

Dryland Agricultural Capability in the Rural Municipality of Ritchot, Manitoba

Detailed Soil Survey Report D89

Soil survey conducted at a scale of 1:20,000 Map scale is 1:50,000

Agricultural Capability Based on Dominant Soil Series

- Class 1
- Class 2
- Class 3
- Class 4
- Class 5
- Class 6
- Class 7
- Water
- Organic
- Unclassified
- Urban

The above categories do not all appear on this map. They have been mapped in other areas of Manitoba, and therefore have been included for comparative purposes.

Subclass Limitations

- D - Structure and/or Permeability
- I - Inundation
- M - Moisture
- W - Excess Water

Examples:

- Class 3 with excess water limitation

Further limitations without map pattern, with labels:

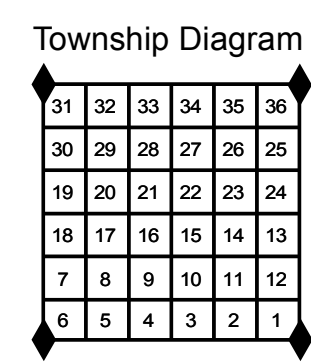
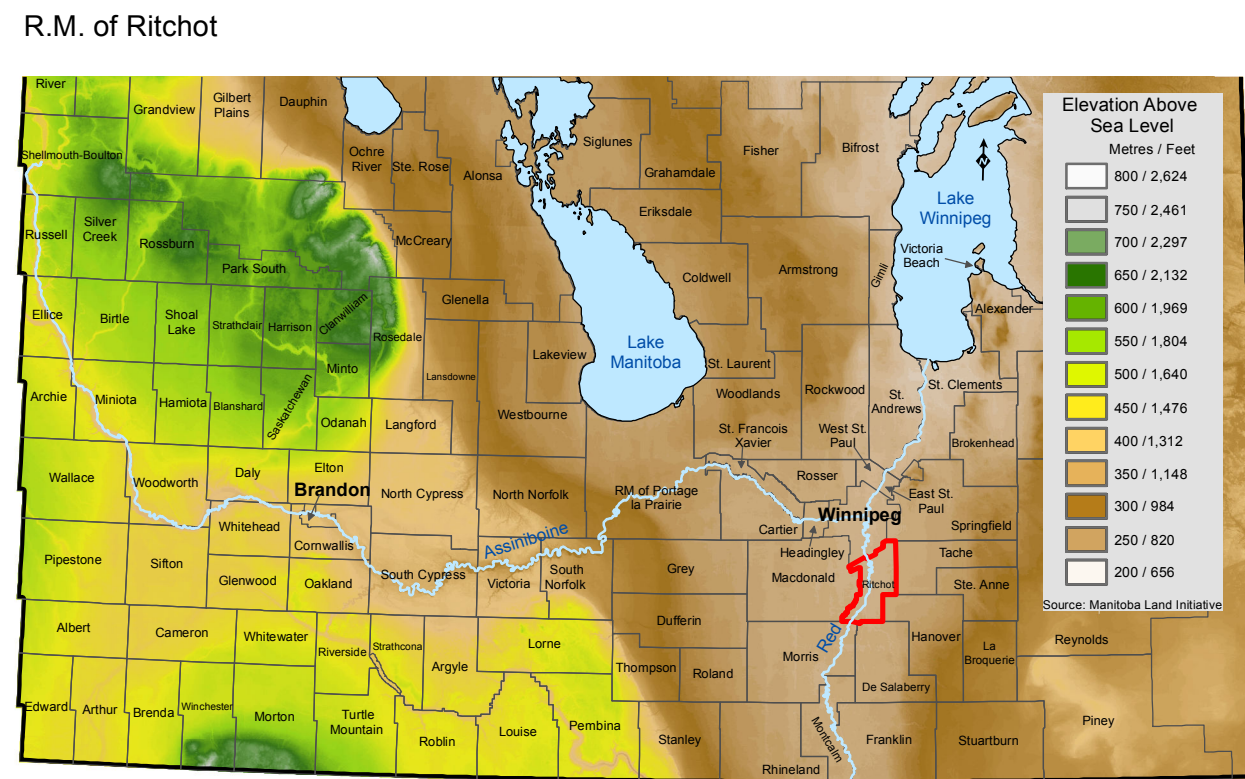
- C - Climate
- E - Erosion
- N - Salinity
- P - Stoniness
- R - Consolidated Bedrock
- T - Topography
- X - Cumulative Minor Adverse Characteristics

4TE = Class 4 with topography and erosion limitations

Compound Map Units

(Polygons containing more than 1 soil series)

5W¹-3N¹ = 60% of the polygon consists of Class 5 with excess water limitations and 40% consists of Class 3 with salinity limitations.



Key to River Lot Labels

Map Label	Description
123	= AGRL = Ste. Agathe River Lot
123	= NOOT = St. Norbert River Lot (North)
123	= NORL = St. Norbert River Lot (South)
123	= GPRL = Grande Pointe River Lot

Dryland Agricultural Capability Classes for Manitoba

Class 1
No major limitations for crop use, level to nearly level topography. Deep, well to imperfectly drained soils with moderate water holding capacity. Naturally well supplied with plant nutrients, easily maintained in good till and fertility. Moderately high to high in productivity for a wide range of cereal and special crops.

