



# U.S. FARMERS PROTECT & PRESERVE THE SOIL WITH CONSERVATION TILLAGE

The use of **conservation tillage** supports U.S. soybean farmers in their work to produce more soybeans on fewer acres while incorporating sustainable practices.

**Conservation tillage** practices are defined as tillage that leaves at least 30% of the field under residue cover, including:



**No-till/reduced till** – Soil is left undisturbed post-harvest, and seed is planted directly into the previous crop’s residue, disturbing less than 10% of the soil surface.



**Strip-till** – Up to 10% of a crop-residue covered field is tilled in narrow strips before planting to create the seedbed.



**Mulch-till** – Crop residue is left on the surface until planting when it is partially incorporated along the planting rows.



Conservation tillage practices leave crop residue in the field to protect soil from wind and water erosion. Typically, 30% residue cover reduces soil erosion rates by 50 to 60%, compared to erosion rates in fields tilled with traditional methods.<sup>1</sup> Less erosion means greater soil retention and protection, creating a favorable environment for root system development and plant nutrient delivery.

Conservation tillage also protects the soil from compaction, allowing water to infiltrate the soil instead of running off. Conservation tillage can improve water infiltration up to 30 to 45% more than conventional tillage depending on the soil type.<sup>2</sup> More water is then retained where it is needed to support plant growth and microbial soil activity. Also, there is less chance that run-off water will carry soil and crop protection inputs to nearby surface water sources or other unintended destinations.



The high adoption of conservation tillage practices by U.S. Soy farmers provides many benefits to the farm, especially the capacity for adaptation to climate change. These practices are also a part of U.S. Soy farmers long-term impact towards many of the U.N. Sustainable Development Goals (SDG), especially SDG 2—Zero Hunger. Specifically, SDG Target 2.4, says, “By 2030, ensure sustainable food production systems and **implement resilient agricultural practices** that increase **productivity** and production, that help **maintain ecosystems**, that strengthen capacity for **adaptation to climate change**, extreme weather, drought, flooding and other disasters and that **progressively improve land and soil quality.**”

1. Jerry V Mannering, “Conservation Tillage and Water Quality,” Water Quality, January 1995, <https://www.extension.purdue.edu/extmedia/WQ/WQ-20.html>.

2. Hawkins, Gary L, Dana Sullivan, and Clint Truman. “Water Savings through Conservation Tillage : USDA ARS.” Water Savings Through Conservation Tillage. <https://www.ars.usda.gov/ARSUserFiles/60480500/WaterSavingsThroughConservationTillage.pdf>.

**About U.S. Soybean Export Council (USSEC):** Soybeans are the United States’ No. 1 food and agricultural export. The U.S. Soybean Export Council (USSEC) is focused on building preference, improving the value, and enabling market access for the use of U.S. Soy for human consumption, aquaculture, and livestock feed in 82 countries across the world. USSEC is a dynamic partnership of U.S. soybean producers, processors, commodity shippers, merchandisers, allied agribusinesses, and agricultural organizations; and connects food and agriculture industry leaders through a robust membership program. USSEC is farmer-funded by checkoff funds invested by the United Soybean Board, various state soybean councils, the food and agriculture industry, and the American Soybean Association’s investment of cost-share funding provided by U.S. Department of Agriculture’s (USDA) Foreign Agricultural Service (FAS). To learn more, visit [www.ussec.org](http://www.ussec.org) and [www.ussoy.org](http://www.ussoy.org), and engage with us on USSEC’s LinkedIn, Twitter, Facebook, and U.S. Soy’s LinkedIn, Twitter, Facebook, Instagram and YouTube.

