The Challenge to Canadian Dairy Supply Management and Climate Change

The emergence of the climate crisis presents new and urgent challenges for U.S. agriculture, as well as the imperative to learn from successful examples to reduce emissions while continuing to provide healthy and affordable food. The EPA's Inventory of Greenhouse Gas Emissions and Sinks: 1990-2017[1] charts greenhouse gas (GHG) emissions both by type and by sector using formats and methodologies established through the United Nations Framework Convention on Climate Change (UNFCCC). While emissions in many sectors are declining, those from the agriculture sector have increased by 12% since 1990.[2]

Under the U.S.-Mexico-Canada Agreement (USMCA), the Trump administration initiated discussions with Canada over its supposed failure to open its dairy market to U.S. exports according to the terms of the agreement. Canada denies that claim. U.S. labor and family farm groups have urged the Biden administration to drop that dispute, both because the opening would not address the problems confronting U.S. dairy farmers in any meaningful way and because they welcome the positive example of Canada's dairy supply management program. That program has served to support limited production at prices that are fair to farmers and consumers, enabling them to invest in more sustainable farm practices, including those that protect the climate. This has led to important environmental benefits:

- Dairy production in Canada has much lower emissions than the global average. The carbon footprint of one liter of Canadian milk is 0.94 kg of CO2 equivalent, which is less than half the global average (2.5 kg), as calculated by the FAO. Dairy production in Canada represents about 1% of Canada's total GHG emissions. Emissions from dairy farms have decreased an average of 1% per year since 1990.[3]
- The average dairy herd size in Canada is much lower than in the U.S., allowing for pasture grazing and soil carbon sequestration. In Canada, the average dairy herd is 97 cows.[4] Like farmers in the U.S., dairy farmers in Canada have embraced efficiency, genetics and feed formulation in order to drive down emissions per kg of milk. In addition, cattle grazing can help to sequester carbon in soils and maximize soil health gains. Smaller dairy herds can be grazed on grasslands. This combination of minimizing emissions and maximizing soil carbon represents one of the most positive versions of dairy production. Destroying or displacing smaller, dispersed grazing herds of dairy cattle and replacing them with production from huge, centralized, non-grazing herds is a net loss for soil health, carbon sequestration, sustainability and the climate.[5]
- Limits on overproduction mean that Canada exports little of its dairy products. Under its supply management program, local governments seek to balance supply and demand for specific dairy products. When those calculations are off, the residual is exported, but export markets do not drive production. According to the Canadian Dairy Information Centre, the value of Canadian dairy exports was CA $235 million (about US $181 million) in 2017. According to the U.S. Dairy Export Council, the value of U.S. exports in January 2018 alone was US $400 million.

The careful balance between dairy supply and demand will not function under a flood of imports. The tariff-rate quotas established under USMCA amount to 3.6% of the Canadian market. This comes on top of a concession equivalent to 3.25% of the market granted under Canada's entry into the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), and additional market access for 17,500 tons of European cheese under CETA (the Canada-European Union trade deal). Taken together, these new concessions could amount to nearly 9% of the Canadian dairy market.[6]

The two crises facing family farmers — economic and climate risk — are not disconnected. To make up for low prices, U.S. farmers face pressure to increase production. Increases in production further flood the market, lowering prices. But the pressure to continually expand production — and to seek ever expanding export markets — also has environmental costs, including the increased use of pesticides and high GHG emitting fertilizer that affect water quality, wildlife and biodiversity. Over 60% of U.S. dairy production takes place on industrialized operations with more than 500 cows, with several operations having well over 10,000 cows.[7] Those large-scale operations maximize the stocking density of the animals and generate considerably more manure than pasture-based farms. As indicated in the Environmental Protection Agency's most recent Inventory of Greenhouse Gases, the expansion of this system in recent years has led to a significant increase in methane emissions. These operations have worsened local air quality and threaten the health of local people.[8] This factory farm system is highly vulnerable to extreme weather events associated with climate change, with manure lagoon spills damaging waterways and nearby fields in North Carolina linked to recent hurricanes[9] and in Iowa linked to Midwest flooding.[10] The climate challenge of large-scale dairies has been recognized by the state of California, which has specifically targeted those dairies for a 40% reduction in emissions by 2030.

USTR Katherine Tai's stated commitment to integrate climate goals into U.S. trade policy is a welcome change. The current dispute with Canada presents a choice. The U.S. can continue pressure to expand highly emitting U.S. dairy production into the Canadian market, thus reducing less emitting Canadian dairy production and undermining both countries' climate goals. Or the U.S. could choose to abandon this challenge and instead open the possibility of learning from the Canadian experience to consider policies designed to promote more sustainable and resilient production.

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[1] U.S. Environmental Protection Agency, Inventory of Greenhouse Gas Emissions and Sinks: 1990-2017 https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2017

[2] US Environmental Protection Agency, Sources of Greenhouse Gas Emissions, https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

[3] Group AGECO (2018). Environmental and Socioeconomic Life Cycle Assessment of Canadian Milk. (Report prepared for Dairy Farmers of Canada), https://www.dairyresearch.ca/pdf/LCA-DFCFinalReport_e.pdf

[4] Canadian Dairy Information Centre, Number of farms, dairy cows and dairy heifers, https://www.dairyinfo.gc.ca/eng/dairy-statistics-and-market-information/farm-statistics/farms-dairy-cows-and-dairy-heifers/?id=1502467423238

[5] Comments from Darrin Qualman, National Farmers Union of Canada Director of Climate Crisis Policy & Action

[6] AGROPUR Dairy Cooperative, All You Need to Know about the USMCA, https://www.agropur.com/en-us/newsletters/all-newsletters/All-you-need-to-know-about-the-USMCA

[7] USDA, 2017 Census of Agriculture: United States, 23, tbl 17, 2018.

[8] Public Justice, et all, Petition Before the United States Environmental Protection Agency to List Industrial Dairy and Hog Operations as Source Categories under Section 111(b)(1)(A) of the Clean Air Act, 19-20, 24, April 6, 2021, https://food.publicjustice.net/wp-content/uploads/sites/3/2021/04/2021.04.06-Industrial-Dairy-and-Hog-CAA-111-Petition-FINAL.pdf

[9] Shefali Sharma, Hogwash and its aftermath: Climate change and corporate accountability after Hurricane Florence, Institute for Agriculture and Trade Policy, October 8, 2018, https://www.iatp.org/blog/hogwash-and-its-aftermath

[10] Erin Jordan, Eight manure lagoons overflow in western Iowa because of flooding, Sioux City Journal, March 26, 2019, https://siouxcityjournal.com/news/state-and-regional/iowa/eight-manure-lagoons-overflow-in-western-iowa-because-of-flooding/article_792b6561-c617-58ea-b287-70c58d3bb2bc.html