



Sustainable productivity growth in U.S. dairy is key to sustainable food systems

Summary

Globally, 2.3 billion people suffer from moderate to severe food insecurity. Nearly 10% of the world's population – 811 million people – are undernourished.¹ The global population is expected to bloom to 10 billion people by 2050, requiring a dramatic increase in food production while coping with climate change and natural resource constraints.² At the same time, crises like the COVID-19 pandemic and Russia's invasion of Ukraine have caused supply and distribution disruptions and made more clear than ever the need for resilient, sustainable food systems.

U.S. dairy producers are global leaders in sustainably increasing productivity and efficiently using precious natural resources to address these challenges while producing high-quality and safe nutrient-dense foods.

The importance of efficiency gains and sustainable productivity growth in agriculture is supported by a wide body of evidence and normative work. According to the UN Food and Agricultural Organization (FAO):

“Addressing low productivity in food production can be an effective way of raising the overall supply of food, including nutritious foods, by reducing food prices and rising incomes, especially for the poorer family farmers and smallholder producers in low-income and lower-middle-income countries, like farmers, pastoralists and fisherfolk.”³

In contrast, evidence shows that reducing agricultural productivity would have significant negative consequences and risk increasing food insecurity. For example, the U.S. Department of Agriculture (USDA) has found that implementing the European Farm to Fork strategy globally would dramatically increase (by 185 million) the number of people experiencing hunger, with particularly negative consequences on vulnerable groups in low- and middle-income countries (LMICs).⁴

As part of the 2021 UN Food Systems Summit, the United States launched a Coalition on Sustainable Productivity Growth for Food Security and Resource Conservation (the SPG Coalition). The SPG Coalition aims to accelerate the transition to more sustainable food systems through agricultural productivity growth that optimizes agricultural sustainability across social, economic, and environmental dimensions. USDEC and other U.S. dairy organizations have signed on as strong supporters of the coalition.



Nutrient-dense dairy foods are critical to sustainable healthy diets

As a uniquely nutrient-dense food, dairy is a cornerstone of global food and nutrition security. Dairy foods are one of the most affordable and accessible sources of high-quality protein, as well as often under-consumed nutrients like calcium, iodine, zinc, vitamin D, and B12 – critical for healthy diets, especially for children, women, and vulnerable populations.

Globally, milk is under-consumed in all regions, with the sharpest differences between current and optimal intake seen in LMICs in Sub-Saharan Africa and Asia.⁵ In the United States, milk, cheese, and yogurt are the top sources of many essential nutrients in children's diets. Dairy foods provide about 52% of the calcium, 51% of the vitamin D and 17% of the

protein consumed by Americans.⁶ In low- and middle-income populations that consume mostly plant-based diets, nutrient deficiencies include calcium, iodine, zinc and vitamin B12, which can be provided by dairy foods and ingredients. In addition, many people in LMICs depend on dairy foods as a primary source of high-quality protein.⁷

As populations grow, dairy foods have become an increasingly important source of nutrition in emerging economies and LMICs. From 2010 to 2017, milk consumption increased 30% in Asia (from 277 million to 360 million tons), and more than 11% in Africa (from 45 million to 50 million tons).⁸ Dairy foods will continue to be critical contributors to global food and nutrition security.

U.S. dairy leads the world in sustainable productivity growth

The U.S. dairy industry is a global leader in producing more high-quality, nutrient-dense food more efficiently and using fewer natural resources. With a commitment to continuous improvement, the U.S. dairy industry in 2007 was able to produce milk using 65% less water, generating 76% less manure and with 63% lower greenhouse gas emissions (GHGE) than 70 years prior.⁹

Dairy has made significant environmental efficiency gains globally, reducing emissions per kilogram of milk produced by 11% from 2005 to 2015 while increasing global milk production by 30%.¹⁰ These global gains were largely driven by innovation and efficiency in U.S. dairy as the largest producer in North America. North America was the only region in the world to increase production while also reducing absolute emissions, making its emissions per kilogram of milk produced the lowest in the world. In parts of

Africa and other emerging dairy-producing nations, dairy farm emissions can be as much as 20 times higher.¹¹

The environmental efficiency gains made by U.S. dairy producers extends beyond reductions in GHGE. A study published in the Journal of Animal Science in 2020 found that producing a gallon of milk in 2017 required 30% less water, 21% less land, and had a 19% smaller carbon footprint than in 2007.¹²

Significant progress continues to be made and the U.S. is an exemplary model for dairy producers everywhere. U.S. dairy farmers are innovating to optimize feed and genetics, decrease emissions (including methane), reduce food waste and support healthier, sustainable communities. Feed for dairy cows makes use of plants humans cannot digest and food that would otherwise be wasted (like spent brewers grains).

A sustainable future for all

We continue to strive for a world free from hunger and malnutrition. To do so while protecting our environment for generations to come, we must act now to make our food systems more sustainable, by doing so much more with so much less. This means taking advantage of the best that modern science and agriculture has to offer in improving the productivity of food production. In this way, we can build a truly sustainable food system for all.



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