



Final Written Submission

U.S. Dairy Export Council and the National Milk Producers Federation on the U.S.
International Trade Commission Investigation on Nonfat Milk Solids Competitive
Conditions for the United States and Major Foreign Suppliers

USITC Investigation 332-607

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Overview of Additional Written Submission

The National Milk Producers Federation (NMPF) and the U.S. Dairy Export Council (USDEC) appreciated the opportunity to participate in the U.S. International Trade Commission (USITC) hearing and submit extensive prehearing comments on the nonfat milk solids competitive conditions for the United States. We maintain our position on all comments filed to date and offer this additional submission as a complement to the prehearing comments and staff testimony. This filing seeks to elaborate upon two topics that Commissioners raised questions about in the hearing and that we wanted to provide additional information on: (1) Canada's distortionary nonfat milk solids pricing mechanism and subsequent attempts to circumvent USMCA export disciplines and (2) implications of the European Union's legacy subsidization of casein and caseinate production. Our final written comments here address those two topics in greater detail. We remain ready to answer questions on both the final and earlier submissions.

Canada

Canada has asserted that the relatively smaller size of its dairy industry and subsequent total dairy trade compared to other global suppliers makes it a "negligible player" in nonfat milk solids trade. This conflation of total dairy trade and nonfat milk solids is disingenuous as it seeks to diminish the outsized negative implications that Canada's behavior has on global markets. Further, aggregating all nonfat milk solids into a total volume calculation does not paint an accurate picture of Canada's undue market influence, particularly given its intentional move up the processing value chain from lower value, high volume skim milk powders to high value protein concentrates and isolates.

Moreover, Canada's trade data is incomplete and misleading. Its estimations omit several key tariff codes, notably HTS 1901.90, that increasingly contain nonfat milk solids. This selective accounting distorts the true extent of Canada's exports and conceals the breadth of its global market footprint.

As detailed further in this filing, the evidence points to a clear pattern: Canada's shift in production and classification is an intentional attempt to circumvent the export disciplines established under USMCA. Far from being a minor participant, Canada's policies manipulate the nonfat milk solids market, undermining both the letter and the spirit of its trade commitments in tandem. If left unchecked, this impact on global markets will only continue to grow.

Tracking Canadian 4a Proteins

One of the central challenges in the ITC’s investigation into nonfat milk solids has been identifying exact volumes of Canadian dairy proteins impacting U.S. dairy producers and processors. However, after analyzing the data in greater detail, it is abundantly clear the volume of MPCs exported under the HTS code 3504.00 is rising, harming U.S. dairy producer and processor sales and margins.

To demonstrate this, we can first examine Canada’s monthly sales and revenue by milk class, which records the total volume of protein and other nonfat solids sold into 4a. Between July 2020 and July 2025, between 15% and 20% of all Canadian dairy protein and other nonfat solids were marketed under Class 4a,¹ which equates to over 50,000 MT of dairy protein per year in each of the last five dairy years.² That is no small quantity of dairy protein; the 53,720 MT of dairy protein in 2024/25 was enough to produce 158,000 MT of skim milk powder (SMP).³

	2020/21	2021/22	2022/23	2023/24	2024/25
Total Dairy Protein Marketed (MT)	301,769	299,067	305,039	312,158	318,423
Protein Utilization in 4a (MT)	50,211	51,258	56,636	54,579	53,720
Protein Utilization in 4a (%)	16.6%	17.1%	18.6%	17.5%	16.9%
SMP Protein Content	34%				
Protein Utilization in 4a (SMP Equivalent)	147,680	150,760	166,575	160,525	157,999

However, the data would also highly suggest that nonfat milk solids marketed under Class 4a are moving away from skim milk powder, which is subject to export threshold constraints under USMCA. Instead, greater volumes of subsidized dairy proteins from Canada are being allocated into MPCs, isolates, and blended products that utilize other HTS codes not subject to any USMCA restrictions, primarily 3504.00 and 1901.90.

Correlation Between “Missing” 4a Protein and 3504.00 Exports

Based on Canada’s published SMP production statistics for the 2020/21, 2021/22, 2022/23 and 2023/24 dairy years,⁴ we can estimate the volume of “missing” 4a protein based on a 34% protein content in SMP. Based on this value, we can see clearly that about half of the protein marketed under Class 4a is unaccounted. The missing volume would be the equivalent of between 24,500 MT and 34,000 MT of MPC85, more than enough to account

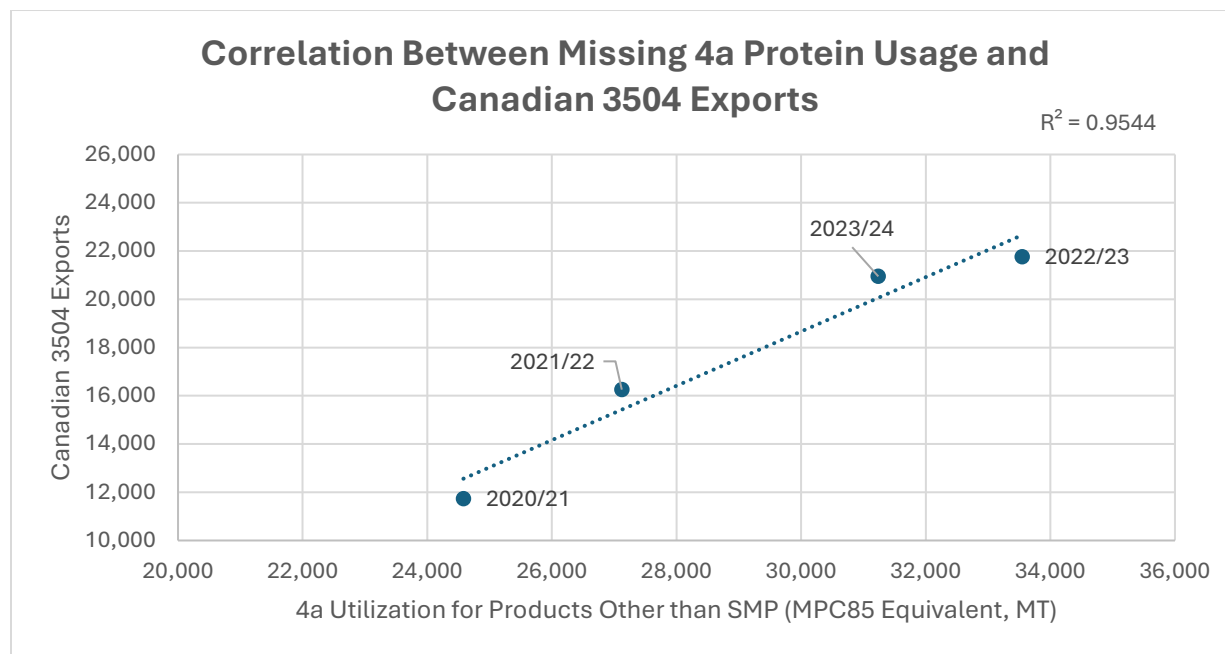
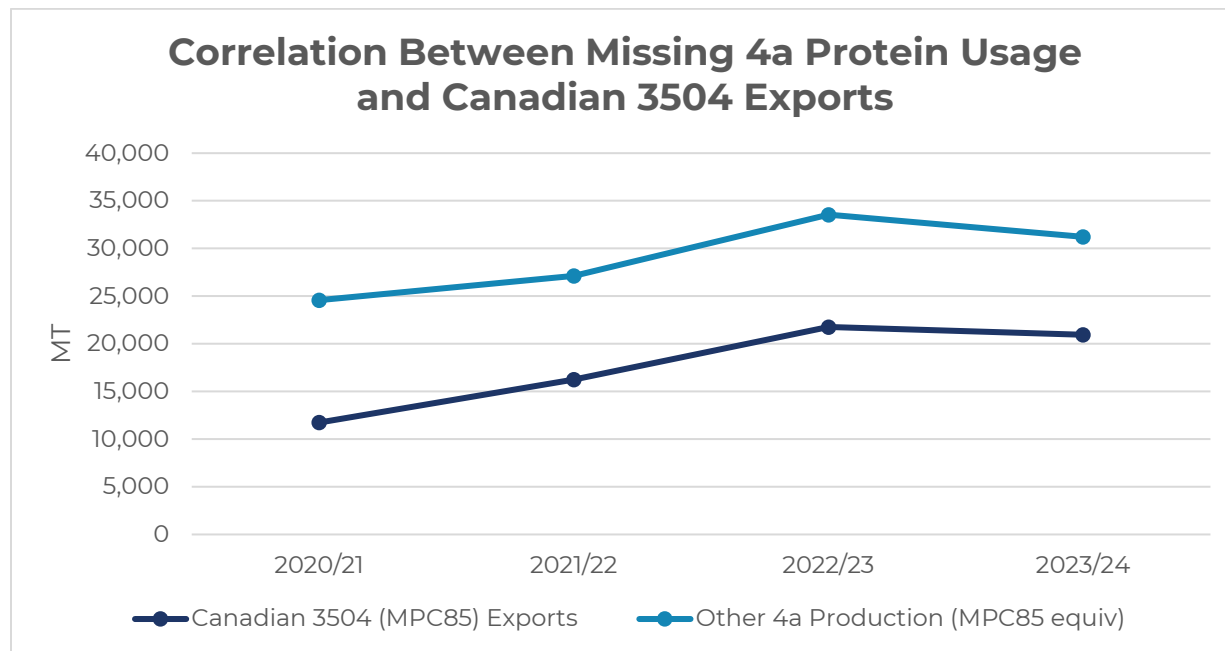
¹ [D082 Monthly Sales and Revenues by Milk Class - Canada](#)

