

Fat Chance: Is Irish Butter as Green as Consumers Think?

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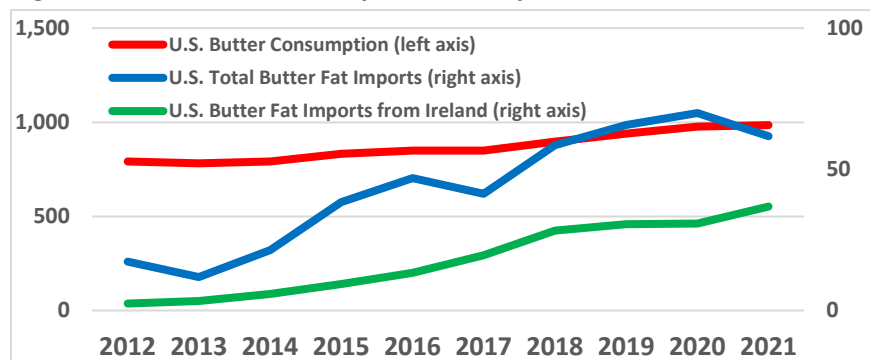
Over the past decade, U.S. consumers have revealed an increased preference for Irish butter. Increased imports were apparently driven by taste and Ireland's reputation for premium dairy products and natural grass-fed production.¹ To boost milk production and sustain increased butter exports, Irish farmers increased cow numbers and fertilizer use that is believed to be increasing environmental degradation. This EBOT discusses increased U.S. butter imports from Ireland, increasing cow numbers and fertilizer use in Ireland, and some of the environmental effects related to increased fertilizer use on the Irish environment.

Butter Demand and Imports²

U.S. consumers have developed a preference for Irish butter related to various attributes including flavor, health, and sustainability. Sustainability is an unobservable latent characteristic; thus, consumers must rely on reputation as they are likely unaware of all the environmental impacts of the products they purchase.³ Recently, 94 percent of consumers said it was at least somewhat important for food to be grown and sourced sustainably, yet only one percent could correctly differentiate true and false statements about sustainable agriculture.⁴

U.S. consumption of imported butter has increased dramatically over the last decade. Total U.S. butter consumption increased by 24.4 percent (2.5 percent CAGR) from 2012 to 2021 (Figure 1). Meanwhile, all U.S. milk fat imports, including butter, increased by 257.5 (15.2 percent CAGR) over the same period. These imports were dominated by Irish butter. Imports from Ireland skyrocketed during this period, increasing by 1,395.2 percent (35.1 percent CAGR), driving Ireland's share of total U.S. milk fat imports up from 14.3 to 59.6 percent. Irish butter in the United States is sold almost exclusively under the Kerrygold brand with "Milk from Irish Grass-fed Cows" emblazoned on the label.⁵

Figure 1. U.S. Butter Consumption and Imports, 2012 to 2021, 1,000 metric tons



Sources: USDA PSD database and USITC DataWeb database, accessed August 8, 2022

Other than flavor that consumers can observe directly, preferences with respect to grass-fed dairy products have been linked to latent attributes such as health and environmental benefits. The health benefits of fat from grass-fed cows have been well documented, however, environmental costs and benefits are less

¹ Bord Bia, "[Grass-fed Reputation of Irish Dairy in USA](#)," accessed October 25, 2022.

² Consumption is based on USDA PSD consumption data on a butter equivalent basis. Imports include all milk fat products classified under HTS heading 0405 converted to a butter equivalent basis.

³ Caggemini Research Institute, "[How Sustainability is Fundamentally Changing Consumer Preferences](#)," 2020, accessed August 5, 2022.

⁴ Chase, "[Study: Nearly 40% of US Adults Have Never Met a Farmer](#)," AgriPulse, October 12, 2022.

⁵ Kerrygold is a registered trademark of Ornuia Co-operative Limited and is the number two branded butter sold in the United States. Ornuia is a federated cooperative consisting of Irish dairy processing cooperatives that cover approximately 14,000 of Ireland's 17,000 dairy farms.

