

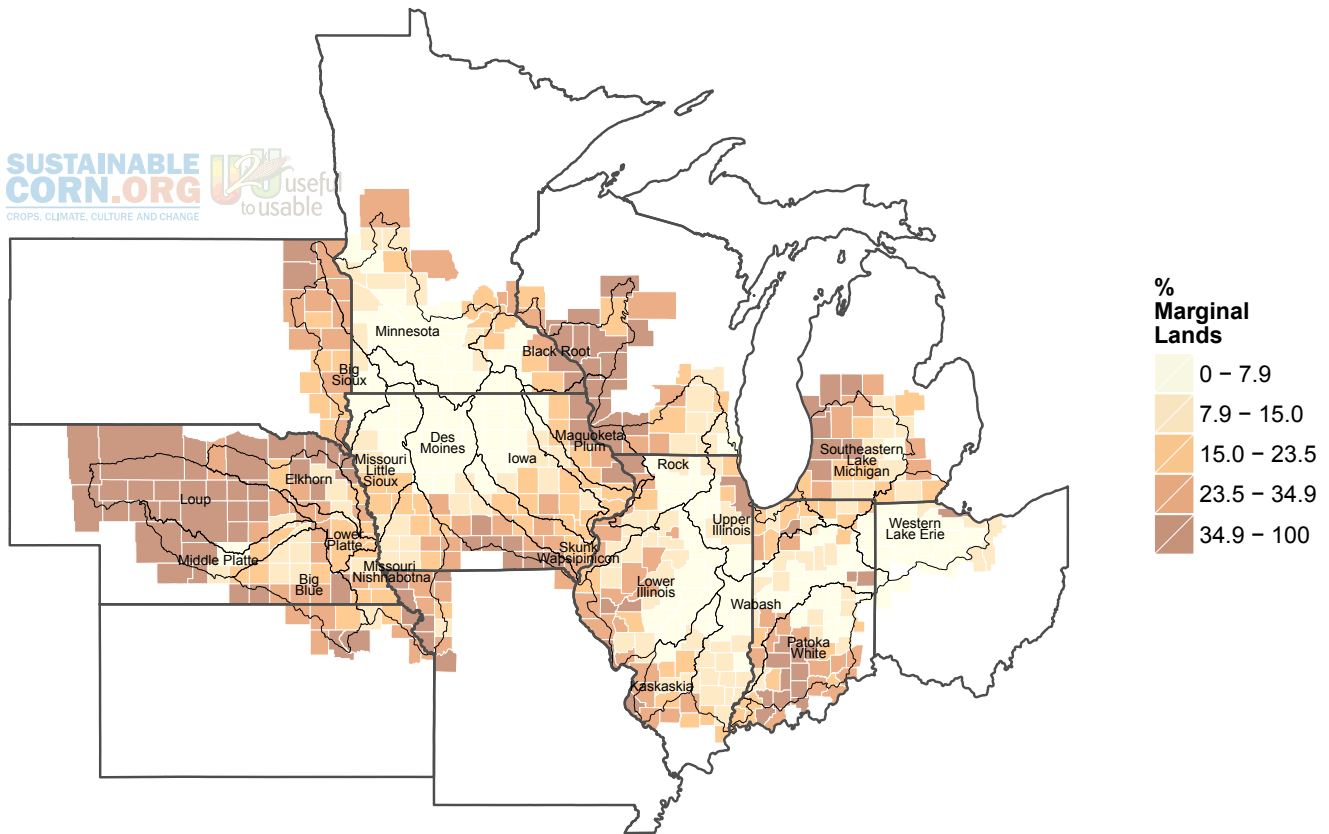
## 9 Marginal Soils

The characteristics of soils affect their ability to grow crops to meet human needs for food, fiber, and fuels and their capacity to regulate the ecosystem (nutrient filtration, retention, and cycling; carbon retention and sequestration; and regulation of the water balance). The USDA Natural Resources Conservation Service (NRCS) has developed a land capability classification system (see Table 15) based on the land's ability to grow crops and pasture plants.

Map 70 shows the percent of non-irrigated marginal lands by county utilizing the NRCS soil capability classes 4–8. These are marginal lands with those soil classes having severe limitations which restrict type of plants and require very careful management for growing conditions (class 4) to limitations that preclude using the land for commercial plant production (class 8). Data for each county were obtained from the Soil Survey Geographic (SSURGO) database and the percent of marginal lands for each county was computed by summing the capability acreages for classes 4–8 for each county and creating a proportion of all acres in the county.

**Table 15. Land capability classification and definitions. Source: U.S. Department of Agriculture, Natural Resources Conservation Service (2012)**

Capability Classification	Definition
1	Soils have slight limitations that restrict their use.
2	Soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
3	Soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
4	Soils have very severe limitations that restrict the choice of plants or require very careful management, or both.
5	Soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
6	Soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
7	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
8	Soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for aesthetic purposes.



Map 70. Percentage of non-irrigated marginal lands (in soil capability classes 4–8), by county.