² Defined by the Canadian Dairy Commission as August 1 through July 31.

³ For comparison, the U.S. produced 995,589 MT of non-fat dry milk and skim milk powder over the same time period, making Canada’s potential SMP production equivalent to 16% of the U.S. supply.

⁴ [Production of Concentrated Milk Products, Statistics Canada Table 32-10-0247-01](#)

for the entirety of Canadian exports under 3504.00. Furthermore, the trends between the “missing” 4a protein and the 3504.00 exports line up with near perfect correlation.⁵



While an admittedly small sample size, the trend between the two data points would highly suggest the vast majority of 3504.00 is indeed dairy proteins. If you add in 0404.90—assuming the protein content is around 70% on average—the correlation is just as strong.⁶

⁵ R^2 of 0.9544

⁶ R^2 of 0.948

Lack of Viable Alternative Products

Indeed, there seems to be very little else that the product exported under 3504.00 could be besides MPCs and MPIs. The most likely alternate product is pea protein concentrates and isolates given Canada's size of pea production and other plant and animal-based protein concentrates separated into other HTS codes.

However, given the size of exports coming in from Canada, pea protein is unlikely to be a major contributor to the overall number. The market for pea protein concentrates and isolates is significantly smaller than milk protein concentrates. In a study conducted by the Canadian Ministry of Agriculture, the total volume of pea protein ingredients sold in Canada's food package market was less than 2,500 MT in 2023.⁷ While the U.S. pea protein market is larger than Canada's by a fair distance according to that study,⁸ total pea protein consumption is still a fraction of MPC consumption as USDA estimates U.S. production of MPC is roughly threefold the volume of pea protein,⁹ and that's even before counting the imported volume making consumption likely even larger than that.

Furthermore, ITC's own investigation into pea protein from China in 2023 identified that imports from third country markets (i.e., not China or domestic production) were "the smallest source of [high protein content] pea protein in the U.S. market" between 2020 and 2022.¹⁰ All of this data would lend further credence to the idea that the vast majority of Canada's 3504.00 exports are, indeed, MPCs and MPIs.

Looking Ahead

Canada has yet to publish monthly SMP production for 2025, meaning we cannot yet estimate the "missing" 4a protein for the 2024/25 dairy year. However, the export data shows a sharp acceleration in Canada's 3504.00 exports.¹¹ If our analysis is correct that the vast majority of HTS 3504.00 is MPCs and MPIs, we would expect to see reduced shipments of SMP in that same time, and, indeed, that is exactly what the data shows. In 2024/25, Canadian SMP exports fell by over 30% to 15,783 MT, while their exports of protein concentrates under HTS 3504.00 jumped by 62% to 33,840 MT. With Vitalus and other Canadian manufacturers expected to expand milk protein processing capacity in 2026 and 2027—supported by the Canadian government's dairy processing subsidies further elaborated later in this filing—export volumes under HTS 3504.00 will likely continue to rise.

⁷ <https://agriculture.canada.ca/en/international-trade/market-intelligence/reports-and-guides/customized-report-service-product-launch-analysis-pea-protein-isolate-ingredient-packaged-food-and>

