

DAY ONE PROJECT

A National Initiative to Revitalize
American Farming and Advance
Regenerative Agriculture

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Summary

A national regenerative agriculture initiative launched by the federal government could transform how American farmers provide food, fiber, and land stewardship. This initiative would commit to matching what farmers earn growing food and fiber¹ with an equal investment in farmers' work to rebuild the country's natural capital.

A national regenerative agriculture initiative would provide needed investment in rural economies while simultaneously empowering current and future farmers to grow food in ways that improve soil health, ecosystem services, and natural resources. This strategic initiative would support the return of farming as a more widely valued job in America.

Regenerative agriculture produces a safe and abundant food supply while building soil health and regenerating natural resources. This approach recognizes the key roles farmers and ranchers have in providing clean air, clean water, and ecosystem services that benefit all society.

To achieve truly regenerative agricultural systems nationwide, the federal government should catalyze new markets and focus federal funding for regenerative agriculture programs, research, and development. Key steps towards this goal include creating a Regenerative Agriculture Advisory Task Force, mobilizing substantial investments to upgrade the agricultural sector, and prioritizing regenerative agriculture as a major theme in agricultural innovation.

Challenge and Opportunity

American farmers today must navigate significant challenges while providing a safe and abundant food supply. Changes in market forces and commodity prices are hard to predict. Shifts in rainfall patterns and water availability are making it harder to manage soil and irrigate crops. Recently, the COVID-19 pandemic has disrupted supply chains, spurred drastic shifts in consumer behavior, and underscored weaknesses in American food systems.²

What's more, these challenges occur at a key inflection point for the future of America's farms. Consolidation is creating fewer, larger farms.³ Meanwhile, farms are changing hands at a high rate as older generations of farmers transfer significant amounts of land, knowledge, and assets. There is hence a valuable opportunity to engage younger farmers—who may have greater support for and capacity to carry out certain innovative agricultural practices—to pursue regenerative agriculture as a sustained livelihood.

¹ Agriculture and its related industries account for 11.0 % of U.S. employment and 5.2% of U.S. GDP. Kassel, K. and Morrison, R.M., *Ag and Food Statistics: Charting the Essentials*. USDA Economic Research Service publication AP-083. Washington, D.C., 2020.

² Niles, M.T., et al, *Food Access and Security During Coronavirus: A Vermont Study*. University of Vermont College of Agriculture and Life Sciences Faculty Publication 21. Burlington, VT, 2020.

³ Bigelow, D., et al, *U.S. Farmland Ownership, Tenure, and Transfer*. USDA Economic Research Service publication EIB-161. Washington, D.C., 2016.

Rather than continue to spend billions to maintain the problematic status quo in agriculture, federal leadership should support innovation and create a more promising future for farming. The federal government has taken bold action with lasting impacts on U.S. agriculture before. The creation of the Cooperative Extension System⁴ over 100 years ago is an example of an institutional and public-sector innovation that broadly shaped how farmers learn about agricultural opportunities and acquire support for new farming practices.⁵ Achieving shared goals for regenerative agriculture will build on such successes through federal action on a similarly grand scale.

A concerted and coordinated federal effort on regenerative agriculture would:

- **Capitalize on the opportunity to develop and use emerging technologies such as precision agriculture and advanced data analytics to ensure long-term productivity of farms.** Massive amounts of agricultural data can now be collected in real time thanks to advances in sensor technology and on-farm monitoring systems.
- **Recognize the value of food and ecosystem services that farmers and ranchers provide.** We can objectively measure how working and retired farmland provides valuable public goods and services, such as clean water, soil carbon, security against downstream flooding, and buffering of urban sprawl.
- **Expand programs that are proven at small scales.** For example, farmers and agencies across the country are developing innovative market-based programs that work for multiple partners⁶ and that could be taken to the landscape scale.

