

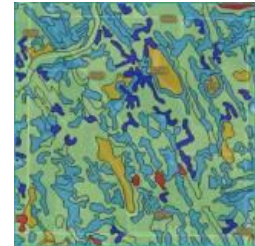
Crop Productivity Index Ratings for Minnesota

Crop productivity index ratings from the Natural Resources Conservation Service provide a relative ranking of soils based on their potential for intensive crop production. An index can be used to rate the potential yield of one soil against that of another over a period of time. The index ranges from 0 to 100. The higher the number, the higher the production potential.

https://www.mngeo.state.mn.us/chouse/soil_cpi.html

Computing the ratings

CPI ratings do not take into account climatic factors, such as the differences in precipitation or growing degree days across Minnesota. The ratings are based on physical and chemical properties of the soils and on such hazards as flooding or ponding. Available water capacity, reaction (pH), slope, soil moisture status, cation-exchange capacity (CEC), organic matter content, salinity, and surface fragments are the major properties evaluated when CPI ratings are generated. The soil properties selected are those that are important for the production of corn.



All soil component mapping phases in Minnesota were evaluated using the Cropland Productivity rule in the National Soil Information System (NASIS), and a CPI was generated for each phase. A statistical mean CPI value was created for each soil component mapping phase. All map units were populated with each component's mean CPI value, and a weighted average CPI was created for each soil map unit in the state. An individual map unit (for example, Canisteo clay loam, 0 to 2 percent slopes) will have the same CPI value wherever that map unit occurs throughout the state.

When the soils are rated, the following assumptions are made:

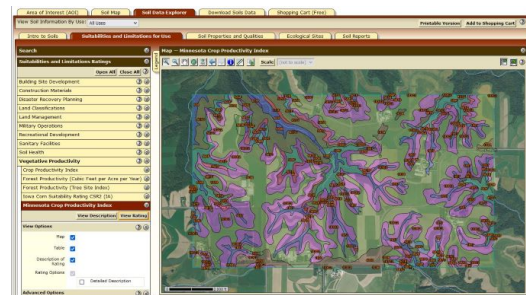
1. adequate management
2. natural weather conditions (no irrigation)
3. artificial drainage where required
4. no climatic factors considered
5. no land leveling or terracing.

Even though predicted average yields will change with time, the productivity indices are expected to remain relatively constant in relation to one another over time.

Obtaining CPI maps and tables ([images/cpi_screen.jpg](#))

Maps and tables

The Natural Resources Conservation Service provides maps and tables of crop productivity index ratings via the [Web Soil Survey](https://websoilsurvey.nrcs.usda.gov/app/) (<https://websoilsurvey.nrcs.usda.gov/app/>).



After choosing your Area of Interest and creating your soil map, go to the "Soil Data Explorer" tab and then the "Suitabilities and Limitations Ratings" tab. Choose "Vegetative Productivity", then choose "**Minnesota** Crop Productivity Index" (*not* "Crop Productivity Index"), and then click the "View Rating" button. Maps and tables can be saved or printed in PDF reports.

- Click on graphic to the right for a larger view of a sample map.
- Click on graphic below for a larger view of a sample table. Table content can be copied and pasted into a spreadsheet or other document.

Area of Interest (AOI)

Soil Map

Soil Data Explorer

Download Soils Data

Shopping Cart (Free)

View Soil Information By User: All Users

Printable Version

Add to Shopping Cart

Intro to Soils

Suitabilities and Limitations for Use

Soil Properties and Qualities

Ecological Sites

Soil Reports

Search

Tables — Minnesota Crop Productivity Index — Summary By Map Unit

Suitabilities and Limitations Ratings

Summary by Map Unit — Winona County, Minnesota (MN169)

Open All

Close All

Map unit symbol

Map unit name

Rating

Acres in AOI

Percent of AOI

Building Site Development

103A

Seaton silt loam, driftless ridge, 1 to 3 percent slopes

90

11.7

0.5%

Construction Materials

103B

Seaton silt loam, driftless ridge, 2 to 6 percent slopes

85

931.9

36.4%

Disaster Recovery Planning

103C2

Seaton silt loam, driftless ridge, 6 to 12 percent slopes, moderately eroded

71

720.5

28.1%

Land Classifications

103D2

Seaton silt loam, driftless ridge, 12 to 20 percent slopes, moderately eroded

62

11.9

0.5%

Land Management

173F

Frontenac loam, 30 to 40 percent slopes

11

5.2

0.2%

Military Operations

174D2

Gale silt loam, 12 to 20 percent slopes, moderately eroded

47

0.6

0.0%

Recreational Development

301A

Lindstrom silt loam, 1 to 3 percent slopes

99

2.1

0.1%

Sanitary Facilities

369C

Waubek silt loam, 6 to 12 percent slopes

80

2.4

0.1%

Soil Health

401B

Mt. Carroll silt loam, 2 to 6 percent slopes, moderately eroded

90

65.2

2.5%

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(images/cpi_table.jpg)