



FOOD ANIMAL CONCERNS TRUST

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FACT Position Paper on Climate Change and Animal Agriculture

We must transform how we produce food in order to address the climate crisis. This means shifting away from the energy-intensive and harmful industrial system of raising animals. It requires holding all polluters accountable, including factory farms. Finally, it must address the centuries of racial injustice that have created the current system of farming.

Changing weather patterns are impacting all of us. Farmers are facing many challenges when dealing with volatile weather. Overall, extreme temperatures can be hard on the animals that live outdoors, and on the farmers and farm workers who work hard to keep their animals safe and healthy. Extreme storms, wildfires, and drought are all making it more difficult to be a farmer or rancher. Yet, farmers and ranchers are finding ways to be resilient. Many of the methods adopted by farmers and ranchers can help improve the environment and combat climate change by creating healthy ecosystems that include animals raised for food. They can reduce reliance on fossil fuels, reduce pollution, and create healthy soils. Regenerative approaches to farming can return carbon to the earth and return lands to permanent cover instead of tilled fields. Regenerative approaches to raising animals are healthier for animals and reduce the need for antibiotics, which is driving the public health crisis of antibiotic resistance.

There has been a lot of media attention about animal agriculture and its impact on climate change. Films such as “Cowspiracy” and “Eating our Way to Extinction” claim that animal agriculture is causing climate change and if we would stop eating food from animals and switch to a plant-based diet it would solve the climate crisis.

On the other side is the film “Sacred Cow,” which shows the positive side of raising cows on pasture and emphasizes the health risks of a vegan diet.

Both of these approaches present an either-or scenario for what needs to be done regarding climate change. FACT looks at animal welfare and the science behind raising animals for food, and how this connects with climate change. In this paper, we will look deeper into this issue and examine how we at FACT can promote a healthy animal agricultural system that is good for animal and human health, improves the environment, helps mitigate climate change, and helps farmers become more resilient when dealing with increasingly volatile and unpredictable weather patterns.

We believe that the problem at its core is not that animal agriculture, per se, contributes greatly to climate change, it’s that industrial animal agriculture and industrial farming, in general, is bad for the planet.

How climate change impacts public health and food safety

Climate change is a crisis on many levels, including public health. Extreme weather events and the associated deaths, displacements, and disease are the most obvious public health impacts of climate change. However, climate change also impacts health through increased pollution and increased variation in temperature. Climate change impacts the range and the seasonality of disease. As temperatures warm, new diseases appear where they have not been seen before.

Climate change impacts the safety of food. Warm, wet weather conditions increase the risk of foodborne illness. This is compounded by weather events, such as tornadoes and hurricanes, which cause power outages, so that stored food is no longer kept cold and safe.

The impacts of climate change on health do not fall equally. Children and older people are at greater risk. Low-income communities and communities of color are more vulnerable to both the daily risks of climate change and to associated extreme weather events. These climate-related impacts are added on top of existing food access and health disparities. In addition, these communities often struggle with food insecurity and lack of access to food.

The majority of Black farmers are in the Southeast, an area that in the near future is anticipated to experience extreme conditions from a combination of high heat and humidity. BIPOC farmers and farmworkers, because they work outside, are among the most vulnerable to extreme heat, but they also have the fewest resources, including federal resources, to help them to cope. Similarly, farmworkers in the West are often the most impacted by smoke from the ever more frequent wildfires. Often these farmworkers have left their home countries because of problems made worse by climate change.

Policies aimed at improving the environmental impacts of food production need to simultaneously work to improve access to food for people suffering from food insecurity and limited access to healthy food.

Climate change impacts animal health and welfare

Climate change is a growing problem that affects all of us including animals raised for food. The increasing frequency of extreme weather events from extreme heat, to flooding, to destructive winds harms animals as well as people. Animals in factory farms are already stressed due to unhealthy conditions, which rely on mechanical systems to create survivable environments. These animals are exceedingly vulnerable when weather disasters strike. In 2018, millions of pigs and chickens died in flooded factory farms. In summer 2022, thousands of cattle in feedlots in Kansas died as a result of high temperatures and high humidity. There was no escape for the pigs and chickens when the water rose, and the feedlots where these cattle were kept did not provide shade that might have helped them survive.