Plan of Action

The next administration should implement three primary actions to advance regenerative agriculture across the United States. This set of strategic actions would build on previous directives and would inspire, align, and coordinate federal leadership on regenerative agriculture.

Action 1. The White House should create a Regenerative Agriculture Advisory Task Force coordinated by the Office of Science and Technology Policy and co-chaired by the U.S. Department of Agriculture (USDA) and other relevant agencies. The Task Force would develop a common definition for regenerative agriculture, and would collect examples of activities and approaches based on regenerative agriculture principles. The Task Force would also convene

⁴ See background information on the Cooperative here: <https://nifa.usda.gov/cooperative-extension-system>

⁵ National Economic Council and Office of Science and Technology Policy, *A Strategy for American Innovation*. Washington, D.C., 2015.

⁶ See the newly launched [Ecosystem Services Market Consortium](#).

and empower agencies to further advance regenerative agriculture policies and programs by identifying gaps and opportunities for agency activities under existing authorities.^{7, 8}

Action 2. The White House should use its federal budget proposal to highlight the substantial investment needed to drive widespread adoption of innovative market mechanisms, technology, and farming practices that regenerate ecosystem services and natural resources. Investment and capital—along with new technological, programmatic, and market developments—is essential in order to foster a regenerative ethos in farming.⁹ Federal investment in particular is needed to:

- Expand on-the-ground implementation of regenerative agriculture practices and establish new in-field programs designed to further scale up such practices.
- Launch competitive requests for proposals (RFPs) for state-based efforts to incentivize regenerative agriculture.
- Provide the core capital needed to catalyze new markets for ecosystem services.

Action 3. Designate regenerative agriculture as a major research theme while advancing the USDA’s new Agriculture Innovation Agenda.¹⁰ Accelerating regenerative agriculture requires strong research and development (R&D) to underpin an effective “test-validate-scale” approach. Leaders of the USDA’s Research, Education, and Economics mission area and Office of the Chief Economist should coordinate federal research on regenerative agriculture in ways that align with Farm Bill research priorities and the five-year USDA Science Blueprint.¹¹ Moreover, relocation of the USDA’s Economic Research Service (ERS) and National Institute of Food and Agriculture (NIFA) headquarters presents an opportunity to build new, focused R&D capacity that emphasizes regenerative agriculture in the U.S. Agriculture Innovation Agenda.

By leveraging our increased ability to measure soil health and ecosystem services, the federal government can spur innovation, decrease regulatory burden on farmers, and pay for performance that benefits farmers and more. Creating a more regenerative agriculture across the U.S. requires federal government leadership to launch this initiative.

⁷ Office of Management and Budget, Council on Environmental Quality, and Office of Science and Technology Policy, *Memorandum for Executive Offices and Departments on Incorporating Ecosystem Services into Federal Decision Making M-16-01*. Washington, D.C., 2015.

⁸ Executive Office of the President, *Presidential Executive Order on Promoting Agriculture and Rural Prosperity in America*. Washington, D.C., 2017.

⁹ Vermont Agency of Agriculture, Food and Markets, *Soil Conservation Practice and Payment for Ecosystem Services Working Group report*. Prepared for the Vermont General Assembly in Accordance with Act No. 83, Section 3. Montpelier, VT, 2020.

¹⁰ The Agriculture Innovation Agenda, announced in early 2020, is a USDA initiative to align resources, programs, and research to position American agriculture to better meet future global demands.

¹¹ USDA, *Science Blueprint: A Roadmap for USDA Science from 2020 to 2025*. Washington, D.C., 2020.

Frequently Asked Questions

What would outcomes look like in 5, 10, or 20 years as a result of this initiative?

Actions recommended in the Day One memo are expected to improve farm productivity and soil health. Soil is a foundation for farming. This initiative aims to do more than slow the loss or degradation of soil on farmland across the nation. Rather, it aims to regenerate and rebuild soil along with the natural capital and ecosystem services that farmland—which accounts for about 40% of all U.S. land—provides.

