

Soil Productivity Score Card

When renting or buying land, the most important factor to take into consideration is how large a crop can be reproduced on this soil.

This Soil Productivity Score Card will help you to estimate soil productivity in the field. It is based chiefly on soil characteristics. Eleven soil and climatic characteristics are given in the score card. You may choose field ratings from the four classes of numerical ratings, which are listed opposite these characteristics. The scores of the individual fields will give you a total farm score.

PERTINENT DATA	
Name of Owner:	
Name of Tenant:	
Location of farm:	County _____ Township _____ Fire # _____ Lot # _____ Conc. _____
Total acres in farm:	Acres in tillable fields:
Buildings:	REMARKS
Permanent Pasture:	
Woodlots:	
Past Management:	

How To Use The Score Card

Ranking the productivity of your soil begins with accurate maps, showing the location and number of acres in each field on the farm. We recommend Agri-Food Laboratories Field Mapping Services which uses the latest GPS/GIS Technologies to map boundaries and field features and collect soil samples. Also provide a suitable tool for examining the subsoil, such as a soil sampling tube, auger, or spade.

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Selecting Numerical Ratings of Soil Productivity Factors

After you have observed the physical characteristics of the field, rate the field by selecting one of the four numerical values listed for each of the soil productivity factors. Place this number in the appropriate column for each field. Add the ratings for each field to get the total field rating, as shown in the sample column. Multiply this total rating by the number of acres in the field to get the FIELD SCORE. Add all of the field scores together to get the total farm rating. The FARM SCORE is then obtained by dividing the total farm rating by the number of acres in all of the fields observed. Highly productive farms will rate above 75.

Many fields are not uniform. One part of a field may fall in one class and another portion in a higher or lower class. When this happens the two portions are rated separately and the average rating taken. For example, a 10-acre field may include 5 acres with a slope of 15% and a slope rating of 0. The remaining 5 acres may have a slope of 2%, and a slope rating of 8. This would result in an average slope rating of 4 for the field.

Degree of slope may be estimated or determined by hand level or Inclinometer. **Stoniness** and **Degree of Erosion** may be estimated as indicated in the chart. **Texture** is determined by the feel of the moistened soil between the fingers. Subsoil is examined with a sampling tube, auger or spade to rate for **Wetness** and **Droughtiness**. As explained under **Wetness**, depth to mottling is important. **Mottling** is the spotted grey and brown colour of the wet subsoil. **Droughtiness** is estimated by depth to sand and gravel, as indicated. **Organic matter** is estimated by colour of the surface soil or the amount can be determined chemically in the laboratory. **Soil Reaction**, **Available Phosphorus**, and **Available Potassium** contents can be determined by soil tests in the laboratory. The number of Frost-Free days may be read off the map in the lower left-hand corner of the chart.

Walk over the field, examining the surface and subsoil characteristics listed in the chart. Then give a numerical rating to each of the soil and climatic characteristics which you have observed.

Productivity Ratings For Farms

Very High	100
High	80 - 100
Medium	75 - 80
Low	Less than 75

Fields of the best agricultural soil under good management may receive a rating as high as 100. Usually individual fields of productive soils rate 80 or better. Good farms usually score above 75

