

Agricultural Practices and Soil Health in the Conterminous United States



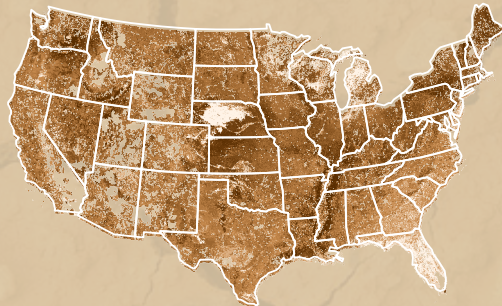
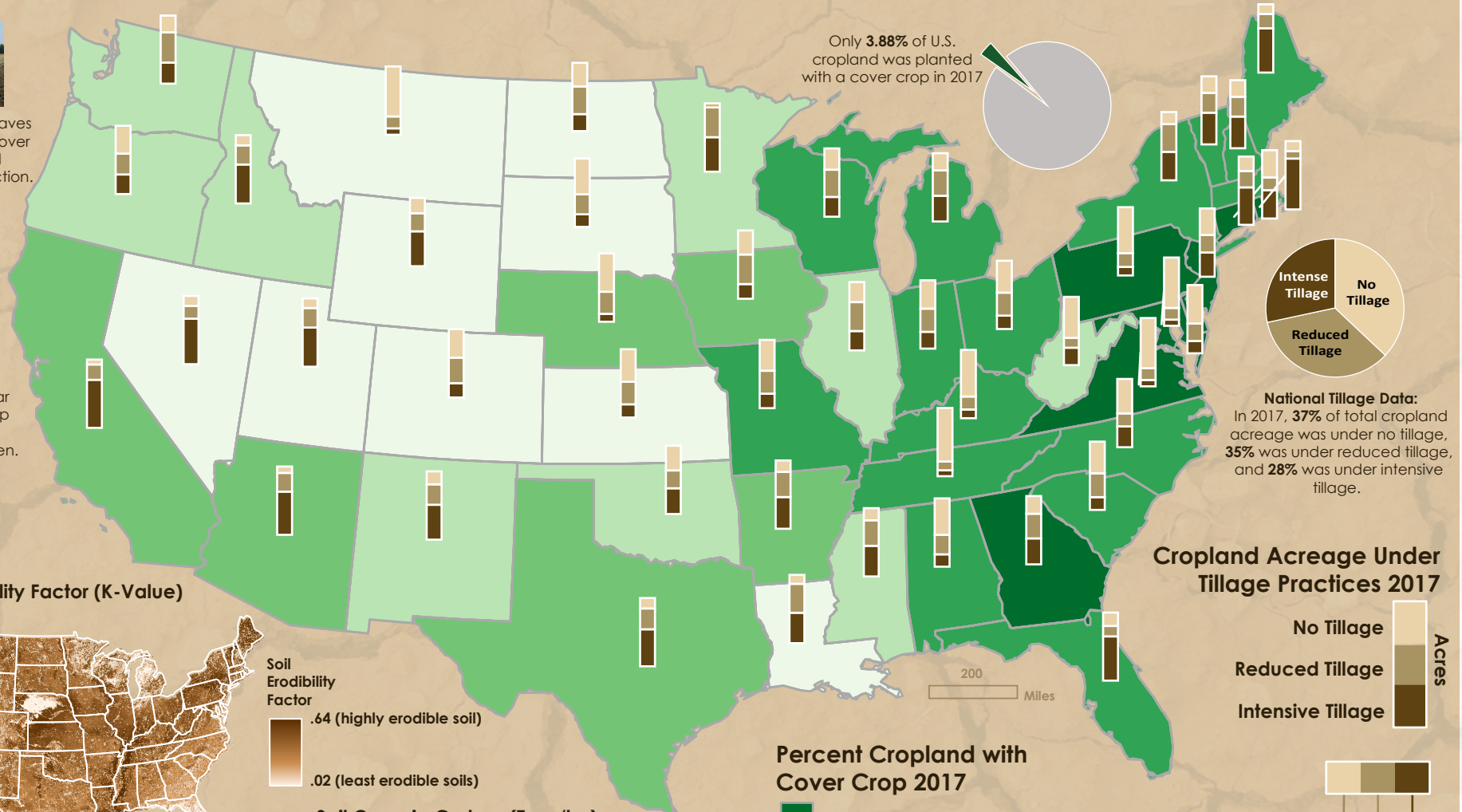
Cover cropping is a practice in which farmers plant a crop following the harvest of a cash crop in order to keep the soil covered. This practice improves soil health by reducing soil erosion, conserving soil moisture, improving soil structure, and aids in nutrient cycling. **Tillage** is the process of inverting soil to incorporate crop residue or amendments, prepare seed beds, and manage weeds. Common tillage practices include intensive tillage (conventional tillage), reduced tillage (conservation tillage), and no tillage. Soil health is directly affected by tillage, which can result in soil erosion, soil compaction, loss of soil organic matter, and CO2 emissions.



Intensive tillage leaves no soil cover and over time degrades soil structure and function.



Clover is a popular legume cover crop because of its ability to fix nitrogen.



The Soil Erodibility Factor (K-Value) is defined by the NRCS as quantifying "the susceptibility of soil particles to detachment and movement by water. This factor is used in the universal soil loss equation (USLE) to calculate soil loss by water."

Soil plays an important role in sequestering carbon; soil organic carbon is CO2 that has been removed from the atmosphere via plant photosynthesis. Tillage disrupts soil structure and releases carbon back into the atmosphere.

Reducing tillage and planting cover crops can help minimize soil erosion and improve the soil's ability to sequester carbon.



No Tillage: Tillage is not used.

Reduced Tillage: Tillage in a reduced capacity (such as less frequent use of tillage, smaller area affected, and tilling at a shallow depth). USDA defined as leaving a minimum of 30% crop residue on soil surface.

Intensive Tillage: Referred to as conventional tillage, and can involve tilling multiple times to turn over crop residue, prepare seed beds, and manage weeds. USDA defined as leaving less than 30% crop residue on soil surface.

