

THE SALT CONTENT OF CHEDDAR AND OTHER HARD-PRESSED CHEESE



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About Action on Salt

Action on Salt is a group concerned with salt and its effects on health, supported by 22 expert scientific members. Action on Salt is successfully working to reach a consensus with the food industry and Government over the harmful effects of a high salt diet and bring about a reduction in the amount of salt in processed foods as well as salt added to cooking, and at the table.

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BACKGROUND

Poor diet is the leading cause of death and ill health globally with an estimated 1.89 million deaths each year associated with excess consumption of salt (1). Consuming a diet high in salt is a major risk factor for raised blood pressure, which is linked with an increased risk of cardiovascular disease, gastric cancer, osteoporosis and kidney disease (2,3). Evidence shows that reducing salt intake can help reduce blood pressure (4), and as such many countries around the world have committed to reducing population intakes by 30% by 2025 (2).

The UK once led the world in salt reduction, but despite its initial success, progress has stalled, with no reported significant changes in salt intakes since 2014 and current salt intakes averaging 8.4g/day, 40% higher than the UK limit of 6g/day (2,3).

Most of the salt consumed in the UK comes from packaged and everyday foods, including bread, meat products and ready meals (5). Cheese is another staple ingredient in most households, with over 7.8kg purchased per person each year (6). Cheese contributes 6% of average daily salt intake, with cheddar alone accounting for 3% (6). The government has published several voluntary salt reduction targets for individual food categories, with the most recent to be achieved by the end of 2024 (Table 1) (7). The various iterations of the targets have been designed to encourage gradual reductions in salt content of ~80 categories of food, with some notable categories of success, including bread and ready meals.

Table 1. Salt target for Cheddar and other similar hard-pressed cheese

	Salt Target g/100g			
	2024 (Current)	2017	2012	2010
4.1 Cheddar and other similar hard- pressed cheeses	1.66g SWA 1.9g MAX	1.75g SWA 2.0g MAX	1.8g SWA No MAX	1.7g SWA No MAX

The salt content of hard-pressed cheese has not been reviewed by Action on Salt since 2012 (8). The aim of this report is to assess manufacture and retailer progress in meeting the 2024 salt reduction targets of cheddar and other hard-pressed cheese and highlight successful case studies of where salt content has been reduced successfully.

METHOD

Data Collection

We surveyed pre-packaged hard-pressed British cheeses available for purchase in major retailers' across the UK. Data was collected from large supermarkets following strict inclusion and exclusion criteria (Table 2). Ten major retailers were visited between September and November 2023 (Aldi, Asda, Iceland, Lidl, Marks & Spencer, Morrisons, Sainsbury's, Tesco, The Co-operative and Waitrose). Nutrition information and ingredients was obtained directly from product packaging using the FoodSwitch Data Collector App (9). Where two sizes of the same product with identical nutrition information were available, only one product was included in the final dataset. In addition, supermarket own label data was requested directly from retailers.

Table 2: Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none">• Cheddar and other hard-pressed British cheese (Cheddar, Cheshire, Lancashire, Wensleydale, Caerphilly, Double Gloucester, Leicester, Derby)• Block, sliced and grated varieties• Plant-based/dairy free alternatives	<ul style="list-style-type: none">• Soft and medium cheeses, as well as hard cheeses produced and manufactured outside of the UK• Duplicates of same product in different sizes• Grated blends of multiple cheeses• Products without nutrition information• Highly processed cheese e.g. cheese slices

Data Analysis

The average salt content per 100g and per portion was analysed and comparisons were made based on per 100g. Products were split across 9 categories (Caerphilly, Cheddar, Cheshire, Double Gloucester, Lancashire, plant-based, Red Leicester, String Cheese, Wensleydale) to make similar comparisons across the different types of cheese and brands.

Industry progress towards achieving the 2024 maximum salt reduction target of cheddar and other hard-pressed cheese was made.

Where possible, the salt content of cheese was compared to earlier research conducted in 2012.

RESULTS

Key Findings:

- Average salt content in British hard-pressed cheese was 1.72g/100g and 0.49g/portion
- There is a 6-fold difference in salt content across all packaged hard-pressed cheese, ranging from 0.51-3.16g salt/100g
- 97% meet the 2024 maximum salt reduction target for Cheddar and other hard-pressed cheese. 18 products currently exceed the maximum salt reduction targets
- Since 2012, average salt content of British hard-pressed cheese has not reduced, despite 2 iterations of salt reduction targets

Salt levels in Cheddar and hard-pressed cheese

A total of 607 products were included in this survey from 32 companies (10 retailers and 22 manufacturers).

