

CANADA LAND INVENTORY

SOIL CAPABILITY FOR AGRICULTURE

DESCRIPTIVE LEGEND

In this classification the mineral soils are grouped into seven classes on the basis of soil survey information. Soils in classes 1, 2, 3 and 4 are considered capable of sustained use for cultivated field crops, those in classes 5 and 6 only for perennial forage crops and these in class 7 for neither.

Some of the important factors on which the classification is based are:

- The soils will be well managed and cropped, under a largely mechanized system.
- Land requiring improvements, including clearing, that can be made economically by the farmer himself, is classed according to its limitations or hazards in use after the improvements have been made. Land requiring improvements beyond the means of the farmer himself is classed according to its present condition.
- The following are not considered: distances to market, kind of roads, location, size of farms, type of ownership, cultural patterns, skill or resources of individual operators, and hazard of crop damage by storms.

The classification does not include capability of soils for trees, tree fruits, small fruits, ornamental plants, recreation, or wildlife.

The classes are based on intensity, rather than kind, of their limitations for agriculture. Each class includes many kinds of soil, and many of the soils in any class require unlike management and treatment.

CLASS 1 SOILS IN THIS CLASS HAVE NO SIGNIFICANT LIMITATIONS IN USE FOR CROPS.

The soils are deep, are well to imperfectly drained, hold moisture well, and in the virgin state were well supplied with plant nutrients. They can be managed and cropped without difficulty. Under good management they are moderately high to high in productivity for a wide range of field crops.

CLASS 2 SOILS IN THIS CLASS HAVE MODERATE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE MODERATE CONSERVATION PRACTICES.

The soils are deep and hold moisture well. The limitations are moderate and the soils can be managed and cropped with little difficulty. Under good management they are moderately high to high in productivity for a fairly wide range of crops.

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CLASS 3 SOILS IN THIS CLASS HAVE MODERATELY SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE SPECIAL CONSERVATION PRACTICES.

The limitations are more severe than for Class 2 soils. They affect one or more of the following practices: timing and ease of tillage; planting and harvesting; choice of crops; and methods of conservation. Under good management they are fair to moderately high in productivity for a fair range of crops.

CLASS 4 SOILS IN THIS CLASS HAVE SEVERE LIMITATIONS THAT RESTRICT THE RANGE OF CROPS OR REQUIRE SPECIAL CONSERVATION PRACTICES, OR BOTH.

The limitations seriously affect one or more of the following practices: timing and ease of tillage; planting and harvesting, choice of crops; and methods of conservation. The soils are low to fair in productivity for a fair range of crops but may have high productivity for a specially adapted crop.

CLASS 5 SOILS IN THIS CLASS HAVE VERY SEVERE LIMITATIONS THAT RESTRICT THEIR CAPABILITY TO PRODUCING PERENNIAL FORAGE CROPS, AND IMPROVEMENT PRACTICES ARE FEASIBLE.

The limitations are so severe that the soils are not capable of use for sustained production of annual field crops. The soils are capable of producing native or tame species of perennial forage plants. and may be improved by use of farm machinery. The improvement practices may include clearing of bush, cultivation, seeding, fertilizing, or water control.

CLASS 6 SOILS IN THIS CLASS ARE CAPABLE ONLY OF PRODUCING PERENNIAL FORAGE CROPS, AND IMPROVEMENT PRACTICES ARE NOT FEASIBLE.

The soils provide some sustained grazing for farm animals, but the limitations are so severe that improvement by use of farm machinery is impractical. The terrain may be unsuitable for use of farm machinery, or the soils may not respond to improvement, or the grazing season may be very short.

CLASS 7 SOILS IN THIS CLASS HAVE NO CAPABILITY FOR ARABLE CULTURE OR PERMANENT PASTURE.

This class also includes rockland, other non-soil areas, and bodies of water too small to show on the maps.

CLASS O ORGANIC SOILS (Not placed in capability classes).

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SUBCLASSES

Excepting Class 1, the classes are divided into subclasses on the basis of kinds of limitation. The subclasses are as follows:

SUBCLASS C: adverse climate- The main limitation is low temperature or low or poor distribution of rainfall during the cropping season, or a combination of these.

SUBCLASS D: undesirable soil structure and/or low permeability –The soils are difficult to till, absorb water slowly or the depth of the rooting zone is restricted.

SUBCLASS E: erosion damage - Past damage from erosion limits agricultural use of the land.

SUBCLASS F: fertility - Low natural fertility due to lack of available nutrients, high acidity or alkalinity, low exchange capacity, high levels of calcium carbonate or presence of toxic compounds.

SUBCLASS I : inundation - Flooding by streams or lakes limits agricultural use.

SUBCLASS M: moisture - A low moisture holding capacity, caused by adverse inherent soil characteristics, limits crop growth. (Not to be confused with climatic drought).

SUBCLASS N: salinity - The soils are adversely affected by soluble salts.

SUBCLASS P: stoniness – Stones interfere with tillage, planting, and harvesting.

SUBCLASS R: shallowness to solid bedrock - Solid bedrock is less than three feet from the surface.

SUBCLASS S: soil limitations - A combination of two or more subclasses D. F. M and N..

SUBCLASS T: adverse topography - Either steepness or the pattern of slopes limits agricultural use.

SUBCLASS W: excess water - Excess water other than from flooding limits use for agriculture. The excess water may be due to poor drainage, a high water table, seepage or runoff from surrounding areas.

SUBCLASS X: minor cumulative limitations-Soils having a moderate limitation due to the cumulative effect of two or more adverse characteristics which individually would not affect the class rating. (This subclass is always used alone and only one class below the best possible in a climatic sub- region).

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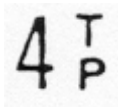
CONVENTIONS

Large arabic numerals denote capability classes.

Small arabic numerals placed after a class numeral give the approximate proportion of the class out of a total of 10. Letters placed after class numerals denote the subclasses, i.e. limitations.

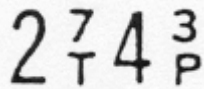
EXAMPLES

An area of Class 4 land with topography and stoniness limitations is shown thus:



4^T_P

An area of Class 2 with topographic limitation, and Class 4 stoniness limitation, in the proportions of 7:3 is shown thus:



2⁷_T 4³_P

N.B. The color used for a complex area is determined by the first digit of the symbol. Generally the dominant class appears first in a complex symbol. However, in complexes of two arable classes (1-4) and one non arable class (5-7), the arable classes are shown first if they total one half or more of the map unit.

This pattern is overprinted on the color in complex areas, except those having ratios of 8:2, 8:1:1 and 9:1.

