

**“ Cheese is
just cheese, right? ”**



*A guide to the application and usage
of cheese on children's menus within
primary and secondary schools*

BLADEN

Preface

**Meeting nutritional guidelines. Providing healthy, tasty food.
Serving balanced menus that appeal to boys and girls, aged 4 to 18,
across a wide range of different ethnic groups.**

These are just some of the concerns facing Local Authorities and school caterers everywhere. When weighing up these concerns – all of which demand careful consideration - what those on the front line of school catering really need are cold, hard facts.

How can you avoid wastage? How do you maximise usage of certain ingredients? How can you guarantee a dish's nutritional content?

This Guide takes an in-depth look at one of the most important ingredients within the school environment – cheese - with a view to answering those questions.

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Introduction

Cheese is a vital product for school caterers, featuring in a huge array of dishes served across primary and secondary schools. This document focuses on helping the caterer understand the different varieties of cheese available, and how to maximise the usage of cheese within the education sector. The document aims to offer advice to school caterers on increasing cost-efficiencies and culinary performance through the effective use of cheese products.

The findings in this document were the result of a 3-month research project. An independent researcher visited 4 schools up to three times during the research period to assess how cheese was utilised in their catering environment, what cheese products and brands were purchased, and how the product was used in dishes served to school children of all ages.

Cheese Varieties

Making Cheese – Creating Different Cheese Flavours & Types

1. Cheese types and flavours are principally determined by their recipes and the grading process that happens during the cheese's maturation. However, a cheese's initial flavour is determined by the milk farmed to produce the cheese, along with its recipes, the grading process throughout production, and the personal expertise of the people producing the cheese in the creamery.

2. Once milk is collected and transported to the creamery it is processed into cheese through the application of a pre-determined 'recipe' and manufacturing process. The recipe usually involves the addition of rennet and activation agents, followed by a heating and churning process. Individual recipes and manufacturing processes will create different cheeses from the milk – such as Cheddar, Red Leicester or Double Gloucester.
3. Following the manufacturing process, the cheese is left to mature, during which it is regularly graded. As a cheese matures its flavour profile changes, and quality cheese is regularly graded to ensure it consistently delivers on flavour, convenience and performance.
4. According to the length of maturation, types of cheese such as Cheddar will also be specified for sale as 'Mild', 'Mature' or 'Extra Mature' to indicate flavour variances.
5. Once a cheese is graded for the last time, it will be cut and packed into an array of different formats. It can be packed into blocks, pouches, grated or even into mini portions.

Cheese Provenance

6. Many caterers – including school caterers – are eager to feature 'provenance' cheese on their menus. This demonstrates a commitment to local produce and support of local farmers. For other catering channels – such as Pubs or Sandwich operators – a reference to the provenance of the cheese on menus is a demonstrable 'value-add'.

Example: *Shropshire Local Authority actively source and include locally produced cheese on school menus throughout the county.*

Research across a selection of different catering sites demonstrated that 55% of caterers purchased Ready Prepared (i.e. Grated or Sliced) Cheddar vs. 45% who purchase Block Cheddar Cheese.

*The benefits of **Ready Prepared Cheddar** were listed as: time-saving, reduces preparation space required, minimises resource required, delivers extra volume, delivers convenience.*

*The benefits of **Block Cheddar** were listed as: superior quality to Ready Prepared, more cost-effective, delivers added flexibility in the kitchen, is easy to store.*



Purchasing Cheese – Decision-making parameters: “Cheese is just cheese, right?”

7. Amongst a range of catering sites surveyed (across Education, Pub and QSR operators), a common misconception arose that ‘cheese is just cheese’, with some caterers demonstrating little accurate knowledge or distinction between cheese types. A general need for ‘cheese’ as an ingredient is recognised – in reality this translates to the purchase of the most common type of cheese: cheddar.
8. ‘Mild’ white cheddar is the preferred choice of cheese for school caterers, delivering a sought-after versatility required for cooking in a range of different dishes. However, in support of Point 7 (above) the purchase is commonly referred to as ‘cheese’, and rarely listed by its actual name (e.g. ‘cheddar’) on menus.
9. Initial trigger points for the purchase of cheese by Local Authorities for use within schools is determined by price, taste and performance.
10. Secondary trigger points for the purchase of cheese will include ‘brand’ (vs. ‘own brand’) and ‘type’ – e.g. mild cheddar vs. mature cheddar. These are invariably linked to the primary purchase points listed in Point 9.

