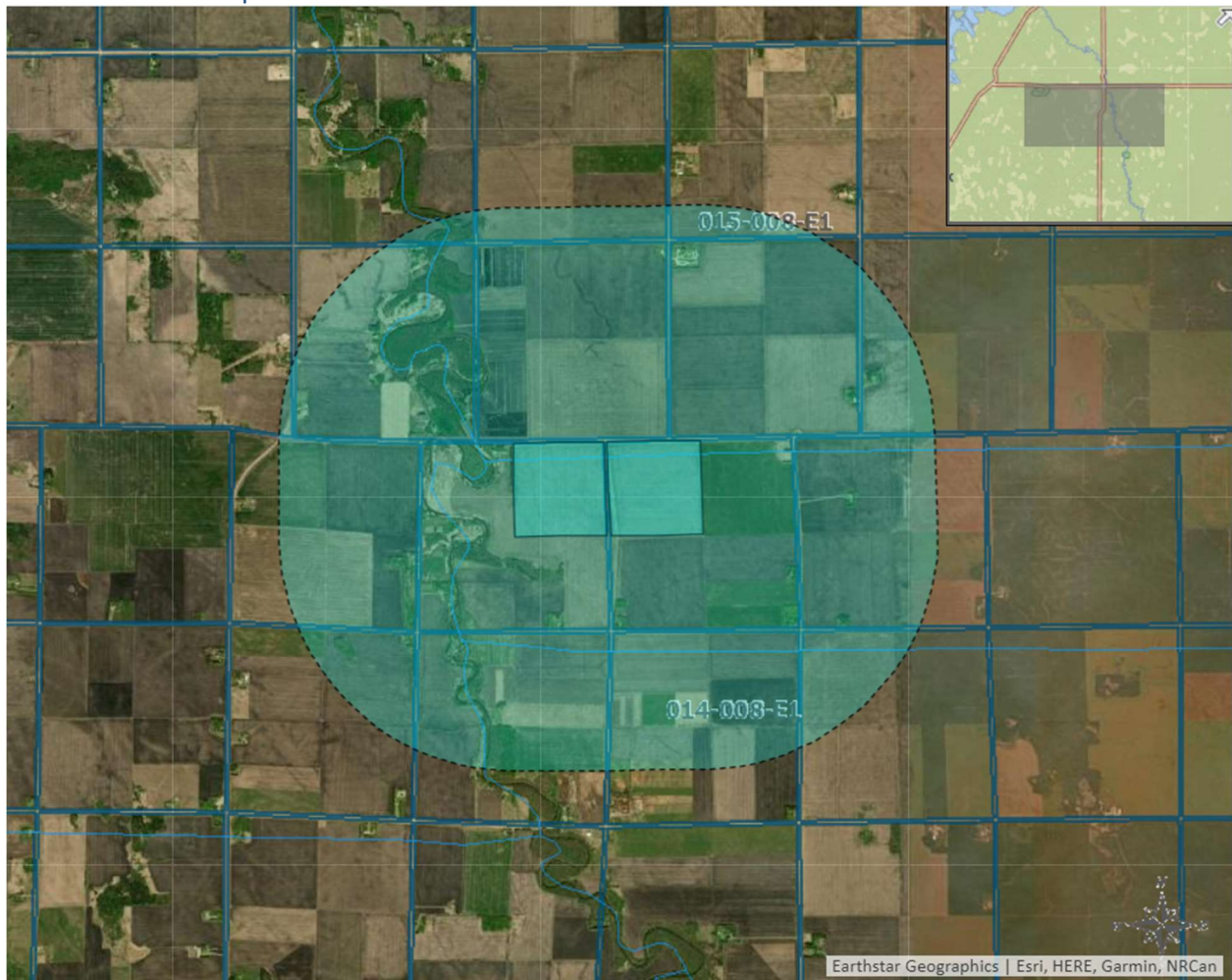
This letter is for information purposes only - it does not constitute consent or approval of the proposed project or activity, nor does it negate the need for any permits or approvals required by the Province of Manitoba.