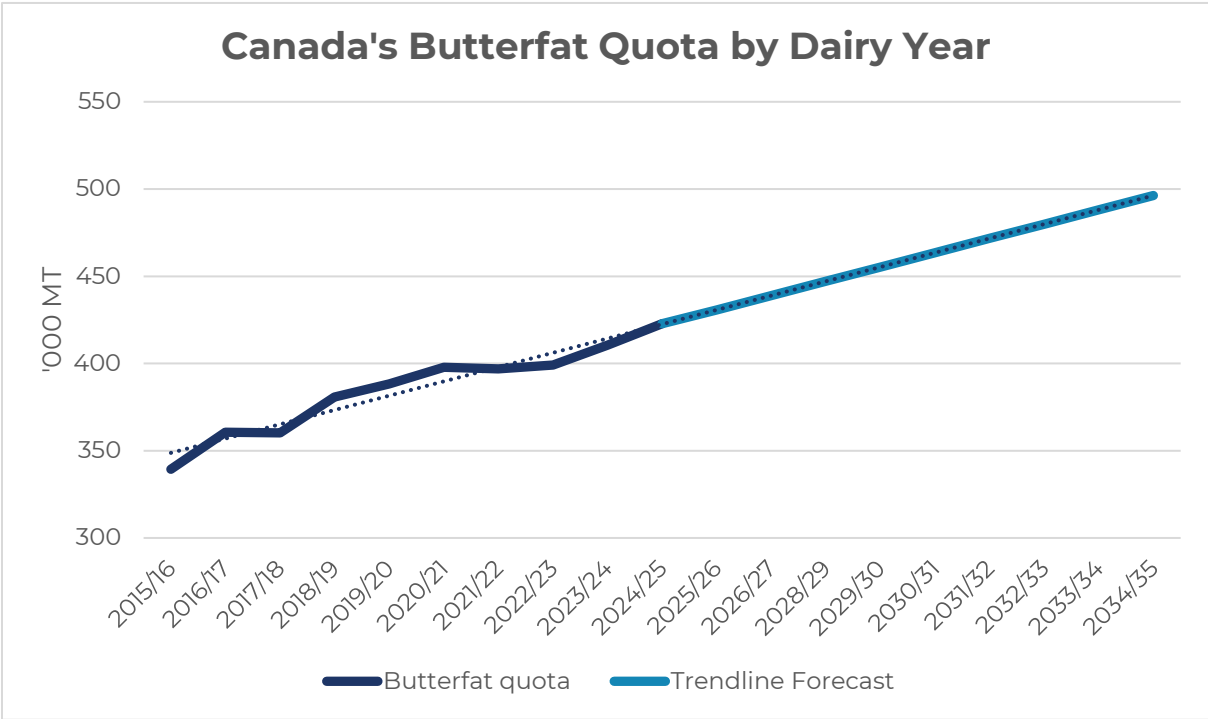
⁸ 50,279 MT

⁹ 151,046 MT in 2024

¹⁰ https://www.usitc.gov/publications/701_731/pub5457.pdf

¹¹ 33,840 MT between August 1, 2024 and July 31, 2025.

In addition to the new processing investment focused on exporting 4a proteins, Canada’s consumption of milkfat continues to rise, which we anticipate will lead to further increases in milk production quota in the future. If you run a simple linear trend of Canada’s butterfat quota out to the 2034/35 dairy year, Canada will increase its production of butterfat by an estimated 73,500 MT. Assuming a fat-to-protein ratio of 1.332, Canada’s production of dairy protein would increase by an estimated 54,069 MT. If you assume 17.3% of Canada’s dairy protein goes into Class 4a (the average utilization between 2020/21 and 2024/25), Canada would increase its annual 4a protein production from 53,720 MT in 2024/25 to 64,499 MT in ten years. That volume would be enough to make an additional 31,703 MT of SMP or 12,681 MT of MPC in 2034/35 compared to 2024/25—most of which we would assume to enter the global market and compete with U.S. dairy producers and manufacturers.



		Butterfat Quota (‘000 MT)	Fat-to- Protein Ratio	Protein Supply (‘000 MT)	Protein Utilization in 4a (%)	Protein Utilization in 4a (‘000 MT)	Protein Utilization in 4a (MT, SMP Equivalent)
Actual	2015/16	339.4					
	2016/17	360.6					
	2017/18	360.3					
	2018/19	380.7					
	2019/20	388.3					
	2020/21	397.9	1.31	301.8	16.6%	50.2	147,680
	2021/22	397.0	1.32	299.1	17.1%	51.3	150,760
	2022/23	399.1	1.32	305.0	18.6%	56.6	166,575
	2023/24	410.4	1.32	312.2	17.5%	54.6	160,525
	2024/25	422.8	1.33	318.4	16.9%	53.7	157,999
Forecast	2025/26	430.7	1.33	323.3	17.3%	56.0	164,641
	2026/27	438.9		329.4		57.0	167,774
	2028/29	447.1		335.6		58.1	170,906
	2029/30	455.3		341.7		59.2	174,039
	2030/31	463.5		347.9		60.2	177,171
	2031/32	471.7		354.0		61.3	180,304
	2032/33	479.9		360.2		62.4	183,437
	2033/34	488.1		366.3		63.4	186,569
	2034/35	496.3		372.5		64.5	189,702

Impact on Producers

While at first glance the milk protein concentrate volumes may not appear as large as the SMP export volumes during the Class 6 and 7 era between 2016 and 2019, the impact on dairy producers is significant. Given that the global market for MPC in 2024 was estimated at under 300,000 MT, according to a study by GIRACT,¹² Canada’s 3504.00 and 0404.90 exports would be the equivalent of 14% of the global MPC market. That level of supply would undoubtedly push prices for MPC lower than they otherwise would have been. Yet, the impact has not only been felt by U.S. manufacturers of MPC, but also dairy farmers.

After adjusting for the protein content in Canadian exports under 0402.10, 0404.90 and 3504.00 and adjusting for protein-to-lactose ratios in U.S. milk, we can estimate the equivalent Class IV nonfat milk solids and, ultimately, the equivalent in Class IV skim milk.

¹² Milk Protein Book 2024: Global Market for Milk Proteins 2024-2029, GIRACT

Given historic prices for Class IV skim, Canada's 4a protein exports would be the equivalent of over \$740 million worth of Class IV skim paid to producers in the last four years.

While it is no guarantee that the full equivalent of 7.1 billion lbs. of U.S. skim milk production was lost over the last four years, failure to limit Canada's trade distorting practices has undoubtedly dampened margins for dairy farmers and processors as additional supply in the U.S. and global markets pushes prices lower, thus harming margins and dampening expansion capabilities.