11. For a genuine assessment of a cheese’s flavour and versatility, kitchen trials are recommended to evaluate the product’s performance. During these trials the cheese type can be assessed against pre-determined criteria, for example:

- a. If supplied in block format, how well does it grate?
- b. How well does it melt during cooking?
- c. How does the product’s flavour and appearance alter during cooking?
- d. Does it deliver the versatility required in a school kitchen?
- e. Is it a convenient product to use?
- f. Is it cost-effective?

These are explored further in Points 12-16 (overleaf).

Mild White Cheddar is the preferred choice of cheese for school caterers, as it delivers a soft flavour and is suitable for use in a huge variety of dishes – from sandwiches, paninis or lasagne through to use on cheese platters with biscuits.



Assessing Cheese

12. When assessing and comparing different cheese brands (and types), there are several key criteria to consider. Firstly choose the cheese type you wish to assess; if comparing several cheeses against each other, ensure they are like-for-like comparisons (e.g. a branded Mature Cheddar Block vs. and own brand Mature Cheddar Block).

13. Create an Assessment sheet, enabling you to compare each different cheese tested, and mark each cheese evenly.

14. Scoring criteria should include:

- Appearance
- Taste
- Slicing
- Grating
- Performance in cooking:
 - Oven cooking
 - Grilling
 - Microwaving (if applicable)

15. When tasting cheese as a raw product, there are certain guidelines that can be followed to maximise the results of the tasting:

- Always taste cheese at room temperature
- Break off a piece of the cheese to be tested, and work it between your thumb and finger to heat it up slightly, and release its natural flavour compounds
- Move the piece of cheese around your mouth, to ensure it reaches all the flavour receptors in your mouth
- Try not to taste more than 5 different cheese types in one sitting, as your flavour receptors will get confused, often resulting in incorrect results
- Always cleanse your palette between tastes – lime juice or a sharp piece of fruit (e.g. raspberries) are particularly efficient.

16. When assessing the results of any tasting procedure for use in school kitchens, always consider the quality of the product versus its price. The cheapest option may not deliver the best value for money.

| Facet/ Cheese Type | Mild High Quality Cheddar | Mild Lower Quality Cheddar | Mature High Quality Cheddar | Mature Lower Quality Cheddar |
|--------------------|--|--|--|--|
| Appearance | Even coloured in white or coloured form. | Possibly slightly bleached or mottled. Possibly slightly translucent. | Vibrant coloured or deep yellowing even tone. Possibly some marbling of curd particulate. Lighter coloured or slight translucency. Less yellow more white. | Lighter coloured or slight translucency. Less yellow more white. |
| Taste | Gentle and delicate. Creamy and clean flavour, smooth texture. Slight lactic notes. Traditional nuttiness. | May carry more lactic acidic notes. Texture may be slightly curdy and not as smooth. | Clean sharp flavour with distinctive style – usually sweet or savoury balanced. Flavour is clean. Acidity gently tingles the mouth. | Less distinct flavour – balanced more towards just acid. May carry dirty/farmy tones or slight souring. |
| Slicing | Slices well. Unbroken smooth surface. | Slices may fracture. | Slices but may fracture. | Crumbles when sliced. |
| Grated | Slightly sticky but good long shred. | Short grate – drier, less sticky. | Good long slightly dry shred. | Short grate, powdery and dry. |
| Cooking | Provides glossy finish to sauces. Low flavour impact. | Higher acidity and poorer texture creates “rougher” sauces. | Provides gloss and flavour intensity to sauces. May oil off slightly. | Any dirty flavours will intensify during cooking. Acidic crumbly cheeses may produce graininess in sauces. |
| Grilling | Melts and spreads well. | Melts ok but protein browns/burns quicker. | Melts and spreads. May carry surface oil. Will not burn/ brown quickly. | Melts ok but will oil off and burn quicker. |

Menu Inclusion

17. Individual school caterers are guided by Local Authorities in the creation of their menu cycles. This guidance ensures a balance of nutritional requirements for school children, as determined by the Government. The requirements will vary by Primary and Secondary School age groups.

18. Based on the research undertaken, individual school caterers follow the dish recommendations from their Local Authority, retaining the core protein elements, but often amending and/or adding ancillary ingredients.

Case Study Example:

In one site monitored cheese featured on the school menu in one form or another every day throughout the three-week menu cycle.

