

FACT SHEET

SUSTAINABILITY ON DAIRY FARMS



Dairy farm families live and work on their farms. Protecting the land, water and air around their farms for their families, surrounding communities and future generations is of utmost importance to them. Farmers are the original stewards of the land and strive to leave it in better condition for the next generation. Environmental practices on all dairy farms are tightly regulated by both federal and state agencies. While requirements vary from state to state, most dairy farmers consistently meet or exceed these regulations.

Protecting the environment has more to do with proper management practices than the number of cows on the farm. Dairy farms of all sizes must meet state and federal standards and work to minimize any impact their farms may have on the environment.

Reducing Carbon Footprint

- From 2007 through 2017, the U.S. dairy community has been able to produce a gallon of milk using 30.5% less water, 20.8% less land and 20.8% less manure – all resulting in 19.2% less greenhouse gas emissions.¹
- Dairy only contributes 2% of total U.S. greenhouse gas emissions, while providing significant nutrients to the U.S. diet.²
- 80% of a cow's diet is food that is not consumable by humans and would otherwise end up in a landfill. Some examples are cottonseed hulls, almond shells and brewers' grain.
- Advances in animal care and breeding have resulted in more milk being produced today with only 9 million cows compared to 1944 with 26 million cows.

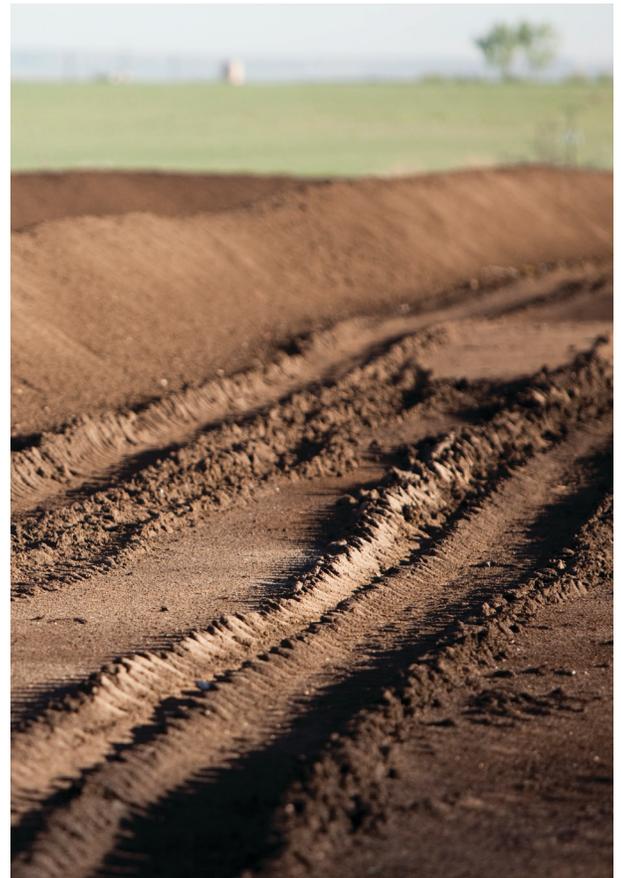
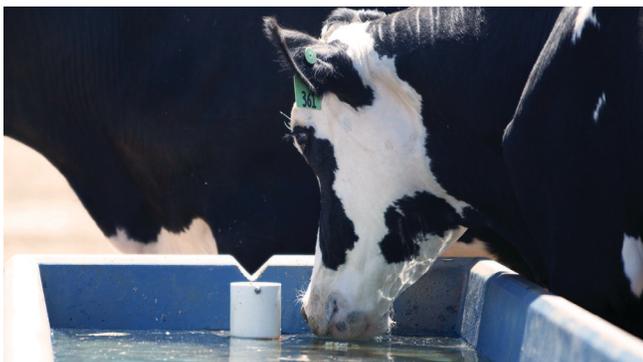
- All food production comes with an environmental footprint. Responsible food production seeks to minimize that footprint. Dairy farmers employ a wide range of environmentally sound practices in support of sustainable food systems, ranging from basic manure management programs to high-tech systems that convert cow manure to electricity.

