

Agriculture 101

The agricultural industry will play a critical role in our effort to mitigate climate change and conserve our nation's abundant natural resources, all while continuing to feed our growing nation.



Overview

- Regenerative agriculture is a system of farming principles that improves soil health, sequesters carbon, and revitalizes ecosystem services. Practices include conservation tillage and no-till farming, crop rotation, cover crops, livestock integration, and rotational grazing.
- Regenerative agriculture is an important component of natural climate solutions. In an optimistic analysis, The Rodale Institute estimated that the global adoption of regenerative practices could help sequester 100% of current annual human-related carbon emissions.

Current Standing In The U.S.

- Agriculture accounts for 10% of the United States' total greenhouse gas emissions. However, America's farmers are at the forefront of implementing natural climate solutions, which contributed 14.5% of greenhouse gas offsets in the U.S. in 2023.
- Over the past 30 years, agriculture has made significant strides toward becoming more environmentally sustainable. The industry today produces more crops with less land and resources than it did in 1990.
- The use of conservation tillage, cover crops, and water management are all increasing, and more than 153,000 U.S. farms and ranches utilize clean energy for on-farm operations or selling emissions-free energy to the grid.
- Popular voluntary programs nestled in the Conservation Title of the Farm Bill provide farmers and ranchers with financial and technical assistance to kickstart their conservation efforts and invest in equipment to transform their soil health and reduce emissions.

Economics

- Within 10 years of adopting regenerative farming, farmers can expect a 15%-25% higher return on investment and between 70% and 120% higher crop profitability.
- Long-term input and labor costs associated with the adoption of regenerative farming decrease while crop resilience to droughts and other weather events increases.
- Sustainable farming practices allow farmers and ranchers to sequester carbon and, therefore, opt into voluntary carbon markets, creating an additional revenue stream.

Challenges

- Warmer temperatures have increased the presence and longevity of pests and diseases, causing farmers to use more soil-depleting pest control. At the same time, heavier precipitation has led to soil erosion and nutrient depletion, whereas increased droughts have led to unprecedented water consumption and decreased grazing land.
- Adopting regenerative farming practices can have high initial costs before paying off in the longer term. In fact, farmers will operate at a net loss for the first two years and will not reap economic benefits for five or six years.
- Voluntary carbon markets are currently flooded with fraudulent carbon credits that lack evidence of delivering actual climate mitigation benefits. This diminishes the actual value of carbon credits and reduces the incentive for farmers, ranchers, and foresters to participate in carbon markets.

What's Next?

- Because of the short-term economic loss associated with transitioning to regenerative agriculture, farmers will need increased and sustained financial and technical support. Ensuring farmer's long-term success through voluntary programs, such as those in the Farm Bill, will aid in this transition.
- The quality of carbon credits must be improved by increasing transparency and clarity in carbon markets to include only credits that deliver a real climate benefit. This will not only increase the value of carbon credits but also participation from farmers who will receive adequate compensation for their conservation efforts.