

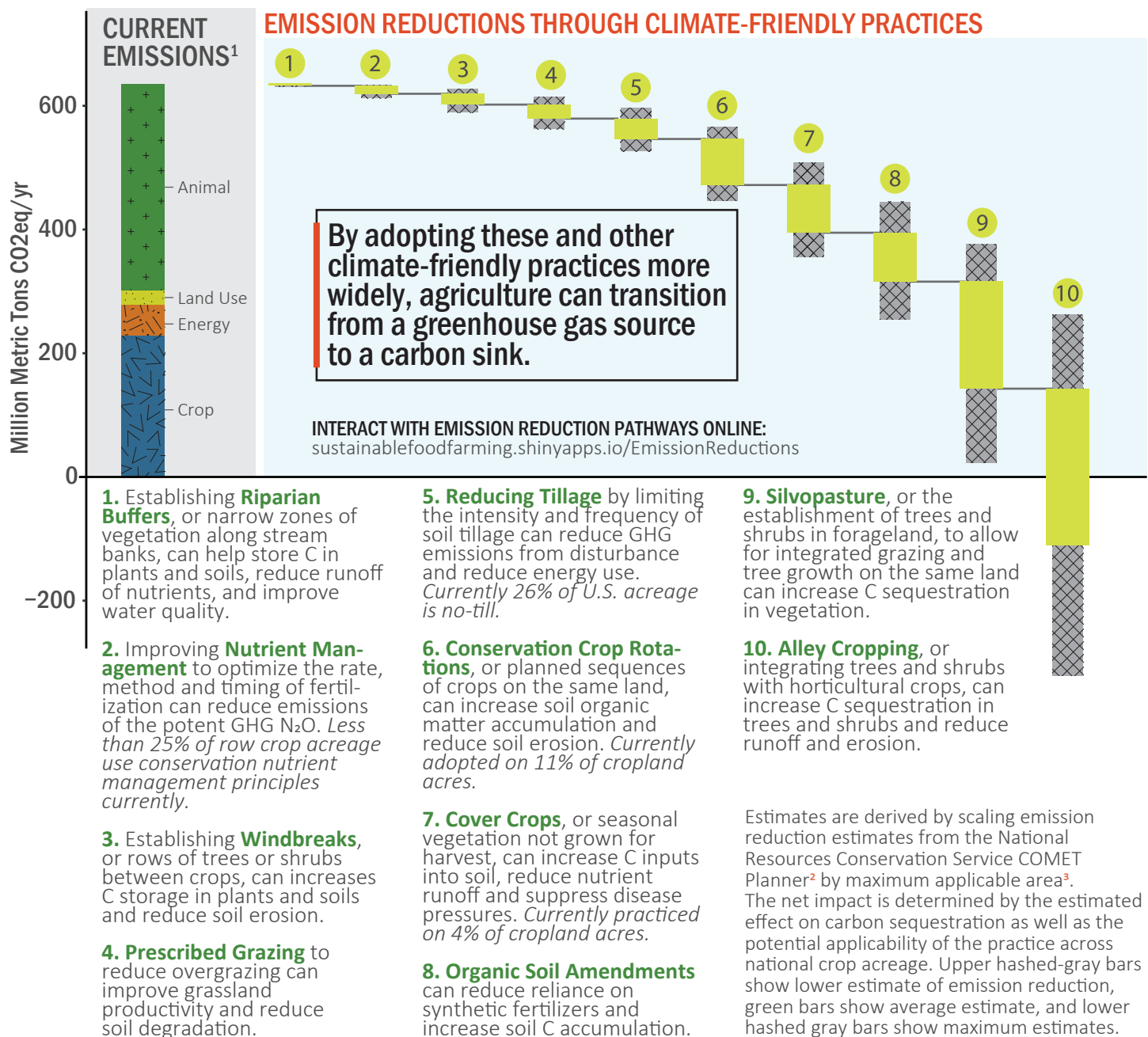
Agriculture must be a core component of strategies to mitigate and adapt to climate change.

Nearly every decision on a farm or ranch has an impact on greenhouse gases, climate and soil health. For the benefit of farmers and ranchers, who are among those **most affected by floods, droughts, heat waves, pests, or fires**, it is critical that federal and state policies accelerate adoption of practices proven to build climate resilience and help curb climate change.

Agricultural activities can store and manage large stocks of carbon and nutrients in plants and soil. They can also reduce emissions of greenhouse gases. While farmers and ranchers are familiar with a number of **climate-friendly practices** that can reduce or offset emissions, their **adoption rates remain low**.

Promoting widespread implementation of a combination of these practices can lead to an agricultural system in which emissions are both reduced and offset by increased soil and plant carbon storage.