The average salt content of all hard-pressed cheese was 1.72g/100g, and ranged from 0.51-3.16g/100g, a 6-fold difference. Retailer own brand products dominated the in-store cheese market, with a lower salt content on average in comparison to manufacturers.

On average plant-based cheese contained the most salt with 1.91g/100g in comparison to Wensleydale which contained the least salt with 1.10g/100g (Table 3).

Saturated Fat Content

The average saturated fat content of all hard-pressed cheese was 20.3g/100g and ranged from 1.3-27.0g/100g. On average plant-based and Lancashire cheese contained the most saturated fat, with 21.4g/100g in comparison to string cheese (14.2g/100g) or Wensleydale (17.8g/100g) (Table 3).

Table 3: Average salt and saturated fat content of all hard-pressed cheese, split by category

Cheese Type	Total Number of Products	Average Salt Content g/100g (range)	Average Saturated Fat Content g/100g (range)
All	607	1.72 (0.51 - 3.16)	20.3 (1.3 - 27.0)
Brand	78	1.82 (1.30 - 2.50)	20.1 (1.3 - 27.0)
Retailer	529	1.70 (0.51 - 3.16)	20.4 (7.6 - 25.0)
Plant based	26	1.91 (1.25 - 2.5)	21.4 (16 - 27.0)
String Cheese	3	1.80	14.2 (14 - 14.5)
Cheddar	436	1.77 (1.1 - 3.16)	20.3 (1.3 - 24.8)
Red Leicester	52	1.72 (1.12 - 2.83)	21.2 (18.5 - 25)
Double Gloucester	26	1.67 (1.38 - 1.81)	21.3 (18.1 - 24.3)
Lancashire	13	1.63 (1.18 - 2.03)	21.4 (19.5 - 23.1)
Caerphilly	3	1.49 (1.21 - 1.65)	20.47 (1.94 - 21)
Cheshire	11	1.30 (1.15 - 1.58)	20.8 (19.3 - 22.6)
Wensleydale	37	1.10 (0.51 - 1.58)	17.8 (13.5 - 21.3)

Cheddar

Cheddar is by far the most popular cheese category, accounting for more than half of all cheese sold in the UK (9). Table 4 shows the variation in salt content of cheddar cheese between retailers and manufacturers, with Morrisons producing cheddar cheese that is approximately 8% lower in salt compared to many other companies.

No differences in average salt content were observed between the maturity of the cheese; those declared as Extra Mature averaged at 1.77g/100g compared to Mild 1.78g/100g.

Table 4. Average salt content of plain standard Cheddar, split by company. Sorted highest to lowest (companies with ≥ 5 products)

Company	Number of products	Average salt g/100g
Asda	47	1.81 (1.6 - 2)
Aldi	63	1.80 (1.57 - 1.92)
Iceland	8	1.80 (1.8 - 1.8)
Tesco	32	1.80 (1.76 - 1.86)
Ornua Foods	6	1.80 (1.77 - 1.8)
Sainsbury's	26	1.80 (1.77 - 1.81)
Saputo Dairy	18	1.80
Coop	28	1.79 (1.59 - 1.81)
Waitrose	38	1.79 (1.48 - 1.9)
Lidl	30	1.78 (1.57 - 1.9)
M&S	27	1.78 (1.58 - 2)
The Lake District Dairy Co.	5	1.75 (1.53 - 1.81)
Morrisons	50	1.66 (1.32 - 1.88)

Salt Targets

Cheddar and other hard-pressed cheeses fall under the salt target '4.1 Cheddar and other hard-pressed cheeses' (Table 1). The majority of the cheese surveyed meet the 2024 maximum salt target, with the exception of 18 products, most of which were Cheddar. Promisingly, more than three quarters of companies produced cheese which all fall below the 2024 maximum target; Table 5 lists only those companies with products exceeding the maximum target.

Table 5. Proportion of brands whose products exceed the maximum salt target for hard-pressed cheese

Brand	Total Number of Products Surveyed	Proportion Exceeding Maximum Salt Target (number exceeding target)
Aldi	85	6%(5)
Asda	74	7%(5)
Joseph Heler	1	100%(1)
Lidl	51	4%(2)
Lynn Bank Farm	4	25%(1)
M&S	45	2%(1)
Tesco	57	5%(3)

No comment can be made on the sales-weighted average due to restrictions in data access.

Plant-based dairy free alternatives, which witnessed a surge in new product development after the targets were set in 2020, do not currently fall under this or any other salt target. Of the 26 products included in the survey, 13 (i.e. 50%) have a salt content greater than 1.90g/100g

Salt Content of Cheese from Previous Research

The salt content of cheese from 2012 was obtained from previous literature, which found the average salt content to be 1.69g/100g. Since then, the salt content of similar hard-pressed cheese categories has not changed, with average values now at 1.71g/100g (not including plant-based or Red Leicester) (Table 6).

