

CLIMATE

CHANGE

MYTHS VS. FACTS



You probably see and hear a lot about climate change—from TV news, documentaries, social media and your friends. But what are the real facts? Here are some common myths and facts about climate change that illustrate the essential role family farmers play as stewards of our soil, water and climate.

[FARMAID.ORG/CLIMATE](https://farmaid.org/climate)

MYTH

Agriculture is the chief cause of climate change.

FACT

Agricultural greenhouse gas (GhG) emissions (10% of U.S. GhGs) are modest compared with those from the electricity (25%), transportation (28%) and industrial (23%) sectors. Nonetheless, agriculture's contribution to climate change is substantial.¹ We will not be able to achieve our mitigation goals unless agricultural emissions sharply decline. Fortunately, agriculture can be a major part of the climate solution, and in the process improve rural communities, the health of our soil and water, and the lives of those who work on farms and ranches.

Industrial agriculture is a large contributor to GhG emissions around the world, but family farmers have tremendous capacity to not just decrease emissions but to actually sequester carbon dioxide in the soil with climate resilient agricultural practices like organic production, cover crops, rotational grazing, agroforestry and more. These and other innovations mean family farmers and ranchers are leaders at the forefront of climate mitigation.

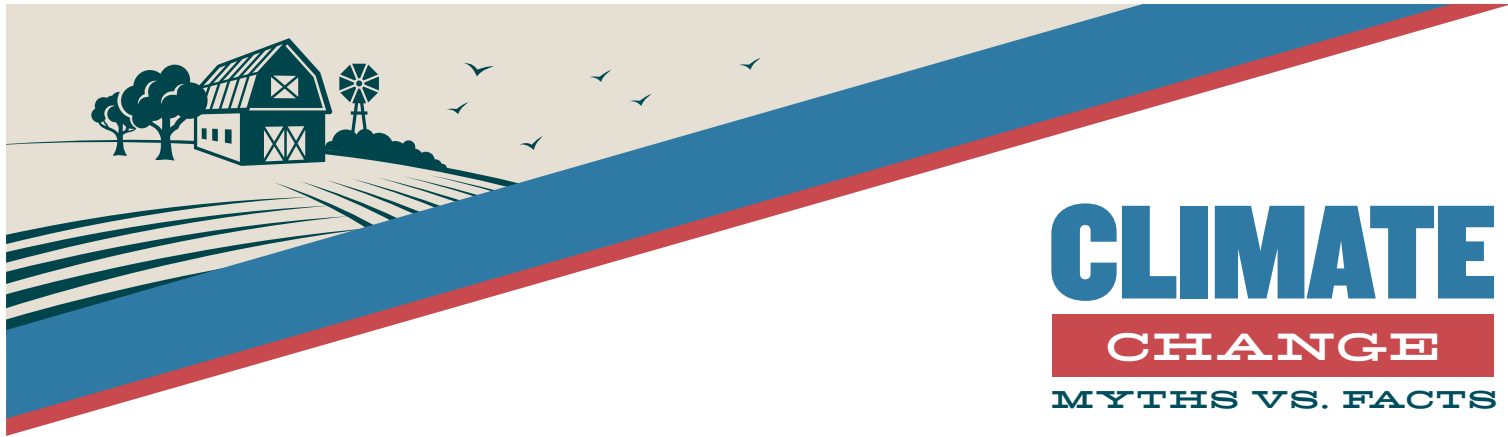
The promise is huge! Agriculture is the single largest type of land use in the U.S., accounting for 44% of the country's total landmass.² Shifting that land into climate-resilient agriculture offers a tremendous opportunity to impact climate change.

¹ <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

² <https://tradingeconomics.com/united-states/agricultural-land-percent-of-land-area-wb-data.html>

JULY 2023





CLIMATE

CHANGE

MYTHS VS. FACTS

MYTH

Soil has no role in climate change.

FACT

Soil has everything to do with the climate!³ Contrary to popular belief, the largest source of U.S. agricultural GhG emissions is not cow burps! It's soil management—mostly related to the application of fertilizer (or more accurately, fertilizer that is applied but not taken up by crops) and the breakdown of soil organic matter. With better soil management, we can decrease the emissions impacting our climate.

But that's not all—healthy soil that's full of organic matter has incredible capacity to take carbon out of the atmosphere and sequester it in the ground.

Carbon storage is increased by plant growth, which removes CO₂ from the atmosphere during photosynthesis, the process in which plants covert energy from the sun into energy stored in the chemical bonds of carbohydrates, which are carbon-based molecules. Net carbon storage can be increased by increasing the amount of photosynthesis, such as by adding cover crops over bare ground, incorporating trees or slowing the decomposition of soil organic matter, such as through no-till practices. Carbon-rich soils are more fertile and hold more water, which improves resilience to droughts and floods.

Agriculture is unique among sectors in its ability to not just decrease its climate impact, but also to sequester carbon to help the climate footprint of other sectors as well.