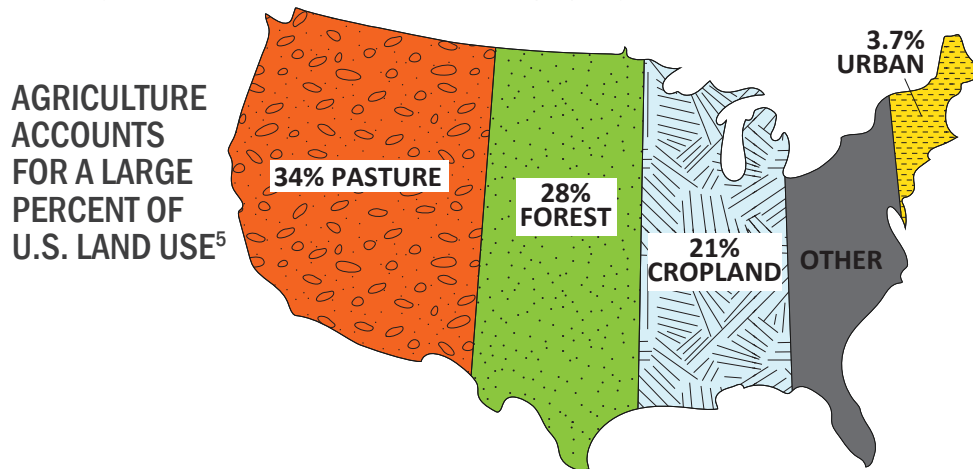
Below, we explore ten climate-friendly practices and their projected impact on emission reductions if adopted on applicable land areas nationally. Implementing multiple practices at once can make their combined impact even greater. Moreover, these ten practices are just a few of the many practices – almost all of which **producers are already profitably using** on many crops in many regions at different scales.



Agriculture both contributes to and suffers from the climate crisis.

Food systems are responsible for **more than a quarter** of anthropogenic greenhouse gas emissions globally.⁴ Converting grasslands, forests and other ecosystems into agricultural production leads to losses of previously stored carbon and reduces the capacity of these systems to continue to sequester carbon in the future. Agricultural production also emits large amounts of greenhouse gases like **nitrous oxide** from soil, and **methane** from cattle and manure management. The food system is also responsible for additional emissions related to the production of fertilizer and other inputs as well as those related to the transport, refrigeration and waste disposal of foods. The combined impact of these activities results in emissions equivalent to CO₂ emissions from **over 2500 coal-fired power plants**.

Transitioning to a climate-friendly system by reducing emissions and promoting carbon sequestration is critical for agriculture as it is particularly vulnerable to climate change. Increases in extreme weather events can lead to losses of **crop productivity, endanger livestock, and pose dangerous working conditions** for field workers. Climate change can also exacerbate disease pressures from pests and increase the competitive pressures of weeds on crops, all of which make it more challenging to produce food.



Climate-friendly agriculture can help mitigate emissions, reduce reliance on harmful chemicals, and support healthier communities.

While agriculture contributes to GHG emissions, practices in the field also play a key role in the rate and form in which carbon is stored and stabilized. Farmers and ranchers can help implement a number of practices which **promote soil carbon sequestration** or **reduce GHG emissions**, while also increasing productivity and profitability. In addition to their climate benefits, these practices can often help suppress weeds, improve water and air quality, and help defend crops against climate instability and disease risks.²

Despite their known benefits, many climate-friendly practices have low adoption rates. Policy-makers can facilitate the transition towards climate-friendly agricultural practices by **reducing barriers to implementation, incentivizing adoption, and supporting research and education efforts to guide successful outcomes**.

The Agriculture Resilience Act can help accelerate the adoption of agroecological practices and help achieve a climate-friendly agricultural system.

H.R. 5861 includes the following:

- Sets goals for net zero emissions from agriculture by 2040 and other key milestones.
- Enhances federal investment in agricultural research, extension and education, especially for sustainable practices.
- Integrates soil health goals into crop insurance, the Environmental Quality Incentives Program, Conservation Stewardship Program and other funding opportunities.
- Supports farmland preservation and farm viability.
- Removes barriers and provides incentives for pasture-based livestock.
- Promotes renewable energy and energy efficiency on farms.
- Reduces food waste and supports composting.

1. <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions> 2. Swan, A. COMET-Planner: Carbon and Greenhouse Gas Evaluation for NRCS Conservation Practice Planning, a project report to USDA. 3. Lehner, P., & Rosenberg, N. Ch. 30, Agriculture in Legal Pathways to Deep Decarbonization in the United States (Michael B. Gerrard and John C. Dernbach, eds. (2019). 4. Vermeulen, S.J., et al. 2012. Climate Change and Food Systems, *Annu. Rev. Environ. Resour.* 37:195-222. 5. <https://www.bloomberg.com/graphics/2018-us-land-use/>