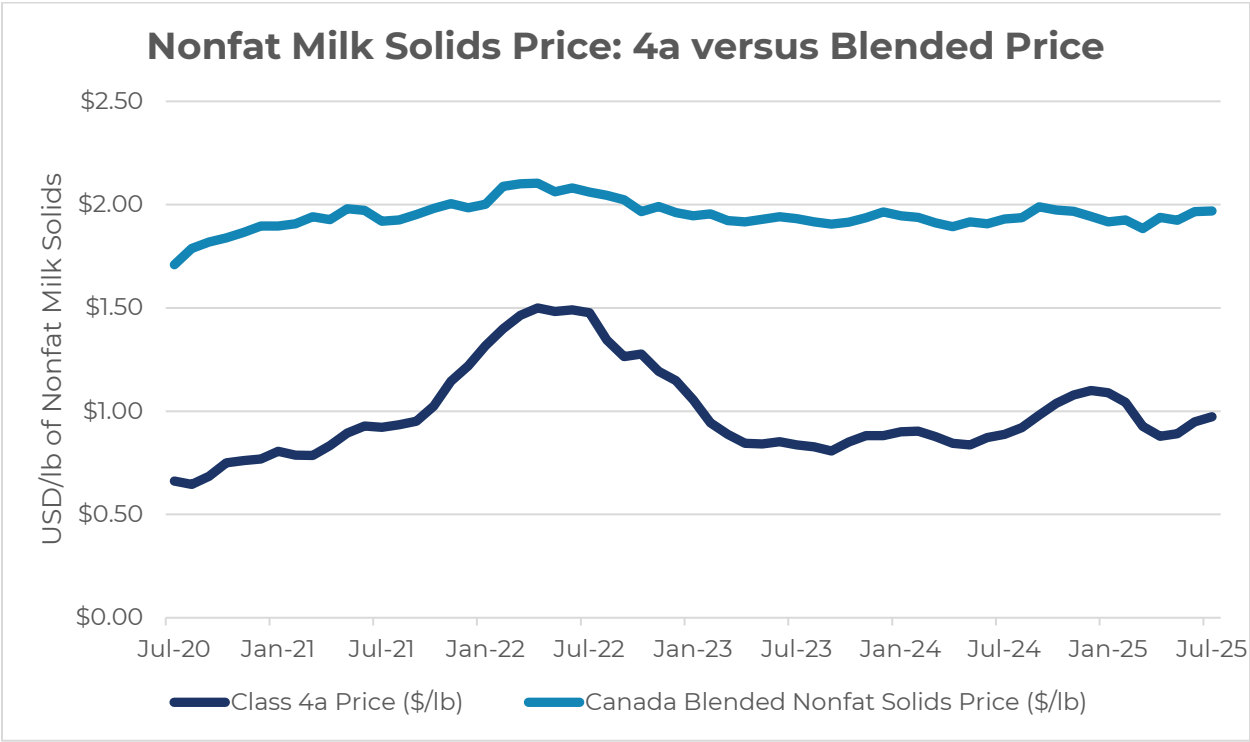
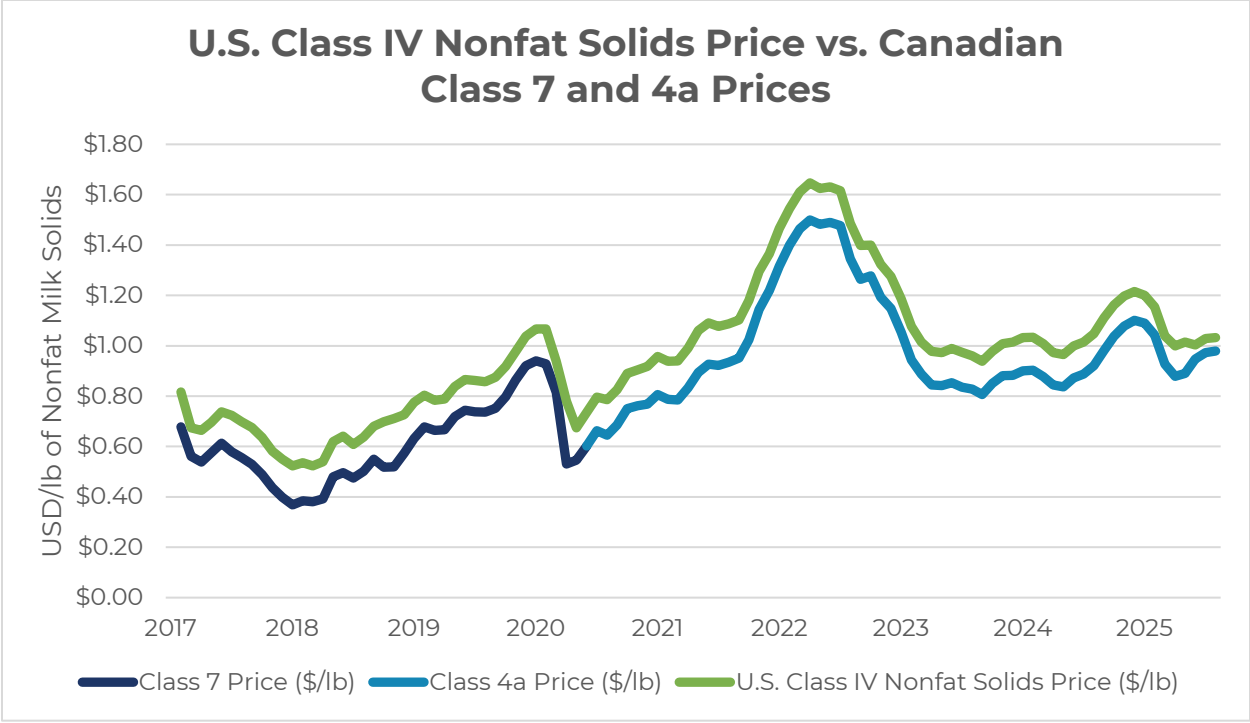
	Metric	2021/22	2022/23	2023/24	2024/25	Total
Actual Volumes	Canada 3504.00 Exports (MT)	16,253	21,767	20,947	33,840	92,807
	Canada 0402.10 Exports (MT)	24,282	25,810	22,739	15,783	88,614
	Canada 0404.90 Exports (MT)	6,341	7,485	8,084	7,583	29,493
Protein Equivalent	Canada 3504.00 Exports (85% Protein, MT)	13,815	18,502	17,805	28,764	78,886
	Canada 0402.10 Exports (34% Protein, MT)	8,256	8,775	7,731	5,366	30,129
	Canada 0404.90 Exports (70% Protein, MT)	4,439	5,240	5,659	5,308	20,645
	Total 4a Protein Exports (excl. SMP blends)	26,510	32,517	31,195	39,438	129,660
	U.S. Protein-to-Lactose Ratio	0.56	0.56	0.57	0.57	
	Canada 4a Exports in U.S. Nonfat Solids Equivalent (MT)	73,798	90,181	86,114	108,156	358,248
	Canada 4a Exports in U.S. Class IV Skim Equivalent (cwt)	14,642,607	17,893,258	17,086,376	21,459,885	71,082,127
	Average Class IV Skim Price	\$12.88	\$10.56	\$8.94	\$9.88	
	Canada 4a Exports Value in Class IV Skim Equivalent (Million USD)	\$188.58	\$188.94	\$152.81	\$212.08	\$742.41

Ultimately, the analysis above still probably understates Canada's overall exports of nonfat milk solids as it does not account for the skim milk powder sold at below-market rates that is blended with other products and then exported under alternative HTS codes. It is our understanding that the Dairy Companies Association of New Zealand will be submitting a detailed analysis of Canadian nonfat milk solids exports in Chapter 19 that our team found highly credible.

To supplement their findings and lend further credence to the idea that there is Canadian SMP that is being exported outside of the standard SMP code, there has been a jump of roughly 15,000 MT per year in implied SMP domestic usage/exports under alternative codes since USMCA. It is highly doubtful Canada's domestic consumption of SMP—which had been falling pre-USMCA—rose by a third in less than a year and then held steady over the last four years. As such, we can reasonably estimate that there are significant quantities of SMP (at least 15,000 MT) being exported as blends and competing with U.S. dairy both in the U.S. and third country markets. Given Canada's 1901.90 exports have also risen dramatically with the implementation of USMCA, the evidence continues to point to Canada moving its surplus dairy protein and milk powders into international markets thanks to artificially low pricing policy.

Finally, and just as importantly as the current injury, having a neighbor north of the border paying a milk price—as determined by policy, not commercial factors—to be consistently below U.S. manufacturers of milk proteins or SMP disincentivizes investment in manufacturing even as demand for milk proteins and nonfat solids is growing, limiting potential job growth, milk production expansion, and international competitiveness. As iterated in our earlier submission, the Canada's 4a price is consistently below both the U.S. price, which is commercially determined (as demonstrated in the graph below), as well as the aggregate blended price for nonfat milk solids in Canada (the second graph below). Thanks to a protected market with pay prices for virtually all other classes of milk set to cover the cost of production for Canadian farmers, an artificially low 4a price designed to be below international levels provides Canada's processors of nonfat milk solids an unfair advantage in global markets while Canadian farmers are insulated from actual market signals. The advantage of Canadian nonfat solids processors has only become further exacerbated by the Canadian federal and provincial governments offering financial support for further expansion.¹³

¹³ <https://www.cbc.ca/news/canada/british-columbia/milk-production-plant-1.7182844>



European Union

The European Union has a long history of subsidizing casein production, which has inundated global markets and undercut U.S. producers. The European Union has built a casein production system that was substantially subsidized by European taxpayers under the Common Agriculture Policy. U.S. exporters are still dealing with the resulting consequences of the European Union's anticompetitive policies that have propped up its domestic casein manufacturers.