MYTH

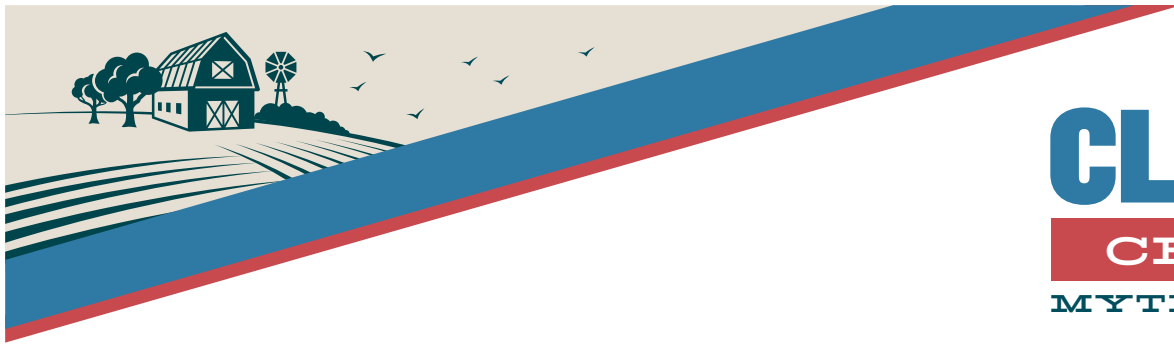
If climate change brings increased precipitation, then there must be more water available for agriculture and other uses.

FACT

While climate change brings increased precipitation to some regions, it brings decreased precipitation to others. And even in places that receive more rain, that water is not necessarily suitable for agriculture and other uses, like drinking water.

Farmers are adapting to changing precipitation by altering their growing practices and finding new ways to use water. Some of these mitigation strategies include recycling wastewater, improving efficiency of water use and diverting floods to recharge aquifers. In combination with implementing conservation practices such as improving soil health or planting grassed waterways and riparian buffers to prevent erosion, these efforts are vital to sustaining one of our planet's most valuable resources.

³ <https://education.nationalgeographic.org/resource/agriculture>



CLIMATE

CHANGE

MYTHS VS. FACTS

MYTH

Trees are the biggest carbon “sinks.”

FACT

Significant emissions reductions can be achieved by planting trees and ending the destruction of the Amazon rainforest, and we should do everything we can to protect and grow our forests. An even bigger carbon sink, however, lies beneath our feet in the soil.

Across the planet, soils store an amount of carbon that is three times as large as the amount of carbon stored in all the plants on Earth. This carbon sink is also three times larger than the amount of carbon currently in the atmosphere.

Scientists say that with better management, agricultural soils could absorb much more carbon in the future. We can make tremendous progress against the climate crisis by supporting farmers to adopt farming practices that both decrease the emissions of food production and sequester carbon in the soil.

MYTH

Climate-friendly agriculture can't include livestock.

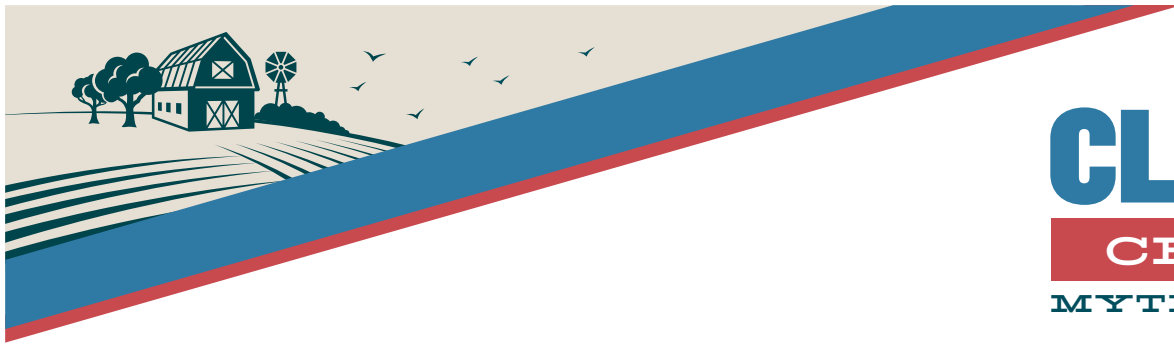
FACT

A sustainable food system can and should include livestock. The shift from diversified farms that incorporated crops and livestock to industrial monocultures and confined animal feeding operations (CAFOs) has led to the fragile food system we have today. There are many reasons to end factory farming, but the climate crisis urgently demands that we shift meat production from factory farms to sustainable family farms.

Emissions related to manure management have risen 66% since 1990, and the majority of this increase is due to the shift toward larger dairy cattle and hog CAFOs.⁴ These factory farms rely on heavily fertilized feed grains and the storage and application of liquified manure, while undercutting small- and medium-sized producers in the market. On the other hand, cattle and other livestock can be raised on pasture that would otherwise be unsuitable for growing crops, and they eat crop residues that would otherwise go to waste. They also produce manure that is incorporated into pasture as fertilizer (an alternative to manufactured fertilizer, which is made from fossil fuels and a major source of GhG emissions).