Even without the extreme events that make the news, more variation in temperatures, either higher or lower, impacts animal health and welfare on a daily basis. The systems humans have created for raising food animals (e.g., giant feedlots in the lower Great Plains) were developed under different climate conditions and will be increasingly vulnerable as the climate changes. There are also likely to be serious challenges around access to water, both for the animals themselves and for growing forage for cattle raised in areas of low rainfall. Climate change will almost certainly impact the growing of crops for animal feed. There is already a crisis across the West over water and most of the water, by far, is going to raise forage for confinement cattle.

Climate also impacts animal health by changing the range of animal disease and pests, such as expanding the range of mosquitoes and ticks and weather impacts on transmission and vulnerability to diseases.

Animals raised outdoors are also impacted by climate change as pastures dry up and temperatures reach extremes. Still, animals in outdoor systems often are less stressed and generally are able to move to shade in response to changes.

The growing climate crisis is going to change how we produce food. The question is whether we will choose to transform our agriculture to a system which is healthier for animals, people and the environment or continue down a more destructive path.

How animal agriculture contributes to climate change

According to the U.S. Environmental Protection Agency, in 2020 11% of greenhouse gas emissions came from agriculture. “Greenhouse gas emissions from agriculture come from livestock such as cows, agricultural soils and rice production.” (<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>)

Agriculture, as most human activities, contributes to the release of greenhouse gases that drive catastrophic global climate change. Still, people need to eat. How should food be produced to guarantee healthy food for everyone while making sure that it is also good for the environment? In the U.S., many people consume more meat than is [recommended](#), and industrial agriculture corporations export large quantities of animal products, while millions of low income people go hungry. Some of the best farmland is used to produce corn, which is grown for feed for livestock, and which is converted to ethanol and then added to gasoline. This clearly indicates that hunger in the U.S. is not tied to agricultural productivity. Globally, there is [more than sufficient land to produce](#) all the food needed for the foreseeable future barring drastic reductions in productivity related to climate change.

In terms of agriculture, livestock production is by far the greatest contributor to climate change. A large part is the result of converting land from natural vegetation to crop land which is then used to produce feed for animals, as well as from [cattle producing methane during digestion](#).

Though cattle are the biggest contributor to climate change from food production, the answer to the problem is not as simple as not raising any cattle. Certainly, cattle should not be raised in giant feedlots. Feedlot cattle produce methane and land used to raise feed for them could, instead, be used to grow food for people or allowed to return to natural vegetation to capture carbon. Forage for feedlot cattle is also being produced using water that is becoming exceedingly scarce in the areas where most feedlots are situated.

While cattle and other ruminants such as sheep, goats, and bison have the problem of producing methane, they have the advantage of being able to eat grass and other vegetation, so that they do not depend on crop land. This means lands that are not suitable for raising crops can be used to raise ruminants and when managed properly, these grazing lands can become a way to capture carbon in soils and in above-ground vegetation.

Ultimately, in order to address climate change, an overhaul in how we produce food, including animals raised for food, is needed. We should not think of our current system as natural or permanent. It is the result of a lot of decisions and policies, starting with the genocide and displacement of Indigenous people through farm bills, regulations, and government-funded research.

We describe below our vision for a more just, healthy, and climate-friendly future for animal agriculture.

Solutions to climate change must be rooted in justice so that all communities can thrive and none are sacrificed

There are extreme inequities in our current system of raising food. Currently, 98% of farmland in the U.S. is owned by white people. This is the result of deliberate policies aimed at removing Native people

from the land; enslaving and excluding Black people from land ownership; and other policies aimed at limiting marginalized people from accessing land. Policies throughout the 20th century and into the 21st century have helped maintain white ownership of land.

Raising animals in factory farms creates industrial-scale pollution in the form of greenhouse gasses, dust and ammonia, and contaminants of water including nutrients, pathogens, and other agrichemicals. Unlike other pollution-producing industries, factory farms are exempt from most requirements related to discharge of pollutants into the air and water. While farm ownership and farm profits are concentrated in white hands, pollution caused by the factory farming system harms the much more diverse and poorer rural community.