Water Conservation

- While the entire farm to table process of producing dairy uses a small fraction of total water — just over 5% of total U.S. water withdrawal — the dairy community is dedicated to responsible water use.³
- Dairy farmers use water responsibly in their milking parlors and in manure management and storage. For example, wastewater is recycled to flush feed alleys and irrigate fields. Many dairy farmers can reuse water as many as five or six times.
- One benefit of fertilizing the soil with cow manure is to help conserve water. When manure is used as a soil treatment, the water-holding capacity of soil is increased by 20%, resulting in reduced groundwater needed to grow crops. In times of drought, dairy farmers can:
 - ▶ Grow crops that need less water, such as sorghum.
 - ▶ Import feeds such as alfalfa hay from areas where water is not an issue.
 - ▶ Use byproducts such as almond hulls as cow feed. This uses no extra water, since these byproducts were originally grown to feed people.

Water Quality

- Quality water is essential to a dairy farm. Dairy farmers provide their cows with clean water, which contributes to high-quality milk.
- State and local government agencies regularly inspect and test the water on dairy farms.
- The federal government also helps dairy farmers protect the water supply. For example, many farmers receive technical assistance when they upgrade their irrigation systems and manure storage facilities.



Manure being composted to minimize environmental impact and improve soil health, which benefits the crops farmers feed their cows.

Waste Management

- Dairy manure is a valuable resource for our communities. It can be used as a natural fertilizer on crops to grow more food, reducing the need for chemical fertilizers.
- Federal, state and local clean water laws regulate how manure is applied on cropland, so nutrients are absorbed by crops and not groundwater.

Air Quality

- Naturally, there are odors associated with farming. More and more dairy farmers recycle manure by injecting it right below the soil surface to help control odor in the community.
- Dairy farmers protect air quality by following proper manure storage practices and maintaining clean facilities.
- University researchers and industry manufacturers continually work with dairy farmers to identify new ways to control odor.

Dairy Farm Expansion

- For local authorities to approve expansion, a dairy farm must show it has adequate manure storage and recycling systems to handle more cows.



- Many dairy farmers, like other business owners, are modernizing and improving their efficiency in order to continue supporting their families and meeting increasing demand for dairy products.



Technology

- Robotic feed pushers are used in some barns to eliminate feed waste and ensure cows have access to food 24/7.
- Monitoring collars help farmers keep close tabs on their herd's health and nutrition.
- Some farms are starting to invest in robotic milkers to increase efficiency, allowing their employees to focus even more on animal care.
- New methane digester technology on dairies in some parts of the country converts manure into methane-rich biogas, a renewable fuel that can be used to generate electricity. Farms with this technology may generate more than enough electricity to run their operations, and they can sell the excess energy back to the local utility company.

ADDITIONAL RESOURCES:

1. CAPPER JL, CADY RA, BAUMAN DE. THE EFFECTS OF IMPROVED PERFORMANCE IN THE U.S. DAIRY CATTLE INDUSTRY ON ENVIRONMENTAL IMPACTS BETWEEN 2007 AND 2017
2. THOMA, G., ET AL. GREENHOUSE GAS EMISSIONS FROM PRODUCTION OF FLUID MILK IN THE US. UNIVERSITY OF ARKANSAS & MICHIGAN TECHNOLOGICAL UNIVERSITY. 2010.
3. INNOVATION CENTER FOR US DAIRY. U.S. DAIRY'S ENVIRONMENTAL FOOTPRINT: A SUMMARY OF FINDINGS, 2008-2012.

FOR MORE INFORMATION OR TECHNICAL REFERENCES, VISIT WWW.DAIRYDISCOVERYZONE.COM.

Just as important as their environmental practices, dairy farm families are committed to providing the world with responsibly produced, nutritious dairy foods that nourish people, strengthen communities and foster a sustainable future.

Sustainably nourishing a global population that is expected to grow to 10 billion people by the year 2050 will require collaboration and innovative solutions across the food system, and dairy farmers play a vital role.