Background on EU Casein & Caseinate Processing Subsidies

Between 1968 and 2013, the European Community (later European Union) operated a production aid scheme for converting skimmed milk into casein and caseinates. Created under Council Regulation (EEC) No 804/68¹⁴ establishing the Milk Common Market Organisation (CMO), the scheme aimed to equalize processor returns on skimmed milk used for casein with those on skim milk processed into SMP.

Over its lifetime, the scheme is estimated to have channeled around €8.9 billion in public support (≈ \$10–11 billion nominal, not inflation-adjusted) to EU casein and caseinate manufacturers. This total combines:

- Inferred pre-1995 support: Based on documented production volumes from the USITC (2004)¹⁵ and WTO Secretariat (1990), known legal aid rates, and official skim-to-casein conversion factors, EU casein production is estimated to have grown from ≈130,000 metric tons in the late 1970s to ≈180,000 metric tons by 1994. Using linear interpolation to estimate intermediate years and applying contemporaneous aid rates yields ≈ €6.6 billion in cumulative transfers over 1970–1994.
- Documented post-1995 support: NGO Solidarité compiled expenditure data directly from the European Commission's EAGGF Guarantee Section accounts, showing ≈ €2.25 billion disbursed between 1995 and 2004, plus about €50 million in final residual payments in early 2005.

Because the aid was always calculated per 100 kg of skimmed milk, it created very large implicit subsidies per ton of casein (e.g., about €2,000/MT in 1995). The level changed frequently to track SMP–casein price gaps, with sharp cuts after 2004 leading to the scheme's collapse and formal abolition in 2013.¹⁶

¹⁴ Regulation (EEC) No. 804/68, OJ L 148, 28 June 1968, 13.

¹⁵ U.S. International Trade Commission. (2004). Conditions of competition for milk protein products in the U.S. market (Investigation No. 332-453, USITC Publication 3692).

¹⁶ Regulation (EU) No. 1308/2013, OJ L 347, 20 Dec. 2013, 671.

Aid use was geographically concentrated: France, Ireland and the Netherlands absorbed around 75–80 % of subsidized skimmed milk in the late 1990s and early 2000s, with Germany and Denmark supplying most of the remainder. No firm-level data exist, but the main operators were well known (e.g. Glanbia, Kerry, Lakeland; Savencia, Eurial, Lactalis Ingrédients; FrieslandCampina).

While the aid has ended, its structural legacy endures. Decades of subsidized production enabled the emergence of Europe’s casein hubs. In 2023, the EU still exported about 56,800 metric tons of casein (≈\$593 million), led by Ireland and France—illustrating the durable competitive base created under the scheme. These entrenched EU players, whose scale and infrastructure were built under decades of public support, continue to pose a significant competitive challenge for U.S. dairy protein exporters.

Specifically, the companies dominating this space today— notably Glanbia, Kerry, and Lakeland (Ireland); Savencia, Eurial, and Lactalis Ingrédients (France); and FrieslandCampina (Netherlands)—built or expanded their casein capacity under the protection of the EU aid regime. While they later diversified, their cost base and scale were established during a period when production rents were guaranteed through public subsidy.

U.S. manufacturers seeking to grow in global dairy protein markets face entrenched EU incumbents whose capital stock, market share, and distribution networks were effectively co-financed by decades of EU budgetary support. Even though the aid has ended, its effects persist in the form of lower average costs, larger economies of scale, and more extensive commercial linkages for EU producers.

Overview and History of the Scheme

The European Community introduced production aid for skimmed milk processed into casein and caseinates in 1968 under Council Regulation (EEC) No 804/68¹⁷, which established the Common Market Organisation (CMO) for milk. Council Regulation (EEC) No 987/68¹⁸ set the general framework: it defined the eligible products (acid casein, rennet casein, and caseinates); required the aid to be calibrated so that the return on skim milk used for casein/caseinates was equivalent to that for SMP; mandated full pass-through of the aid in the purchase price of skim milk; and designated national intervention agencies as the paying authorities. Commission Regulation (EEC) No 756/70¹⁹ operationalized the scheme by fixing the initial aid at 2.02 units of account (UA) per 100 kgs of skim milk and prescribed quality standards, documentation, and control procedures for payment. The

¹⁷ Regulation (EEC) No. 804/68, OJ L 148, 28 June 1968, 13.

¹⁸ Regulation (EEC) No. 987/68, OJ L 169, 18 July 1968, 13.

¹⁹ Regulation (EEC) No. 2203/89, OJ L 209, 21 July 1989, 33.

unit of account was the Community's monetary unit; it became the European Currency Unit (ECU) in 1980 and was replaced at parity by the euro in 1999. Because the aid was always set per 100 kgs of skim milk, this nominal continuity allows like-for-like comparison of rates over time.

The rate evolved through multiple legal amendments. In 1971 it was reduced to 1.83 UA/100 kg²⁰; in 1976 it was increased to 5.30 UA/100 kg²¹; and in 1977 to 5.55 UA/100 kg.²² By October 1979 it rose to 6.25 ECU/100 kg,²³ before being cut to 5.75 ECU in April 1980,²⁴ 5.00 ECU in August 1980,²⁵ and 4.80 ECU in December 1980.²⁶ In 1981 it was raised to 5.20 ECU²⁷ and 5.35 ECU.²⁸ In 1982 it reached 6.25 ECU.²⁹

The implementing framework was recast in Commission Regulation (EEC) No 2921/90,³⁰ which maintained the practice of setting a single aid per 100 kg via periodic amendments. The rate was 7.94 ECU/100 kg in October 1990,³¹ 7.00 ECU in 1992,³² 6.30 ECU in 1993,³³ 6.75 ECU in June 1995,³⁴ 6.25 ECU in October 1995,³⁵ 6.90 EUR in 1999 (before Reg. 2501/1999), 6.42 EUR after Reg. 2501/1999, and 6.30 EUR in 2003.³⁶ A rapid sequence of cuts in 2004–2005 lowered the rate from 6.30 to 6.00,³⁷ 6.00 to 4.80,³⁸ 4.80 to 3.30,³⁹ 3.30 to 2.70,⁴⁰ and finally to 1.30 €/100 kg in February 2005.⁴¹ By 2013, the Single CMO Regulation (EU) No 1308/2013 repealed the legal basis entirely.⁴²

²⁰ Regulation (EEC) No. 2814/71, OJ L 291, 23 Dec. 1971, 9.

²¹ Regulation (EEC) No. 745/76, OJ L 86, 1 Apr. 1976, 44.

²² Regulation (EEC) No. 984/77, OJ L 117, 11 May 1977, 12.

²³ Regulation (EEC) No. 2213/79, OJ L 257, 4 Oct. 1979, 15.

²⁴ Regulation (EEC) No. 873/80, OJ L 94, 10 Apr. 1980, 11.

²⁵ Regulation (EEC) No. 1621/80, OJ L 160, 26 June 1980, 11.