Many key solutions to climate change in agriculture, such as agroforestry and regionally appropriate highly managed pasture, come from Indigenous communities that have created systems to produce food and manage resources that maintain their productivity for centuries. This stands in contrast to the conventional agriculture system that is helping drive the world toward a climate crisis. At the same time, Indigenous communities have been stripped of their land and resources and Indigenous agricultural knowledge has been actively suppressed. Too often, the broader food movement, including the sustainable food movement, has failed to reckon with this history and ignored these contributions. Going forward, efforts to mitigate climate change should actively address this history and take care to stop the extractive process that has so greatly harmed Indigenous communities. Supporting Indigenous sovereignty should be part of addressing climate change.

There are good, positive alternatives to factory farming

One of FACT's guiding principles is that all farm animals deserve to be cared for in a healthy and humane manner with compassion and respect. To achieve this, we partner with and invest in livestock and poultry farmers to help them raise their animals outdoors on well-managed pasture.

Many animal welfare benefits are associated with regenerative, pasture-based systems. Animals living and cared for on well-managed pasture can move freely and engage in natural behaviors. This means that pigs can root around and wallow in the mud; chickens can spread their wings and bathe in the dust; and cows can socialize with their herd mates and spend most of their time grazing on native grasses. Pasture-raised animals have also exhibited less stress, disease, and lameness, as well as greater fertility and fewer reproductive problems.

But what makes this entire production system possible? The answer lies beneath our feet – soil. Healthy soil is fundamental to humane farming. The role soil plays in animal welfare may not be completely obvious, so a closer exploration is necessary.

Healthy, productive soil is highly active. It maintains a complex ecosystem of its own, teeming with root and plant matter – both living and decomposed – as well as bacteria, fungi, earthworms, and a multitude of other organisms. The soil feeds pasture plants with nutrients essential for growth. Soil also has specific characteristics to the region in which it is located, which is why planting native grasses is important – the soil is designed to nourish what is found locally. Eventually, these forages and grasses provide ruminant animals with the nutrients they need to thrive. To ensure a high level of welfare for animals to graze and live on pasture, we need to care for the soil.

When managed properly, pasture-based animal production helps improve soil health and fertility. One effective approach farmers take is management-intensive rotational grazing (MIRG). Using this practice,

farmers frequently move – or rotate – their animals to new pasture. In order to have many parcels of fresh grass available, farmers use fencing to subdivide larger areas of pasture into smaller “paddocks.” The animals are allowed to eat the plants in that particular paddock. As they graze, they distribute their manure across the land, which in turn fertilizes the soil. These nutrients are eventually cycled back to the pasture plants.

There are many first-hand examples of farmers and ranchers who are using regenerative grazing practices to improve their soil and combat climate change (see Appendix A). They are building organic matter and retaining moisture in their soils through conservation practices such as rotationally grazing their animals and establishing native, perennial plants in their pastures (see Appendix B).

Policy recommendations

Some policy recommendations to address climate change, including provisions in the Agriculture Resilience Act (<https://pingree.house.gov/netzeroagriculture/>), are listed below:

- Increase support for pasture-based animal agriculture, including regenerative grazing, that is consistent with permanent ground cover.
- Research into soil health in grazing systems should holistically look at animal health, welfare, and antibiotic use.
- Support common sense regulation of pollution, including greenhouse gas emissions and water pollution generated by factory farms.
- Efforts to address climate change should not further entrench the current industrial agricultural system.
- Policies should not reward factory farms and should not support factory farm gas and pollution trading schemes.
- Efforts to address climate change should address inequities in the food system, and should include action to promote Tribal food sovereignty.

Toward a More Humane, Environmentally Friendly Agriculture

To achieve our vision that all animals will be raised in a humane and healthy manner and that everyone will have access to healthy food, we need to first stop raising animals in factory farms. This inevitably will lead to less, and healthier meat being produced. Americans have the highest annual meat consumption per capita in the world (Statista, 2018 – <https://www.statista.com/chart/3707/the-countries-that-eat-the-most-meat/>). Eating less but healthier meat is good for people and good for the planet. Raising animals for food sustainably, as well as growing all of our food sustainably, will create an agricultural system that is regenerative and a partner in combating climate change. This is the agricultural transformation that we envision at FACT. This is the way forward toward a more humane, environmentally friendly food system that benefits the farmers, the farm animals, the consumers, and the planet.