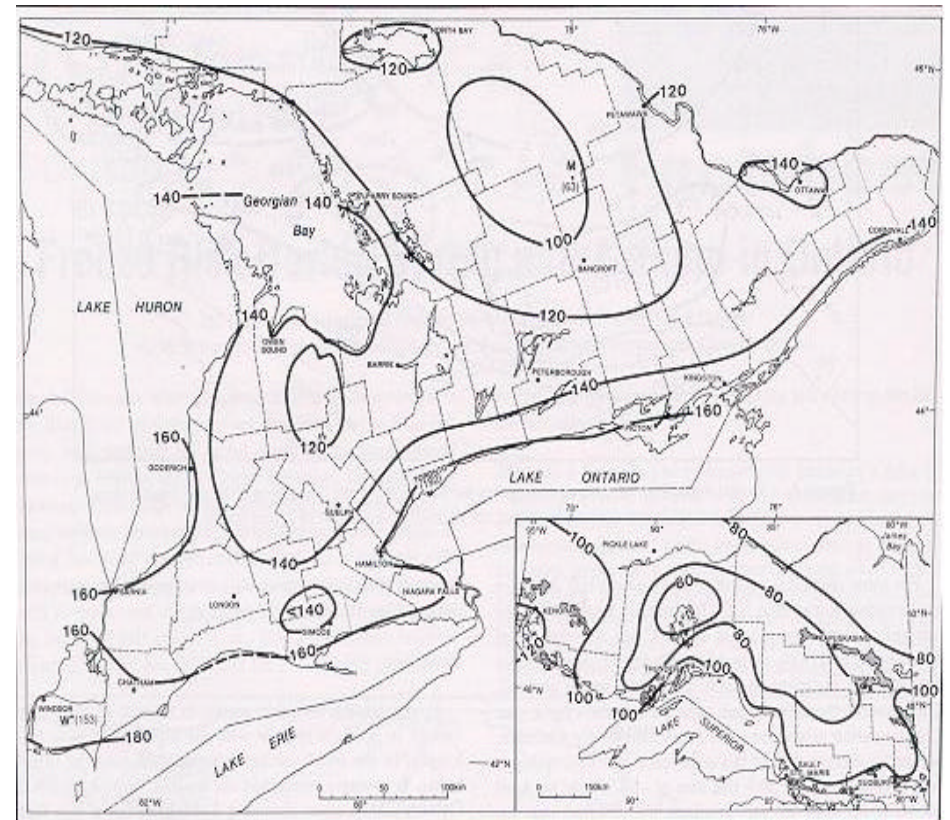


Figure 1.
Frost Free Map (Days)

Soil and Climatic Productivity Factors		SELECT SUITABLE VALUES (MINUS OR PLUS) GIVEN BELOW FOR PRODUCTIVITY FACTORS RIGHT UNDER FIELD NUMBER				Field Ratings																	
						AND PLACE AT Sample I.D.																	
Slope*		0 Very steep (more than 15%*)	+1 Steep (8% to 15% slopes*)	+6 Rolling (4% to 8% slopes*)	+8 Level (0% to 4% slopes*)																		
Stoniness		-20 Excessive (Many large Stones throughout the soil)	0 Moderate (many stones; but it is profitable to clear)	+6 Slight (scattered stones)	+8 Very slight to none (less than 1/2 load stones per acre)																		
Degree of Erosion		-20 Severe (gullies; or subsoil exposed)	0 Moderate (few gullies; little subsoil exposed)	+6 Slight (no gullies; some sheet erosion)	+8 No erosion (surface soil in place)																		
Texture of Surface Soil		-20 Gravel (pebbles and small stones)	0 Sand (sand and sandy loam; gritty)	+10 Clay (clay and clay loam; sticky when wet)	+15 Loams and muck (silt loam, very fine sandy loam, loam, muck)																		
Wetness**		-20 Excessive (soil mottled** to surface; marsh plants)	0 Moderate (subsoil mottled** below 10"; low-lying)	+10 Slight (subsoil mottled** below 20"; gentle slopes)	+15 Well drained (no mottling** in subsoil)																		
Droughtiness: Depth to Bedrock, Hardpan, Gravel or Sand		-20 Excessive (Depth of 1 foot or less)	0 Moderate (Depth of 1 to 2 feet)	+6 Slight (Depth of 2 to 3 feet)	+8 Not droughty (Depth of 3 feet or more)																		
Organic Matter Content		0 Very low (light yellowish or reddish; less than 1% organic matter)	+2 Low (light grey or brown; 1% to 2% organic matter)	+6.5 Medium (dark grey; 2% to 4% organic matter)	+10 High (dark grey or black; over 4% organic matter)																		
Soil Reaction	For General Farm Crops	0 Very strongly acid (pH below 4.5)	+1 Strongly acid (pH 4.5 to 5.4)	+6.5 Medium acid (pH 5.5 to 6.2)	+10 Very slightly acid to alkaline (pH 6.3 to 8.0)																		
	For Acid-loving Crops	Alkaline (pH above 7.5)	Nearly neutral or strongly acid (pH 6.3 to 7.5 or below 5.0)	Medium acid (pH 5.6 to 6.2)	Strongly acid (pH 5.0 to 5.5)																		
Available Phosphorus (ppm)		0 Very low (less than 5)	+1.5 Low (5 to 10)	+3 Medium (10 to 20)	+5 Adequate (more than 20)																		
Available Potassium Content (ppm)		0 Very low (0 to 50)	+1.5 Low (51 to 70)	+3 Medium (70 to 120)	+5 Adequate (more than 120)																		
Number of Frost-Free Days per year		0 80 to 109 days	+3 110 to 129 days	+6 130 to 139 days	+8 140 or more days																		
<p>* An 8% slope rises or falls 8 feet in 100 feet of distance. A 15% slope rises or falls 15 feet in 100 feet of distance.</p> <p>** The term "mottled" (under Wetness, above) refers to the spotted brown and grey colour of wet soil.</p> <p>† For vegetable crops and potatoes, double the amounts of available phosphorus and available potassium under each rating.</p> <p>†† Rate low-lying soils, such as peats and mucks, one class lower with regard to number of frost-free days.</p>					Total Field Rating	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
					Number of Acres in Field																		
					Field Score (Field Rating multiplied by no. of acres)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					Total Farm Rating (Sum of field scores)	0																	
					Total Number of Acres in Fields	0																	
					TOTAL FARM SCORE (Total Farm Rating divided by total Number of Acres in Fields)	0																	