²⁶ Regulation (EEC) No. 2938/80, OJ L 307, 13 Nov. 1980, 26.

²⁷ Regulation (EEC) No. 1585/81, OJ L 155, 9 June 1981, 12.

²⁸ Regulation (EEC) No. 2861/81, OJ L 283, 1 Oct. 1981, 19.

²⁹ Regulation (EEC) No. 1331/82, OJ L 150, 29 May 1982, 35.

³⁰ Regulation (EEC) No. 2921/90, OJ L 279, 26 Oct. 1990, 22.

³¹ Regulation (EEC) No. 2921/90, OJ L 279, 26 Oct. 1990, 22.

³² Regulation (EEC) No. 1939/92, OJ L 193, 8 July 1992, 11.

³³ Regulation (EEC) No. 140/93, OJ L 17, 27 Jan. 1993, 32.

³⁴ Regulation (EC) No. 1368/95, OJ L 133, 27 June 1995, 14.

³⁵ Regulation (EC) No. 2547/95, OJ L 258, 28 Oct. 1995, 12.

³⁶ Regulation (EC) No. 2208/2003, OJ L 332, 20 Dec. 2003, 13.

³⁷ Regulation (EC) No. 590/2004, OJ L 91, 30 Mar. 2004, 8.

³⁸ Regulation (EC) No. 1325/2004, OJ L 246, 20 July 2004, 3.

³⁹ Regulation (EC) No. 1651/2004, OJ L 297, 22 Sept. 2004, 3.

⁴⁰ Regulation (EC) No. 1826/2004, OJ L 320, 21 Oct. 2004, 13.

⁴¹ Regulation (EC) No. 281/2005, OJ L 47, 18 Feb. 2005, 3.

⁴² Regulation (EU) No. 1308/2013, OJ L 347, 20 Dec. 2013, 671.

How the Scheme Worked in Practice

Scope and eligibility: Aid applied to Community-produced skimmed milk processed into qualifying casein or caseinates, subject to prescribed product definitions and quality classes; lower-grade outputs attracted reduced amounts.

Rate setting (equivalence): The Commission fixed a single amount per 100 kgs of skimmed milk so that the expected return on skim used for casein/caseinates broadly matched the return on skim used for SMP. For SMP, the reference was the EU intervention price or, if higher, the market price for first-quality spray powder. For casein/caseinates, the reference was the world market price plus customs duty and a standard allowance for transport and frontier-crossing costs. This calibration principle governed the scheme throughout its life, regardless of the absolute aid level.

Calculation basis: Although the payment was on skim milk, standard conversion factors linked skim inputs to finished product (e.g., approximately 32.17 kg skim per 1 kg acid casein, higher for certain grades). These factors enabled transparent translation from €/100 kg of skim to €/ton of product without altering the instrument's logic.

Payment flow and controls: The intervention agency of the Member State where the product was manufactured paid the aid. Manufacturers submitted claims with monthly records of milk intake, product output by grade, stock movements, and commercial documentation. A core legal requirement was full pass-through of the aid in the purchase price of skim milk—either directly when buying skim, or indirectly when buying raw casein from an intermediate who, in turn, passed the aid upstream. Agencies reconciled quantities, quality, and financial pass-through; non-compliance led to recovery and, where appropriate, penalties.

Magnitude of Support and Market Effects

Pre-1995: Inferred Support Levels

The European Commission's EAGGF (European Agricultural Guidance and Guarantee Fund) Guarantee Section recorded expenditure on the casein aid scheme throughout its operation, but it did not publish a disaggregated budget series isolating this measure in its annual reports. These figures are therefore not retrievable from accessible Commission statistical databases.

To approximate total support for the period before 1995, expenditure can be inferred indirectly by combining three known variables:

- The legal aid rate per 100 kg of skimmed milk set in successive Commission regulations,

- The official conversion factors (35.75 kg skim per kg acid casein until 31 July 1989; 32.17 kg thereafter), and
- Documented EU casein production volumes from international sources (USITC 2004 *Conditions of Competition for Milk Protein Products in the U.S. Market* and the 1990 WTO Secretariat dairy report).

Because only a few production years are documented ($\approx 130,000$ metric tons in the late 1970s; 146,000 metric tons in 1989; and 174,000 metric tons in 1990), production for intermediate years was estimated by linear interpolation, assuming a steady change between two known “anchor” points.

Interpolation formula:

If two anchor years are (y_0, p_0) and (y_1, p_1) , then for a year y between them:

$$\text{Prod}(y) = p_0 + \frac{(p_1 - p_0)}{(y_1 - y_0)} \times (y - y_0)$$

Once estimated production (in tonnes of casein) is known, the implied skim milk volume is calculated as:

$$\text{Casein (t)} \times \text{conversion factor (kg/kg)} = \text{skim (t)}$$

Then

$$\text{skim (t)} \div 0.1 = 100 \text{ kg units}, \quad 100 \text{ kg units} \times \text{aid rate} = \text{€ expenditure.}$$

This method provides order-of-magnitude estimates of total budgetary transfers when combined with the aid rate and conversion factor for each year.

Example calculation (1990):

- Documented production = 174,000 MT (USITC 2004)⁴³
- Conversion factor = 32.17 kg skim/kg acid casein
- Implied skim = $174,000 \times 32.17 = 5.60$ million metric tons
- Aid rate (from October 1990) = 7.94 ECU/100 kg
- 5.60 million tonnes = 56.0 million 100-kg units $\rightarrow 56.0 \times 7.94 \approx \text{€}445$ million

⁴³ U.S. International Trade Commission. (2004). Conditions of competition for milk protein products in the U.S. market (Investigation No. 332-453, USITC Publication 3692).

The table below elaborates EU expenditure on casein/caseinate aid (selected pre-1995 years) based on documented production volumes, legal aid rates, and period-correct conversion factors

Year	Reported EU casein production (MT)	Source	Aid rate (€/100 kg skim)	Conversion factor (kg skim/kg)	Approx. aid paid (€ million)
~1978–79	≈130,000	USITC (2004) — “late 1970s”	6.25 (Reg. 2213/79, in force Oct 1979)	35.75	≈290
1989	146,000	WTO Secretariat dairy report (1990)	6.25 (pre-Aug) / 6.75 (late 1989)	35.75 (pre-Aug) / 32.17 (post-Aug)	≈310–330
1990	174,000	USITC (2004) — “about 174,000 MT”	7.94 (Reg. 2921/90, from Oct 1990)	32.17	≈445

The table below estimates EU expenditure on casein/caseinate aid (1970–1994) using documented production anchors, legal aid rates, and conversion factors:

Year	Est. production (MT)	Aid rate (€/100 kg skim)	Conv. factor (kg skim/kg)	Approx. aid (€ million)
1970	100,000	2.02	35.75	72.2
1971	105,000	1.83	35.75	68.7
1972	110,000	1.83	35.75	72.0
1973	115,000	1.83	35.75	75.2
1974	120,000	1.83	35.75	78.5
1975	125,000	1.83	35.75	81.8
1976	127,000	5.30	35.75	240.6