Appendix A

Following are eight examples of farms and ranches that are using climate-smart practices to build resiliency in the face of unpredictable, extreme weather events:

- [All Grass Farms](#) in Dundee, Illinois
- [Chockalog Farm](#) in Uxbridge, Massachusetts

- [Dina Be Ina](#) (Sheep Herders on Navajo Nation)
- [Hiddendale Farm](#) in Turtle Lake, North Dakota
- [Magoffin Family Ranch](#) in Willcox, Arizona
- [Muse 3 Farm](#) in Greensburg, Louisiana
- [Rocky Boy Buffalo Project](#) – Chippewa Cree Tribe of the Rocky Boy’s Reservation
- [Trouvaille Farm](#) in Athens, Ohio

Appendix B

[Conservation Practices That Encourage Soil Health](#)

Management intensive rotational grazing

Managed Intensive rotational grazing is different from simple rotational grazing. In a simple rotational grazing pasture system, the pastures are minimally segmented with some rest. In an Intensively grazed system, pastures are split into small areas of pasture (paddocks) and are grazed for short periods of time, allowing for long periods of rest and regrowth. Forage is always 4” or taller. [Learn more about rotational grazing for climate resilience.](#)

Perennial plantings

Perennials are plants that return year after year. Even though the top, vegetative growth might die back, the plant is still alive under the soil. Their much deeper, much more extensive root system protects against soil erosion and nutrient depletion. Perennials such as fescue, alfalfa and white clover tend to be hardy and nutritious.

Grazing cover crops

Cover crops are annuals that are typically grown to cover bare dirt after a crop harvest, preventing soil erosion and increasing soil health by feeding soil microbes. When grazing cover crops, livestock is allowed on the field to eat the mature vegetation, depositing fertilizer and increasing soil organic matter by pushing the remaining vegetation into the soil. Once the cover crop has been grazed, no-till planting methods can be used to plant the next succession crop. [Learn more about grazing cover crops.](#)

Prevent overgrazing

Pasture overgrazing occurs when a pasture is overstocked or when livestock is not moved frequently enough. When a pasture is overgrazed, existing stands of forages are damaged. The resulting plant death and inevitable bare patches leads to weed problems, soil health issues and poor-quality forage. Overgrazing is prevented by taking livestock off a pasture or paddock while the forage is 4” or shorter. [Learn more about preventing overgrazing.](#)

Organic practices to control pests and weeds in pastures

Rather than using chemical or synthetic pesticides if you plant cover crops, use managed grazing techniques, or overseed. These are a few of the many organic practices recommended by the USDA. [Learn more about organic pest and weed control practices.](#)

No-till or reduced tillage

No-till and reduced tillage techniques keep a vegetative cover over the soil, prevent erosion and improve soil health. Overseeding with annuals can extend grazing on a particular pasture into different growing seasons. No-till or reduced tillage methods are essential in intensively managed grazing programs.

Establishing native grass or legumes

In general, native grasses help add diversity to a pasture without requiring additional fertilizer or water. They readily reseed and add nutritional value to pasture (plus they encourage wildlife). A pasture with multiple species of grasses and forages, which include native plants, is more likely to thrive. Planting legumes (vetch, cowpeas, beans, alfalfa, clover) help to fix nitrogen in soil, which minimizes the need for fertilizer. This cost-effective and less labor-intensive method is better for the environment and saves the farmer money.

Practices that enhance wildlife habitat

Practices that encourage wildlife habitat reduce our carbon footprint while encouraging local flora and fauna. According to the USDA, wildlife-friendly practices include (more at <https://www.farmers.gov/conservation/wildlife>):

- Controlling erosion by planting trees or shrubs along streams and rivers.
- Leaving crop "stubble" on the ground, to provide habitat for nesting birds.
- Watering facilities that can serve both livestock and wildlife.
- Animal waste management to protect water quality.
- Rest-rotation grazing to foster healthy, diverse native plants.
- Restoring and protecting wet habitat to improve water availability.
- Prescribed burns to encourage diverse plant communities.