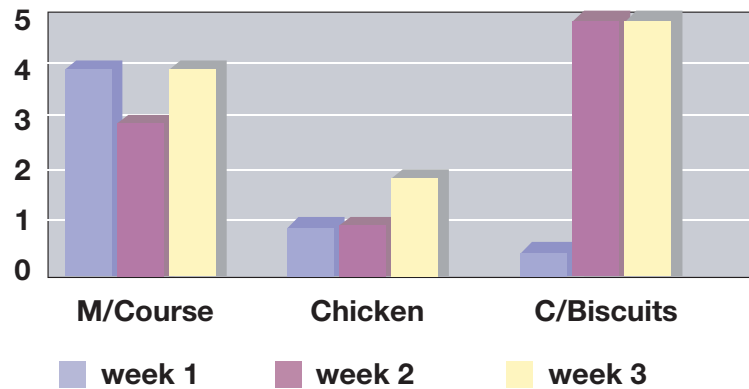
In some instances it was used as a prime ingredient, and elsewhere it was used as a main garnish feature.

Cheese usage in Case Study Primary School (based on 3 -week menu cycle)

- Cheese featured in 80% of the main course choices across Week 1
- Cheese & Biscuits featured 100% across the dessert choices in Week 1

To put this into perspective, Chicken is the next most featured ingredient in main course choices across Week 1. This featured in 20% of dish choices, vs. 80% for cheese.

Cheese featured by day, by week



Broccoli and Pasta Cheese Bake



Chicken and Cheddar Pasta Bake

Portion Control

19. When following set recipes for dishes using cheese as an ingredient pre-determined measurements are – in general – not adhered to. E.g. Where a recipe calls for 100g of grated cheese, the chef preparing the recipe most commonly estimates the amount of cheese required based on experience and sight.
20. Research indicates that even when provided portioning tools (for weighing the cheese quantity specified for recipes) they are not used. In many cases the scales that have been provided to school caterers are outdated, and often in Imperial measurements.
21. Staff knowledge of portion size per dish is often not known – creating inconsistent portioning, and ingredient wastage (as measuring tools are not used).
22. Over-portioning of cheese as an ingredient is therefore common place, differing with each member of staff.
23. Research demonstrates that on average there is a **20% increase** over and above the specified portion weight for cheese used as a topping in school dishes. When used in sandwiches this over-indexing rises to **31%**, and is **18%** in baguettes.

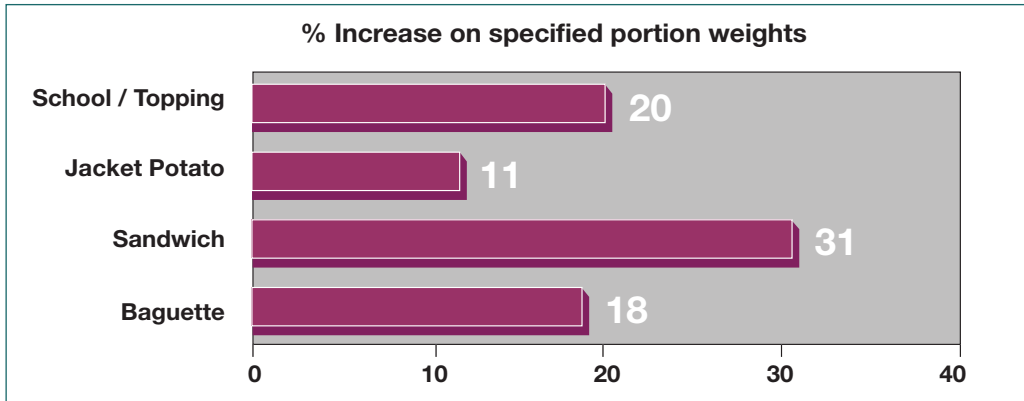
The Effects of Inconsistent Portion Control

- Nutritional analysis for dishes is rendered inaccurate if more or less cheese has been used in a dish than specified in a recipe, and run through menu analysis tools such as Saffron or Nutmeg
- The end cost of a dish is higher than anticipated if more cheese is used than allowed for
- Inconsistent use will affect cooking and regeneration times – especially for paninis, toasties, pizzas, etc
- Irregular visual presentation, in both hot and cold dishes
- Inconsistent flavour profiles – especially as most school caterers use Mild Cheddar
- Inconsistent appreciation from the customer (school children) – potentially affecting their future dish choices

Cheese Benefits

– Why is it so good for school children?

- Cheese is a good source of calcium, which helps build strong bones and teeth, and also prevents osteoporosis.
- Cheese contains a high concentration of essential nutrients: calcium, phosphorus, zinc, vitamin A, riboflavin, vitamin B12 and high-quality protein.