Year	Est. production (MT)	Aid rate (€/100 kg skim)	Conv. factor (kg skim/kg)	Approx. aid (€ million)
1977	129,000	5.55	35.75	256.0
1978	130,000	6.25	35.75	290.5
1979	131,455	6.25	35.75	293.7
1980	132,909	5.75	35.75	273.2
1981	134,364	5.35	35.75	257.0
1982	135,818	6.25	35.75	303.5
1983	137,273	6.25	35.75	306.7
1984	138,727	6.25	35.75	310.0
1985	140,182	6.25	35.75	313.2
1986	141,636	6.25	35.75	316.5
1987	143,091	6.25	35.75	319.7
1988	144,545	6.25	35.75	323.0
1989	146,000	6.75	32.17	317.0
1990	174,000	7.94	32.17	444.4
1991	176,000	7.50	32.17	424.6
1992	178,000	7.00	32.17	400.8
1993	179,000	6.30	32.17	362.8
1994	180,000	6.30	32.17	364.8

From 1995 onwards, disaggregated expenditure data are available thanks to the NGO Solidarité, which extracted them from the European Commission's EAGGF Guarantee Section accounts. These figures were published by the Commission within its broader

agricultural budget reports but not as a separate casein-aid series, and are not retrievable from Commission statistical databases today. Solidarité submitted the compiled data in its 2006 paper *“The European Union’s Domestic and Export Dairy Subsidies: Impacts and WTO Compliance”* to the WTO Committee on Agriculture.

They report the following skim milk volumes and expenditure for casein/caseinate production aid, alongside the value of EU exports of casein and caseinates (CN 3501):

Year	Skim milk used (million tons)	Subsidies paid (€ million)	Casein/caseinate exports (€ million)
1995	4,819	197	50
1996	4,645	207	59
1997	4,568	180	51
1998	4,789	181	49
1999	5,265	247	51
2000	5,345	232	71
2001	5,830	144	71
2002	4,911	193	63
2003	5,438	317	57
2004	5,949	352	102

These figures confirm that support often exceeded €200 million annually and was heavily concentrated in a small number of Member States. From 1995 to 2000, subsidies averaged €207 million per year, which is about 3.8 times the value of EU exports of casein and caseinates in the same period. Over the full 1995–2004 period, documented disbursements total €2.25 billion (≈ \$2.7 billion nominal). Because these are actual payments, they already incorporate quality-class reductions for lower-grade products as applied in claims.

Combining the inferred expenditure for 1970–1994 (≈ €6.6 billion, nominal) with the documented expenditure for 1995–2004 reported by Solidarité (≈ €2.25 billion) and the final

months of the scheme at the reduced €1.30/100 kg rate in 2005 ($\approx$ €50 million, based on residual volumes), the scheme is estimated to have transferred around €8.9 billion in total (nominal, not inflation-adjusted) over its lifetime. At average historical exchange rates, this corresponds to about \$10–11 billion nominal. This cumulative figure reflects the order of magnitude of public budgetary support channeled to casein and caseinate production through this aid instrument.

Market effects

The subsidy created large “production rents” because even a small payment on skim milk scaled mechanically into a four-figure transfer per ton of casein. For example, at the 1995 rate of 6.25 ECU/100 kg and 32.17 kg skim/kg, the implied subsidy was about €2,010/t of acid casein. At 1.30 €/100 kg after February 2005, the implied support fell to roughly €420/MT.

When the aid was slashed in late-2004/early-2005, the expected re-routing showed up quickly. USDA’s Foreign Agricultural Service (FAS) noted that the sharp reduction in processing aid was expected to decrease casein production significantly in the second half of 2005; its 2006 semi-annual report reported that NFDM/SMP production rose in 2005 because casein output fell with the cut, i.e., processors pivoted away from casein once the rent shrank.

The 2013 abolition removed the legal basis for aid but not the capacity it had created. Plants, operator expertise, and customer networks accumulated over decades persisted in the most competitive regions.

As of 2023, Eurostat and UN Comtrade data show the EU exported about 56,800 metric tons of casein (HTS 3501.10) worth \$593 million, slightly more than New Zealand. Ireland alone shipped 49,000 metric tons ($\approx$ \$484 million), France about 23,500 metric tons ($\approx$ \$223 million), and Germany about 6.8 million kg.

This trade pattern mirrors the historic geography of subsidized production, indicating that the scheme left a durable structural imprint on Europe’s dairy protein industry.

Member State Utilization

Although the production aid was legally available across the European Community, in practice it was heavily concentrated in five export-oriented Member States: France, Ireland, the Netherlands, Germany, and Denmark. Quantitative evidence on this distribution is available only for the later years of the scheme. The USITC report *Conditions of*

Competition for Milk Protein Products in the U.S. Market (2004)⁴⁴ provides data on the volumes of skimmed milk processed with aid by Member States in 1998–2002, and the WTO Committee on Agriculture notification G/AG/N/EEC/68 (2003) confirms that these five Member States together accounted for between 94 and 99 percent of all subsidized skim milk during that period.

The European Commission itself never published aid expenditures broken down by Member State or by company, and no firm-level payment data are available. For the years before 1998, only EU-wide totals exist, without national disaggregation. References to specific companies in the following subsections—such as Savencia, Eurial, and Lactalis Ingrédients in France; Glanbia, Kerry, and Lakeland in Ireland; or FrieslandCampina (formerly Friesland Coberco and Campina) in the Netherlands—are based on their well-documented role as major casein manufacturers at the time.

France

France was one of the three largest users of the aid scheme. In 2000, French plants processed about 1.65 million tons of skimmed milk with aid, around 30 percent of the EU total (USITC 2004). France consistently accounted for 25–30 % of aided skim milk during 1998–2002.

Casein production was concentrated in large dairy cooperatives and ingredient divisions—notably groups that later became part of Savencia (ex-Bongrain), Eurial (part of Agrial), and Lactalis Ingrédients. These companies were major exporters of rennet casein for processed cheese manufacture.

Several French cooperatives submitted formal comments to the Commission in 2005 warning that cutting the aid from €2.70 to €1.30/100 kg would threaten the viability of this specialized sector, which had grown around the subsidy. The WTO Committee on Agriculture notification G/AG/N/EEC/68 (2003) also lists France as one of the five Member States implementing the majority of the aid.

Ireland

Ireland was equally significant, accounting for about 26–30 % of all subsidized skim milk in the 1998–2002 period. In 2000, Irish processors used about 1.39 million tons of skim milk with aid (USITC 2004).

The main beneficiaries were the large Irish dairy cooperatives which produced primarily sodium caseinate for export. Ireland’s domestic consumption of milk proteins is small, so

⁴⁴ U.S. International Trade Commission. (2004). *The European Union’s domestic and export dairy subsidies: Impacts and WTO compliance* (Investigation No. 332-473, USITC Publication 3740).

most of its production was exported; the USITC (2004) notes Ireland's milk protein self-sufficiency exceeded 500 percent in the early 2000s.

Industry submissions to DG AGRI during the 2005 aid reduction warned that halving the rate to €1.30/100 kg would force a major contraction in Ireland's caseinate sector.

Netherlands

The Netherlands accounted for roughly 23–25 % of all skim milk subsidized for casein in 1998–2002 (around 1.2–1.3 million tons per year according to USITC 2004).

