

agriculture: The practice of cultivating soil, producing crops, and raising livestock for human use and consumption.

cropland: Land that people use to raise plants for food and fiber.

rangeland: Land used for grazing livestock.

traditional agriculture: Agriculture in which human and animal muscle power, along with hand tools and simple machines, performs the work of cultivating, harvesting, storing, and distributing crops.

industrial agriculture: Agriculture that uses large-scale mechanization and fossil fuel combustion, enabling farmers to replace horses and oxen with faster and more powerful means of cultivating, harvesting, transportation, and processing crops. Other aspects include large-scale irrigation and use of inorganic fertilizers. Use of chemical herbicides and pesticides reduces competition from weeds and herbivory by insects.

monocultures: The uniform planting of a single crop over a large area.

polycultures: The planting of multiple crops in a mixed arrangement or in close proximity. An example is some traditional Native American farming that mixed maize, beans, squash, and peppers.

sustainable agriculture: Agriculture that can be practiced in the same way and in the same place far into the future. Sustainable agriculture does not deplete soils faster than they form, nor reduce the clean water, genetic diversity, pollinators, and other resources essential to long-term crop and livestock production.

soil: A complex plant-supporting system consisting of disintegrated rock, organic matter, air, water, nutrient, and microorganisms.

parent material: The base geologic material in a particular location.

bedrock: The continuous mass of solid rock that makes up Earth's crust.

weathering: The process by which rock and minerals are broken down, turning large particles into smaller particles. It may be preceded by physical, chemical, or biological means.

humus: A dark, spongy, crumbly mass of material made up of complex organic compounds, resulting from the partial decomposition of organic matter.

soil horizon: A distinct layer of soil.

soil profile: The cross-section of a soil as a whole, including all soil horizons from the surface to the bedrock.

leaching: The process by which minerals dissolved in a liquid (usually water) are transported to another location (generally downward through soil horizons).

topsoil: That portion of the soil that is most nutritive for plants and is thus of the most direct importance to ecosystems to agriculture. It is also known as the A horizon.

clay: Sediment consisting of particles less than 0.002 mm in diameter.

silt: Sediment consisting of particles 0.002 -0.005 mm in diameter.

sand: Sediment consisting of particles 0.005-2.0 mm in diameter.

loam: Soil with a relatively even mixture of clay, silt, and sand-sized particles.

slash-and-burn: A mode of agriculture frequently used in the tropics in which natural vegetation is cut and then burned, adding nutrition to the soil, before farming begins. Generally farmers move on to another plot once the soil fertility is depleted.

irrigation: The artificial provision of water to support agriculture.

waterlogging: The saturation of soil by water, in which the water table is raised to the point that water bathes plant roots. It deprives roots of access to gases, essentially suffocating them and damaging or killing the plants.

salinization: The buildup of salts in surface soil layers.

inorganic fertilizer: A fertilizer that consists of mined or synthetically manufacture mineral supplements. Inorganic fertilizers are generally more susceptible than organic fertilizers to leaching and runoff and may be more likely to cause unintended off-site impacts.

organic fertilizer: A fertilizer made up of natural materials (largely the remains of wastes of organisms) such as animal manure, crop residues, charcoal, fresh vegetation and compost.

compost: A mixture produced when decomposers break down organic matter, such as food and crop waste, in a controlled environment.

precision agriculture: The use of technology to precisely monitor crop conditions, crop needs, and resource use to maximize production while minimizing waste of resources.

pollination: A plant-animal interaction in which one organism (for example, a bee or a hummingbird) transfers pollen (containing males sex cells) from flower to flower, fertilizing ovaries (containing female sex cells) that grow into fruits with seeds.

land degradation: A general deterioration of land that diminishes its productivity and biodiversity, impairs the functioning of its ecosystems, and reduces the ecosystem services the land can offer us.

soil degradation: A deterioration of soil quality and decline in soil productivity, resulting primarily from forest removal, cropland agriculture and overgrazing of livestock.

erosion: The removal of material from one place and its transport to another by the action of wind or water.

deposition: The arrival of eroded soil at a new location.

desertification: A form of land degradation in which more than 10% of a land's productivity is lost due to erosion, soil compaction, forest removal, overgrazing, drought, salinization, climate change, water depletion, or other factors. Severe cases can result in the expansion of the desert areas or creation of new ones.

Dust Bowl: An area that loses huge amount of topsoil to wind erosion as a result of drought and/or human impact. First used to name the region in the North American Great Plains severely affected by drought and topsoil loss in the 1930s. The term is now also used to describe that historical event and others like it.

crop rotation: The practice of alternating the kind of crop grown in a particular field from one season or year to the next.

contour farming: The practice of plowing furrows sideways across a hillside, perpendicular to its slope, to help prevent the formation of rills and gullies. The technique is so named because the furrows follow the natural shape of the land.

terracing: The cutting of level platforms, sometimes with raised edges, into steep hillsides to contain water from irrigation and precipitation. Terracing transforms slopes into series of steps like a staircase, enabling farmers to cultivate hilly land while minimizing their loss of soil to water erosion.

intercropping: Planting different types of crops in alternating bands or other spatially mixed arrangements.

shelterbelts: A row of trees or other tall perennial plants that are planted along the edges of farm fields to break the wind and thereby minimize wind erosion.

conservation tillage: Agriculture that limits the amount of tilling (plowing, disking, harrowing, or chiseling) of soil.

no-till: Agriculture that does not involve tilling (plowing, disking, harrowing, or chiseling) the soil. The most intensive form of conservation tillage.

overgrazing: The consumption by too many animals of plant cover, impeding plant regrowth and replacement of biomass. It can worsen damage to soils, natural communities, and the land's productivity for further grazing.

Conservation Reserve Program: U.S. policy in farm bills since 1985 that pays farmers to stop cultivating highly erodible cropland and instead place it in conservation reserves planted with grasses and trees.