Portion Control

- Where cheese is used as a topping for dishes (e.g. pasta, pizza) there is a 20% increase in the amount used vs. the amount specified in recipes – i.e. 240g vs. 200g.
- Where cheese is used in sandwiches there is a 31% increase in the amount used vs. the amount specified in recipes – i.e. 131g vs. 100g
- Where cheese is used in baguettes there is an 18% increase in the amount used vs. the amount specified in recipes – i.e. 177g vs. 150g

Avoiding Wastage

24. Be aware of the impact of inconsistent portioning.
25. Wherever possible, accurately weigh the cheese required for each recipe to avoid wastage and nutritional inconsistencies.
26. Determine the correct cheese type required for a recipe – i.e. cheddar blocks, pre-grated cheddar, cheddar slices.

School Guidelines

- The government's School Foods Trust guidelines for nutrient-based standards in schoolmeals states that a product from the 'Milk and Dairy Food' group should be available to all school children on a daily basis
- An average school lunch must contain not less than a minimum of 193mg of Calcium for Primary schools, and 350mg of Calcium for Secondary schools. Pupils who do not have enough calcium are at risk of developing osteoporosis or brittle bones in later life.

For more information, visit:
www.schoolfoodtrust.org.uk





Cheese Types & Performance: the cost of grating

27. Many school caterers purchase cheddar blocks and grate or slice the cheese as required for recipes, using mechanical graters or hand grating.
28. Grating blocks of cheese for usage has noticeable ramifications in the kitchen, as outlined below.

Mechanically Grated Cheese

29. Mechanically grated cheese takes an average of 13 minutes to complete a 1 x 5kg block.
30. Weight loss occurs during this mechanical grating process – for a 5kg block the weight loss is circa 0.5%. If a cheddar block sells at £3.25 per kg, this represents a loss of £0.08p per 5kg.
31. The labour cost, taking into account the time required to grate a 5kg block is circa £1.30.
32. **Consequently, the total cost to grate a 5kg cheddar block by machine is £1.38.**

Hand Grated Cheese

33. It takes a caterer an average of 35 minutes to hand grate a 5kg block of cheese.

34. Weight loss occurs during the hand-grating process – for a 5kg block the weight loss is circa 1%. This represents a loss of £0.16 per kg, based on the figures outlined in Point 33 (above).
35. The labour cost for hand grating a 5kg block is circa £3.00.
36. **Consequently, the total cost to grate a 5kg cheddar block by hand is £3.16.**

Grating Cheese Blocks – the true cost

- Hand grated cheese takes approximately 63% longer than mechanically grating cheese
- The extra cost of grating blocks of cheese are:
 - 27.6p per kg for mechanically grated cheese
 - 63.2p per kg for hand grated cheese – representing a 56% cost increase
- 37. Unsurprisingly pre-grated cheese is sold to caterers at a higher cost than cheese blocks. When assessing the type of cheese required for dishes, caterers are advised to examine whether this cost differential delivers value for money vs. the cost of grating cheese themselves.
- 38. The Performance criteria outlined in Points 12-16 must be considered – does a pre-grated cheese deliver the taste flavour profile, how does it perform in the cooking process, does it deliver the versatility required for the school caterer, is it a more or less practical proposition?

Conclusion

39. Cheese is a hugely important ingredient for school caterers. Not only does it deliver genuine health benefits, it is a cost-effective, flavoursome ingredient liked by most children.
40. However, research demonstrates there is an alarming degree of wastage in the common use of cheese as an ingredient.
41. To maximise the benefits of cheese within school catering, and to minimise cost, flavour and nutritional inconsistencies school caterers and Local Authorities must be aware of the potential for wastage, and take action to prevent this wastage.
42. Local Authorities and school caterers can radically increase efficiencies in the usage of cheese as an ingredient, through measured steps:
 - a. determine the correct flavour and product type of cheese for your needs (e.g. Mild Cheddar Block)
 - b. assess the right brand of cheese for your needs, based against flavour, performance, versatility and cost efficiencies
 - c. monitor the usage of the cheese as an ingredient to avoid wastage and inconsistencies.
43. Wherever possible, work closely with cheese suppliers (and/or the Wholesalers supplying your cheese) to gain the results you need. They should be able to answer queries regarding the provenance and performance of cheese, and advocate the best type of cheese for your needs. If they are unable to do this, look into sourcing a supplier who can help you directly.



Melted Mature Cheddar on Toast

This report is compiled by Bladen.
The research that forms the basis of the content in
this report was conducted by an independent caterer.



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