Recommended actions will also drive the development and use of new technologies that will improve farming practices and produce valuable data at regional scales. These data will more accurately characterize agricultural production, natural resources, and the environmental footprint of agriculture. This in turn will support broader recognition of the multiple types of value that farms produce.

Another major outcome will be renewed prosperity for rural agricultural communities. The United States is at a critical transition period in the ownership and management of farmland. Farming must be seen by a new generation as a viable, valued, and rewarding career. Recommended actions will support a new generation of farmers to manage productive and regenerative working landscapes.

How do these ideas complement what USDA is already doing?

A national initiative for regenerative agriculture aligns with USDA's Agriculture Innovation Agenda goals *"to stimulate innovation so that American agriculture can achieve the goal of increasing production by 40 percent while cutting the environmental footprint of U.S. agriculture in half by 2050."* Reducing the environmental footprint of U.S. agriculture requires the USDA to build on existing implementation and R&D efforts for farming intended to regenerate soil health, ecosystem services, and natural resources. On the implementation side, USDA should scale up building blocks that exist through its Farm Service Agency and the Natural Resource Conservation Service, such as the Conservation Reserve Program (CRP), Conservation Stewardship Program (CSP), and Environmental Quality Incentives Program (EQIP). In addition, expanding the Regional Conservation Partnership Program would help expand successful programs to landscape scales. On the R&D side, recommended actions complement the Agriculture and Food Research Initiative (AFRI), which stimulates fundamental new science and actionable research; the Agricultural Research Service (ARS), which develops solutions to agricultural problems; and NASA Harvest, an example of an innovative consortium of public and private partners that uses big data to inform agricultural decisions.

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How ambitious is it to match what farmers earn from growing food with an equal investment in regenerative agriculture practices and research?

This piece of the proposal is ambitious but doable. According to the ERS, the net value of agricultural output (gross farm incomes minus farm expenses and government payments) is projected to be \$81.7 billion in 2020. In order to match what farmers earn from growing food, the federal government would need to invest a similar amount in regenerative agriculture. Fortunately, the federal government is already investing large sums in programs and activities that could be considered regenerative agriculture¹² and there is recent demonstrated capacity to mobilize large sums to support farmers and rural prosperity.¹³

What would this initiative's investments achieve?

The Day One memo proposes targeting federal investment toward (1) expanding on-the-ground implementation of regenerative agriculture, (2) launching competitive requests for proposals (RFPs) for state-based efforts to incentivize regenerative agriculture, and (3) providing the core capital needed to catalyze new markets for ecosystem services. These investments will advance the competitiveness of U.S. agriculture, promote food security, and develop innovative technologies and markets in the agricultural sector. Importantly, investments in implementation and research must be coordinated. A portion of research should focus on understanding incidental effects of scaling up programs and practices. For example, research shows that taking land out of production can drive rental rates up for other land—indicating that programs that serve working lands are needed in addition to programs that set land aside.

¹² For example, the task force could evaluate what portion of the estimated \$15 billion in current direct farm program payments are already going toward efforts related to regenerative agriculture. Farm Income Team, *U.S. and State-Level Farm Income and Wealth Statistics*. USDA Economic Research Service data files. Washington, D.C., 2020.

¹³ In 2019, federal support contributed \$23.7 billion for an increased market facilitation program in response to global trade impacts (Ibid). In 2020, the federal government made available an additional \$19 billion for farmers, ranchers, and food producers who experience economic losses during the COVID-19 pandemic (USDA Press, *USDA Announces Details of Direct Assistance to Farmers through the Coronavirus Food Assistance Program*. USDA Press Release No. 0266.20. Washington, D.C., 2020).

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About the Author



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About the Day One Project

The Day One Project is dedicated to democratizing the policymaking process by working with new and expert voices across the science and technology community, helping to develop actionable policies that can improve the lives of all Americans, and readying them for Day One of a future presidential term. For more about the Day One Project, visit dayoneproject.org.