Table 6. Average salt content of different cheese in 2012 and 2023

Cheese	Average salt g/100g 2012 (number of products)	Average salt g/100g 2023 (number of products)
Cheddar	1.74 (248)	1.77 (436)
Double Gloucester	1.73 (10)	1.67 (26)
Caerphilly	1.65 (1)	1.43 (3)
String Cheese	1.64 (10)	1.80 (3)
Cheshire	1.43 (8)	1.30 (11)
Lancashire	1.37 (2)	1.63 (13)
Wensleydale	1.13 (14)	1.10 (37)
Red Leicester	n/a	1.72 (52)
Plant-based	n/a	1.91 (26)

Within the data, there were 112 similar products from 15 different companies (9 retailers and 6 manufacturers) that were surveyed across both years (Table 7). Of the hard-pressed cheeses surveyed in both years, 1 in 10 (15%) achieved a reduction in salt content greater than 5%, 65% saw no change and 20% increased in salt.

Table 7: Average salt content (g/100g) of hard-pressed cheese, split by company, surveyed in 2012 and 2023

Company	Number of products	Average Salt g/100g 2012	Average Salt g/100g 2023
ASDA	14	1.74	1.75
Bel Group	2	1.75	1.75
Kerry Foods	2	1.90	1.80
Co-op	6	1.72	1.80
Iceland	1	1.30	0.70
Lidl	6	1.56	1.69
M&S	5	1.74	1.80
Morrisons	15	1.53	1.63
Ornua Foods	3	1.75	1.80
Sainsbury's	17	1.79	1.80
Saputo Dairy	5	1.65	1.70
Tesco	9	1.67	1.71
Lake District Cheese Co.	2	1.88	1.67
Waitrose	24	1.68	1.67
Wyke Farms	1	1.75	1.80

The cheese with the greatest reduction in salt was seen in Iceland's Wensleydale and Cranberry block, with a 46% reduction from 1.3g/100g to 0.7g/100g. In contrast, the cheese with the biggest reported increase in salt was Morrisons Extra Mature Grated Cheddar, with a 60% increase from 1.0g/100g to 1.6g/100g (Table 8).

Table 8: Examples of hard-pressed cheese with more than 10% reductions in salt between 2012 and 2023

Company	Product Name	Salt g/100g 2012	Salt g/100g 2023	Percentage Difference
Iceland	Wensleydale and Cranberry	1.3	0.7	46%
Lake District Cheese Co.	Grated mature cheddar	1.85	1.53	17%
Waitrose	Kit Calvert Wensleydale	1.5	1.3	13%
Morrisons	Cheddar Mild (Slices)	1.7	1.51	11%

CONCLUSION

Cheese is a staple food for many households around the country, but it is also a high salt product and one of the main contributors of salt to UK diets. This report highlights the salt content of cheese in the UK, and more importantly, demonstrates the feasibility of making reductions in salt without compromising on taste or quality.

Salt plays a role in the flavour, texture, structure, acceptability, shelf life and safety of cheese, but the development of cheese with lower salt content is clearly possible, as demonstrated by the variation in salt content between different types of cheese and within the same type of cheese. It's clear that despite declared barriers to further progress, some companies are overcoming this and reducing the salt content of their cheese much more effectively than others.

Many food companies state they are actively engaged in salt reduction and working towards the salt targets, and indeed, many of them have already met the 2024 maximum salt target. These findings demonstrate that further reductions in salt could be made, and much more challenging targets need to be set.

RECOMMENDATIONS

Below are recommendations for the government, food industry and consumers to help reduce population salt intake and reduce salt content in cheese.

Government

- Release interim report on salt targets for transparency, originally due in 2022, with immediate discussions for future targets
- New targets for cheddar must be more challenging
- Salt targets must be mandated by Government to ensure that all manufacturers and retailers meet the current and future targets
- Regular monitoring and review of the Government's salt reduction strategy is vital to ensure continued progress in salt reduction
- Develop consumer awareness campaigns to inform the public of the dangers of salt hidden within everyday food

Food Industry

- Reductions in added salt are possible, as evidenced in this report. Gradual, unobtrusive reductions in salt across the whole range of food available to the public has the added benefit of not affecting sales or consumer acceptability, while still benefiting public health.
- Explore the use of salt replacers

Consumers

- Compare nutrition labels & choose the lower salt and lower saturated fat option (per 100g)
- Have smaller portions – 30g is about the size of a matchbox. Grating cheese can make it go further
- Switch to lower salt ranges, e.g. Cheshire or Lancashire in place of Cheddar which is saltier
- Use it less often

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