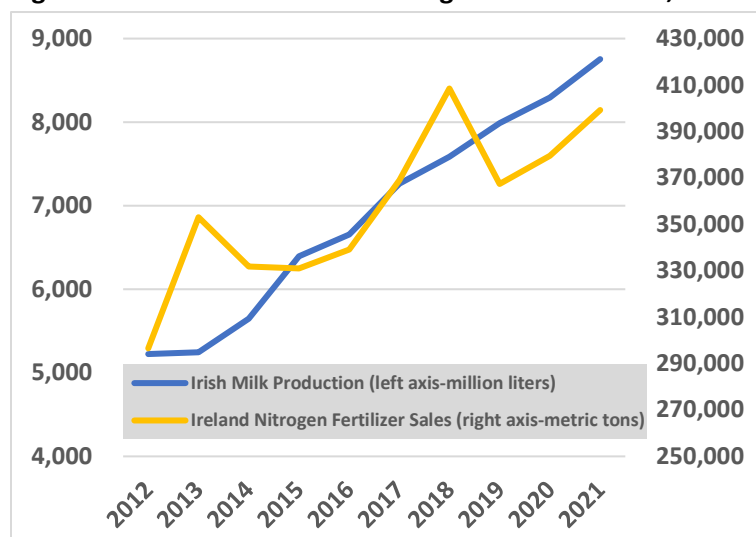
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clearly understood by consumers. For example, research has shown that milk fat from grass-fed cows has an overall healthier balance of fatty acids. While research finds that consumers associate pasture-based production with sustainable benefits, research also finds that consumers have a low level of knowledge and are confused by what constitutes sustainable agricultural production.⁶

Ireland: Cattle Numbers, Milk Production, and Nitrogen Fertilizer

Removal of European Union (EU) milk production quotas in April 2015 allowed Irish dairy farmers to increase milk production to boost global butter exports.⁷ This was accomplished by increasing dairy cow numbers and increased application of nitrogen fertilizers. Dairy cow numbers increased by 445,000 (1.06 to 1.51 million, 42 percent) over the decade from 2012 to 2021, with nearly 85 percent (378,000) taking place after milk production quotas were removed. At the same time, milk production increased by more than 3.5 billion liters (5.2 to 8.8 billion liters, 67.6 percent) with 88.0 percent of the increase happening after 2014 (Figure 2). The increased stocking rate (cows per acre) required more grass production per acre, requiring a higher rate of nitrogen fertilizer application. Nitrogen fertilizer (N) sales increased by 34.3 percent over the same decade; thus, milk production and N sales are highly correlated (0.81).

Figure 2. Milk Production and Nitrogen Fertilizer Sales, 2012–21



Source: Central Statistics Office, Government of Ireland, accessed August 8, 2022

Increased nitrogen fertilizer use on Irish dairy farms has led to negative environmental impacts. *An Taisce*—The National Trust for Ireland—among others, have linked increasing nitrates in rivers and estuaries, and increasing greenhouse gas emissions (ammonia, methane, and nitrous oxide) to dairy expansion in Ireland. Dr. Elaine McGoff, Natural Environment Officer for *An Taisce*, stated that *An Taisce* had been warning for years that dairy expansion has rising societal costs in terms of climate, air and water pollution, and ecosystems. According to *An Taisce*, it is also hurting Ireland’s international

reputation on climate action.⁸ It was recently reported that Ireland is considering re-instituting a cap on milk supplies to reduce cow numbers.⁹

⁶ Joubran et. al., “[Invited Review: A 2020 Perspective on Pasture-based Dairy Systems and Products](#),” *Journal of Dairy Science*, Vol. 104, No. 7, July 2021.

⁷ Irish butter exports to the world increased by 92 percent from 2014 to 2021; over the same period Irish butter exports to the United States increased by 644 percent. The share of total Irish butter exports to the United States increased from less than 3 percent in 2014 to 11 percent in 2021. The Netherlands, Germany, and the United Kingdom accounted for 65 percent and nearly 69 percent of Irish butter exports in 2014 and 2021, respectively.

⁸ *An Taisce*, “[New EU Report Points to Irish Agriculture’s Worsening Environmental Credentials](#),” July 7, 2020; Mulligan, “[Rivers and Lakes Face Pollution Crisis Caused by Ireland’s Dairy Industry](#),” *The Irish Times*, July 9, 2022.

⁹ [The Dairy Market Analyst](#), Vol. 30, No. 31, August 12, 2022.

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