Class 2
Moderate limitations that reduce the choice of crops or require moderate conservation practices. Good water-holding capacity and are either naturally well supplied with plant nutrients or are highly responsive to inputs of fertilizer. Moderate to high in productivity for a fairly wide range of field crops. Limitations are not severe and therefore good soil management and cropping practices can be applied without serious difficulty.

Class 3
Moderate limitations that restrict the range of crops or require moderate conservation practices. Limitations are more severe than those in Class 2 and conservation practices are more difficult to apply and maintain. Limitations affect the timing and ease of tillage, planting and harvesting, the choice of crops and maintenance of conservation practices. Under proper management, fair to moderate in productivity for a fairly wide range of field crops.

Class 4
Significant limitations that restrict the choice of crops or require special conservation practices or both. These soils have such limitations that they are only suited for a few field crops. The yield for a range of crops may be low or the risk of crop failure is high. Moderate in productivity for a narrow range of field crops but may have higher productivity for a specially adapted crop or perennial forage.

Class 5
Severe limitations that restrict capability to produce perennial forage crops, but improvement practices are feasible. Such serious soil, climatic or other limitations that they are not capable of use for sustained production of annual field crop. May be improved by the use of farm machinery for the production of native or tame species of perennial forage plants.

Class 6
Capable only of producing perennial forage crops and improvement practices are not feasible. Have some natural sustained grazing capacity for farm animals, but have such serious soil, climatic or other limitations as to make impractical the application of improvement practices that can be carried out on Class 5 soils. Soils may be placed in this class because their physical nature prevents the use of farm machinery or because the soils are not responsive to improvement practices.

Class 7
No capability for arable agriculture or permanent pasture because of extremely severe limitations. Bodies of water too small to delineate on the map are included in this class. These soils may or may not have a high capability for forestry, wildlife and recreation.

For additional technical information, refer to Table 10 in the Ritchot Report (D89).

Dryland Agricultural Capability Subclass Limitations

C - Adverse climate
Denotes a significant adverse climate for crop production as compared to the "median" climate which is defined as one with sufficiently high growing season temperatures to bring field crops to maturity, and with sufficient precipitation to permit crops to be grown each year on the same land without a serious risk of partial or total crop failures.

D - Undesirable soil structure and/or low permeability
Includes soils difficult to till, or which absorb water very slowly or in which the depth of rooting zone is restricted by conditions other than a high water table or consolidated bedrock.

E - Erosion
Includes soils where damage from erosion is a limitation to agricultural use. Damage is assessed on the loss of productivity and on the difficulties in farming land with gullies.

I - Inundation by streams or lakes
Includes soils subjected to inundation causing crop damage or restricting agricultural use.

M - Moisture limitation
Consists of soils where crops are adversely affected by droughtiness owing to inherent soil characteristics. They are usually soils with low water-holding capacity.

N - Salinity
Designates soils which are adversely affected by the presence of soluble salts.

P - Stoniness
Comprised of soils sufficiently stony to significantly hinder tillage, planting, and harvesting operations. Stony soils are usually less productive than comparable non-stony soils.

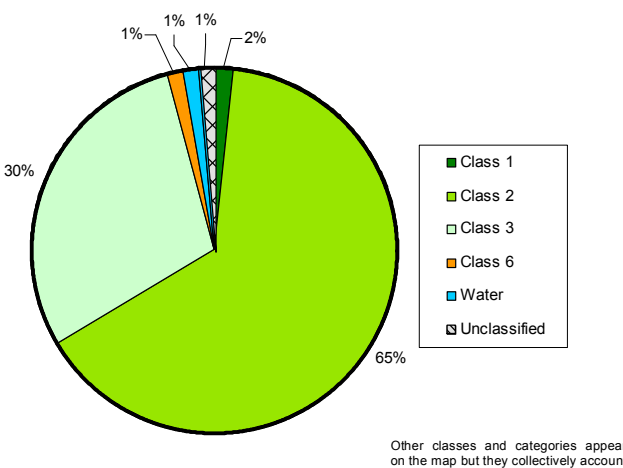
R - Consolidated bedrock
Includes soils where the presence of bedrock near the surface restricts their agricultural use. Consolidated bedrock at depths greater than 1 metre from the surface is not considered as a limitation, except on irrigated lands where a greater depth of soil is desirable.

T - Topography
Includes soils where topography is a limitation. Both the percent of slope and the pattern or frequency of slopes in different directions are important factors in increasing the cost of farming over that of smooth land, in decreasing the uniformity of growth and maturity of crops, and in increasing the hazard of water erosion.

W - Excess water
Comprised of soils where excess water other than that brought about by inundation is a limitation to their use for agriculture. Excess water may result from inadequate soil drainage, a high water table, seepage or runoff from surrounding areas.

X - Cumulative minor adverse characteristics
Includes soils having a moderate limitation caused by the cumulative effect of two or more adverse characteristics which singly are not serious enough to affect the class rating.

Proportion of Agricultural Capability Classes in the R.M. of Ritchot



Manitoba Agriculture, Food and Rural Initiatives
Agri-Environment Knowledge Centre
Soil & Landscape Management Section
Report No. D89 2011
www.gov.mb.ca/agriculture/soilwater/soilsurvey/index.html

Manitoba Agriculture, Food and Rural Initiatives makes every effort to ensure that soil survey data and interpretations are accurate, verified, and up-to-date. However, as data is continuously updated, sorted and verified, future updates may contain additional information.
Data Source: 1:20,000 Detailed Soil Survey (MFR)

Survey Scale - 1:20,000
Map Scale - 1:50,000
Projection: NAD 1983, UTM Zone 14N