The sector was dominated by the cooperative groups that later merged into FrieslandCampina (notably Friesland Coberco and Campina). Campina's ingredient arm, DMV International, was one of Europe's largest caseinate manufacturers in the early 2000s.

Dutch firms produced both acid casein and caseinates for export. After the 2005 aid cut, some capacity shifted to alternative proteins (such as whey), reflecting the loss of the previous subsidy margin.

Germany

Germany was a mid-sized participant, generally accounting for about 8–9 % of subsidized skim milk volumes in the late 1990s (roughly 0.4 million tons in 2000; USITC 2004).

Unlike France, Ireland and the Netherlands, German production was mainly for domestic and intra-EU use rather than global exports. Companies in Bavaria and northern Germany operated casein lines but were more diversified into SMP and cheese.

Germany's output fell after 2005 but the impact was less visible nationally, as processors could redirect skimmed milk into SMP when the casein aid margin disappeared.

Denmark

Denmark accounted for about 8–10 % of aided skim milk in the late 1990s (0.36–0.49 million tons annually; USITC 2004). Danish plants mainly served the Nordic market for dairy proteins rather than world markets.

Denmark had a smaller surplus of milk proteins and thus less export orientation than Ireland or the Netherlands. As in Germany, processors shifted capacity away from casein once the aid was cut.

Establishment and Expansion of EU Casein Production Capacity

Corporate and cooperative histories show that many of the firms dominating the casein and caseinate sector today built or expanded dedicated plants during the life of the EU aid scheme, capturing the predictable production rent the aid created. While the EU never

published firm-level aid data, contemporary records confirm a direct link between the scheme's financial incentives and industrial investment decisions:

Ireland

- Kerry Group – Listowel (North Kerry Milk Products). Kerry's own corporate history states the company was founded in 1972 by the Irish Dairy Disposal Company, eight local co-ops, and Erie Casein Company (USA) to finance a dairy processing facility in Listowel "for the manufacture of milk protein (casein) for export to the US." This directly links the plant's purpose to casein exports under the aid regime.⁴⁵
- Glanbia/Avonmore – Ballyragget. A company history notes that by 1970 the Ballyragget complex "added casein" to its product mix (after reaching full capacity in 1969), marking the move from butter/SMP into casein manufacturing at the start of the EEC aid regime.⁴⁶
- Lakeland Dairies – Killeshandra. The Irish Environmental Protection Agency's site licence file for Killeshandra records: "Casein production began...in 1981," and describes the acid-casein process installed there (separation from skim, drying, onward whey processing).⁴⁷

France

- Documented evidence explicitly stating that French plants were built or expanded because of the EU casein aid scheme not available

Netherlands

- FrieslandCampina (DMV) – Veghel. FrieslandCampina Ingredients states that Veghel has "a history of over 50 years" as the largest producer of caseinates worldwide (placing the origin of Veghel's caseinate line in the early 1970s). The group's 2012 annual report documents a €60 million investment at Veghel to increase capacity for caseinates and other ingredients, confirming sustained scale built on the original casein infrastructure.

Germany

- Lactoprot (formerly Dairyfood) – Kaltenkirchen. Company history records that the firm shifted focus to caseinate production by 1978–79 and, in 1989, acquired a factory in

⁴⁵ Kerry Group. (2017, February). *Corporate history*, <https://www.kerry.com/docs/history/Corporate-History-18-2-17.pdf>

⁴⁶ Glanbia plc. International Directory of Company Histories, <https://www.encyclopedia.com/books/politics-and-business-magazines/glanbia-plc>.

⁴⁷ Lakeland Dairies Co-operative Society Ltd. (n.d.). IPPC Licence No. P0800-02: Infrastructure and operation (Attachment D) [PDF]. Environmental Protection Agency, Ireland, https://epawebapp.epa.ie/licences/lic_eDMS/090151b280469b04.pdf

Kaltenkirchen where “newly installed extruders now permit large-scale production of caseinate,” noting it was the first in Germany to introduce this process.⁴⁸

Denmark

- MD Foods (now Arla). MD Foods’ 1999 annual report explicitly noted that “production subsidies for casein were raised during the year”, showing that the profitability of Danish ingredients operations was directly influenced by the EU casein aid level—documenting policy salience for investment decisions, even if plant-by-plant details are not given.⁴⁹

This evidence confirms that the aid scheme did not only support production volumes: it underpinned capital accumulation, encouraging firms to build and scale specialized plants during the 1970s–1990s. These assets — financed in part by retained earnings inflated by the aid margin — became the backbone of the EU’s current dominance in global casein trade.

Legacy Effects

Although the EU abolished the casein/caseinate aid scheme in 2013, its structural legacy endures. The decades of subsidized production created a dense industrial base — specialized plants, trained workforces, and long-term customer relationships — that continues to shape competition in the global dairy protein market.

Eurostat (Prodcom) and UN Comtrade data show that the EU remains one of the world’s leading exporters of casein (HS 350110). In 2024, the EU exported about 58,800 metric tons. The distribution of this trade mirrors the historic geography of subsidy use:

Member State	Casein exports (2023)	Export value (USD)	Share of EU exports
Ireland	≈ 49,000 MT	≈ \$484 million	~82%
France	≈ 23,500 MT	≈ \$223 million	~39%
Germany	≈ 6,800 MT	≈ \$62 million	~12%

(Eurostat/Comtrade, HTS 3501.10)

These are the same Member States that captured most of the subsidized skimmed milk flows in the 1990s and early 2000s. The companies dominating this space today — notably Glanbia, Kerry, and Lakeland (Ireland); Savencia, Eurial, and Lactalis Ingrédients (France);

⁴⁸ Lactoprot Deutschland GmbH. (n.d.). Our history, <https://www.lactoprot.de/company/our-history.html>

⁴⁹ MD Foods (Arla). (1999). MD Foods Annual Report 1998/99, https://www.arla.com/49f58d/globalassets/arla-global/company---overview/investor/pdf/annual-report/eng/annual-report_eng_1999.pdf

and FrieslandCampina (Netherlands) — built or expanded their casein capacity under the protection of the EU aid regime. While they later diversified, their cost base and scale were established during a period when production rents were guaranteed through public subsidy.

In the present market, the European Union remains one of the world’s leading exporters of casein and caseinates, with total exports of approximately 86,000 metric tons valued at around \$696 million in 2024. The bulk of this trade continues to come from the same Member States, primarily Ireland, France, and the Netherlands, that historically captured most of the subsidized skim milk under the EU casein aid regime. Although production patterns shifted somewhat after the abolition of the subsidy in 2013, the dominant companies in this space—such as Glanbia, Kerry, and Lakeland in Ireland; Savencia, Eurial, and Lactalis Ingrédients in France; and FrieslandCampina in the Netherlands—owe much of their present scale, infrastructure, and cost competitiveness to decades of public support.

U.S. manufacturers seeking to grow in global dairy protein markets face entrenched EU incumbents whose capital stock, market share, and distribution networks were effectively co-financed by decades of EU budgetary support. Even though the aid has ended, its effects persist in the form of lower average costs, larger economies of scale, and more extensive commercial linkages for EU producers.

USDEC and NMPF encourage USITC to fully evaluate the extent to which legacy EU casein and caseinate production subsidies have granted European producers an undue edge in the global market.

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