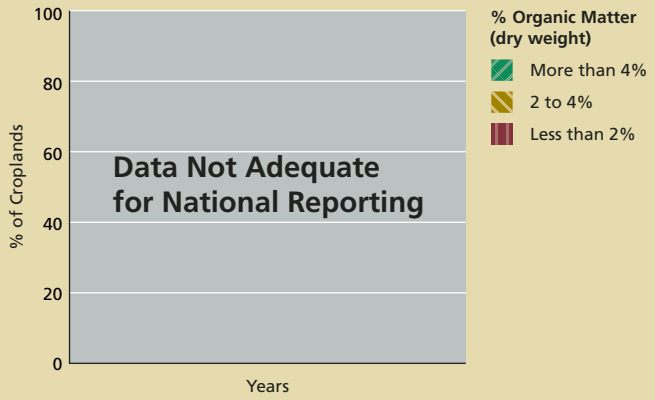
⊖ Soil Organic Matter

What Is This Indicator, and Why Is It Important? This indicator reports how much organic matter—partially decayed plant and animal matter—there is in the top 4–6 inches of cropland soil. This will be reported nationally over time, and by region for the most recent year of data.

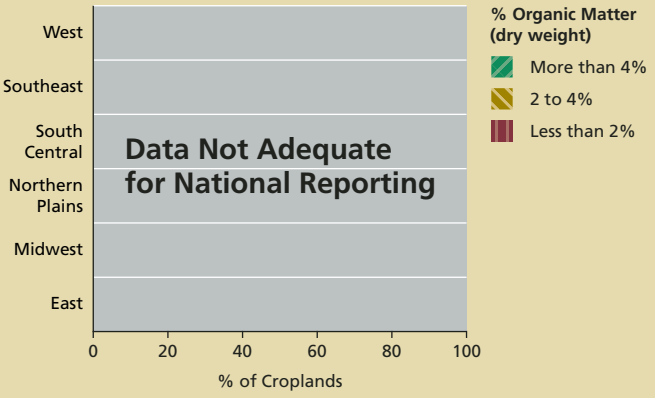
Organic matter helps the soil hold water and supplies nutrients, which are crucial for crop production; it also protects against erosion and helps support a healthy and diverse set of microscopic plants and animals. Organic matter content, erosion (p. 100), soil salinity (p. 101), and soil biological condition (p. 102) are key indicators of soil quality, reflecting the effect of agriculture on soils and the influence of changing crop and soil management practices.

Soil organic matter is usually measured as the percentage of organic matter (by dry weight) in the top 4–6 inches of the soil, where human activities have most influence on soil condition. While there are large regional differences in soil organic matter content because of climate and other factors, changes in this indicator nationally and within regions will provide important information on the effect of cropland management.

Soil Organic Matter



Soil Organic Matter, by Region



Why Can't This Indicator Be Reported at This Time? There are baseline estimates of the amount of organic matter in soils across the United States through Soil Survey reports produced by the USDA Natural Resources Conservation Service, but there is no mechanism for systematic monitoring of changes in these amounts. Long-term observations of changes in organic matter resulting from different management practices are under way in a number of research plots and other locations, but these do not provide an adequate basis for nationwide monitoring. In addition, efforts are under way to develop techniques to use satellite data to estimate organic matter in surface soils.

The technical note for this indicator is on page 234.