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
Agriculture and Resource Development

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



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

From: +WPG969 - Form Submissions (CEN) <noreply@gov.mb.ca>

Sent: March 29, 2021 5:54 PM
To: Murray, Colin (ARD) <Colin.Murray@gov.mb.ca>
Subject: WWW Form Submission

Below is the result of your feedback form. It was submitted by CDC Information Request () on Monday, March 29, 2021 at 17:54:03

DocumentID: Manitoba_Sustainable_Development

Project Title: Greenwald Colony

Date Needed: 2021-04-12

Name: KYLA DIETRICH

Company/Organization: Burns Maendel Consulting Engineers

Address: 1331 Princess Avenue

City: Brandon

Province/State: Manitoba

Phone: 639-734-7364

Fax: 204-728-4418

Email: k.dietrich@bmce.ca

Project Description: We are representing a colony development that will include residential, industrial, and agricultural development. The residential/industrial development will be located at NE 32-14-8 E while the agricultural operation will be at NW 33-14-8 E.

Information Requested: Requesting Conservation Data Centre report as required by MR Livestock Technical Review Committee Site Assessment. Please identify any rare species that must be considered prior to development.

Format Requested: Microsoft excel, word, or emails are all fine formats

Location: Residential/Industrial: NE 32-14-8 E1

Agricultural: NW 33-14-8 E1

action: Submit

Kyla Dietrich

From: PRPERMISSCF / CWSPERMITPR (EC) <ec.prpermisscf-cwspemitpr.ec@canada.ca>
Sent: Thursday, April 1, 2021 17:26
To: Kyla Dietrich; PRPERMISSCF / CWSPERMITPR (EC)
Cc: Daniel Burns
Subject: RE: Verification Regarding Threatened Bird Species

Hi Kyla,

All statements made in regards to the Migratory Birds Convention Act and the Species at Risk Act are confirmed.

You have a great weekend as well!
John

John Dunlop

Senior Permits Officer / Canadian Wildlife Service
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From: Kyla Dietrich <K.Dietrich@bmce.ca>
Sent: April 1, 2021 5:22 PM
To: PRPERMISSCF / CWSPERMITPR (EC) <ec.prpermisscf-cwspemitpr.ec@canada.ca>
Cc: Daniel Burns <d.burns@bmce.ca>
Subject: RE: Verification Regarding Threatened Bird Species

Excellent, thank you for the clarifications. So the revision of the conversation stands as follows:

- The Manitoba Conservation Data Centre identified that there were two species with the “threatened” designation under SARA that may be encountered at our primary location of 28-18-3 and its 2km radius buffer.
 - Bobolink
 - Barn Swallow
- The federal government is responsible for issuing permits related to migratory birds listed as endangered or threatened. This applies to all species listed at: <https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/list.html> .
- When considered federally, the actions that must be undertaken per SARA will depend on the activities proposed and the impact on the species.
- Our proposed development will be located on land that was previously farmed as cropland, with minimal disruption to the riparian areas near adjacent creeks.
- As there are no known nests in this cropland and the development therefore will not be directly impacting the residences of the species, there is no need to obtain permits to allow these activities at this location for this project.

- Going forward, and with other projects/species, SARA requirements and their handling all depend on the activities and their level of impact on the residence of the species. We will continue to consult the Species at Risk public registry website (https://wildlife-species.canada.ca/species-risk-registry/sar/index/default_e.cfm?stype=species&lng=e&index=1&common=monarch&scientific=&population=&taxid=0&locid=0&desid=0&schid=0&desid2=0&) to determine if endangered or threatened migratory bird species may be affected by our work. If so we will contact Paul Gregoire (paul.gregoire@canada.ca) for further information.

Thank you for providing these clarifications. Have a great weekend!

Regards,

Kyla Dietrich, EIT
Junior Engineer



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