Livestock have a major role to play in helping to restore native prairie and grasslands, which have tremendous carbon-storage potential. Indigenous ranchers and farmers are leading the way to do this essential work, especially as they seek to restore bison to Native lands.

⁴ <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2017>



CLIMATE

CHANGE

MYTHS VS. FACTS

MYTH

Agriculture's priority should be feeding the world, not worrying about climate change.

FACT

There is currently more than enough food produced to feed the global population according to the [United Nations Environment Program](#)—but much of it is lost to food waste (another source of methane emissions). A complicated combination of poverty, inequity, lack of infrastructure and other factors drives hunger across the world. Climate change is one of those factors, damaging food and water security in significant ways. Failure to meet the challenge of our changing climate will only increase the problem of hunger, and sustainable farmers are our best hope to get the job done.

MYTH

Agriculture is over-regulated and farmers need fewer regulations.

FACT

Agriculture is one of the least regulated industries in the U.S., especially when it comes to environmental regulations. The real issue with regulations on agriculture is that they should not be one-size-fits-all, which is often the approach agencies take, choosing the same regulations for farmers regardless of their size, corporate structure and production methods. The challenges of our farm and food system—from climate change to corporate consolidation and power—can all be vastly improved with right-sized regulations that restrict the pollution and the power of the largest operations and enable smaller-scale, sustainable farmers to compete on a level playing field.

MYTH

So-called “biogas”—methane captured from factory farms—is a climate solution.

FACT

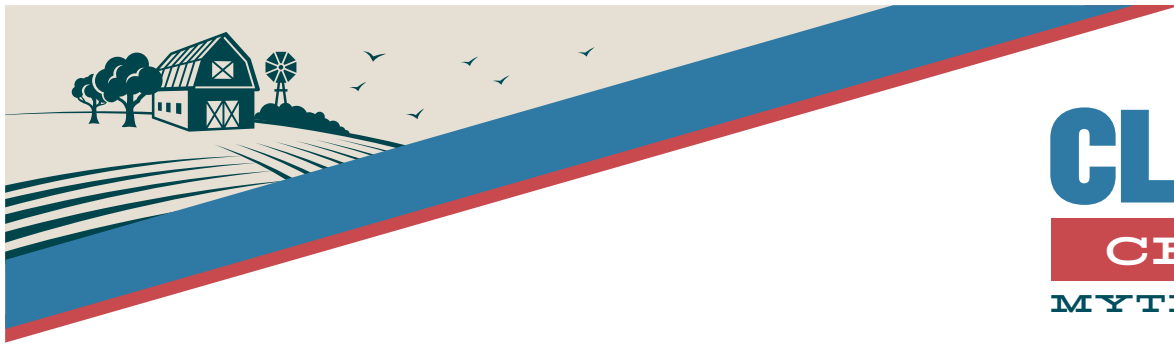
Biogas, or what we call factory farm gas, is being presented as a “green solution” to the climate crisis and the industrial agriculture problem. Factory farm gas is produced by anaerobic digesters that take the waste from livestock raised in confined animal feeding operations (CAFOs) to generate energy. But behind the smoke and mirrors, factory farm gas thoroughly fails to deliver as an energy solution and actually presents a range of environmental, social and economic problems.

Fossil fuel companies have promoted the image of factory farm gas as eco-friendly and forward-thinking because it captures methane, but in reality, factory farm gas is still harmful to the atmosphere—and worse, it drives the growth of two incredibly unsustainable industries: increasing mega-CAFOs in animal agriculture and the expansion of pipelines and natural gas, which often cut across agricultural land.

Public resources should not prop up the highly polluting factory farm system; instead, that public money should be invested in a transition toward scale-appropriate, well-managed, pasture-based grazing systems.

JULY 2023





CLIMATE

CHANGE

MYTHS VS. FACTS

MYTH

Regenerative Agriculture is a new technology for the climate.

FACT

Regenerative agriculture refers to a collection of farming methods that build soil fertility and store carbon. Regenerative methods including cover crops, crop rotations, animal integration in cropping, no-till soils and more. Regenerative practices provide added “ecosystem services” like restoring water quality, increasing biodiversity, strengthening the resilience of the land and more. These methods originally come from Indigenous, Black, Brown and People of Color traditions that pre-date industrial agriculture, which is characterized by large-scale monoculture, intensive use of chemical pesticides and fertilizers, and concentrated animal feeding operations (CAFOs).

Even as the people practicing these methods have endured genocide, land theft and loss, racism and discrimination, and the pressures of industrial agriculture, they have kept these traditions alive. Regenerative agriculture is not new; it's been on the margins of our dominant industrial agriculture system. It's time for it to come to the fore.

True regenerative agriculture isn't only about soil or farming methods, but also about values and the health of communities and people. Regenerative agriculture works with nature, not against it; it considers the holistic well-being of the people as well as the animals; it produces nourishment for the communities who depend on it and a fair livelihood for the people who work the land. It is about community wealth, not focused on the extraction of resources to build corporate wealth. And it is essential for repairing our farm and food system, our climate, our inequities, and ourselves. It's time for our whole food system to embrace the knowledge and practices of regenerative agriculture.