

Nutritional Content of Scones

A report on the nutritional analysis of scones available
from high street coffee shops in
Northern Ireland 2018



Acknowledgements

- Environmental Health Officers (EHOs), from the 11 district councils who led and funded the sampling in targeted outlets across Northern Ireland and arranged the analysis of scones.
- The Health and Well Being Working Group of the Northern Ireland Food Manager's Group (NIFMG), for managing the survey of samples and assisting in the preparation of the final report.
- Public Analyst Scientific Services Ltd. for analysis of samples.
- Louise Beggs, Food Standards Agency for data collation.
- Emily Chan, Food Standards Agency for data analysis.
- Sharon Gilmore, Joanne Casey, Fionnuala Close and Emily Chan, Food Standards Agency for preparing the report.

Background on rationale for survey

Currently in Northern Ireland (NI), 64% of adults and 27% of children aged 2-15 are classified as overweight or obese¹. The NI diet contains too much salt, saturated fat and sugar, whilst at the same time most people do not consume enough fruit, vegetables and wholegrain products². For people's diet to improve, the healthy choice should be the easy choice.



Figure 1: 2016 obesity rates in NI

Outcome 34 of the NI Obesity Prevention Strategy, 'A Fitter Future for All'³, identifies the Food Standards Agency (FSA), District Councils and the food industry as key delivery partners in classifying foods with the highest contribution of saturated fat, fat, sugars, energy and salt in the diet of NI consumers and progressing a programme of action to address this. The FSA's Eating Well Choosing Better programme is delivered in partnership with key organisations including District Councils and Knowledge Providers (i.e. local academic institutions). This programme supports Outcome 34 with small and medium sized businesses in NI by focusing on food product improvement/reformulation and increasing the availability of small and/or reduced portion sizes, to make the healthy choice easy for the NI consumer. This applies to all sectors of the food industry including manufacturing, retail and the out of home sector. The Eating Well Choosing Better programme aligns with Public Health England's (PHE) reduction and reformulation programme⁴ which tasks the food industry with reducing sugar and calories from the foods which contribute most to these intakes. This programme also supports industry to encourage consumer purchasing towards lower or no added sugar products. The FSA reports on Eating Well Choosing Better activity to the Department of Health, twice per year, under the Programme for Government framework⁵.

Using the National Diet and Nutrition Survey (NDNS) data², the FSA has identified the categories of food which contribute most to population sugar intake.

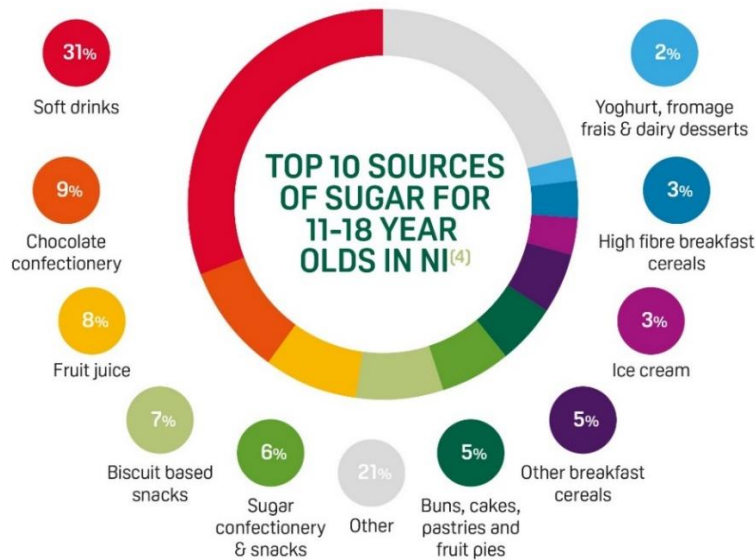


Figure 2: Top ten sources of sugar for 11-18-year olds in NI

The NI bakery and ice cream sectors have been identified as significant local manufacturers of produce consumed within NI, whereas other food sectors are more likely to import from or export to other regions.

Purpose and scope of survey

Scones were identified within the ‘morning goods’ category of the Eating Well Choosing Better programme as a food of particular relevance to the NI population. This was not only due to the fact that the ‘morning goods’ category is included within the top ten sources of sugar in UK diets and has been included in the PHE reduction and reformulation programme⁴, but also due to the NI custom of including scones as a mid-morning snack. These are also frequently served at meetings and events. Anecdotally, the portion size of scones, particularly in the out-of-home sector, have been increasing in recent years.

The results of this survey will inform targeted interventions with the bakery sector, supported by technical expertise from one or more of the local Knowledge Providers (i.e. local academic institutions) to increase the availability of healthier products in local bakeries and coffee shops. These results will be considered the baseline findings for any intervention moving forward.

The Food Standards and Food Fraud Working Group of the Northern Ireland Food Managers Group (NIFMG) included the nutritional analysis of scones in their chemical sampling plan for 2017/18. The Health and Well Being Working Group of NIFMG managed the survey across all 11 district councils.

Method

Each of the 11 district councils in NI sampled scones from high street coffee shops and cafes across Northern Ireland. The samples were sent to Public Analyst Scientific Services to identify the portion size (g) and nutritional information (energy, sugar, fat, saturated fat, fibre and salt) per portion and per 100g.

Data was also gathered on the preparation methods to include:

- if the scones were made from scratch or using a commercial base mix,
- if measuring equipment was used,
- if pastry cutters were used to determine portion sizes.

Sample

Local coffee shops and cafes were identified within each council area. Where a coffee shop/cafe had numerous outlets located across NI, the sample was taken from the council area where the head office of the business was located. Samples were collected using a set protocol (see Appendix 1). Multinational chains as Starbucks, Costa, Nero, Greggs who are already engaged with work led by Public Health England, were excluded. Table 1 describes the inclusion and exclusion criteria for this sampling programme.

Table 1: Sample inclusion and exclusion criteria

Inclusion	Exclusion
A range of scones including plain, luxury (e.g. white chocolate and raspberry) and fruit scones.	Multinational chains such as Starbucks, Costa, Nero, Greggs who already engaged with work led by Public Health England.
Single serve scones which are sold loose and likely to be consumed by an individual in one eating occasion.	Multipack or pre-pack scones.
Scones from local businesses where the product is manufactured in NI.	
Three of the same scones for one sample analysis.	

A minimum of three scone samples were collected from each district council area, with many district councils providing more than three samples. Overall, there were 57 scones samples collected.

The scone samples were categorised into three groups:

1. Plain
2. Fruit (included a cherry and a date and wheaten scone)
3. Luxury (included scones such as raspberry and white chocolate, mars bar, blueberry and white chocolate and crème egg scones)

From the sampling exercise 20 plain scones, 21 fruit scones and 16 luxury scones were collected.

Duration of survey

Sampling commenced in January 2018 and ran until the end of March 2018.

District councils follow up to survey

On receipt of the certificate of analysis, each council informed the food business operators of the sample results. The results were also forwarded collectively to Health and Well Being Working Group to produce this regional collation and analysis of results.

Headline results

- The **largest scone** (a fruit scone) weighed 233.2g
- This scone also contained the highest number of **calories** (756kcal) and the most **sugar** (39.2g)
- The range of calories varied widely from 154kcal to 756kcal
- The average scone provided 20g of sugar which is the equivalent of 5 sugar cubes
- The scone with the highest **fat** content was a luxury scone (raspberry and white chocolate) at 22.7g fat
- This scone also contained the most **saturated fat** with 14g saturated fat per portion
- One plain scone contained 5.0g **salt** per portion
- The highest **fibre** content (8.0g) was found in an apple and cinnamon scone



Analysis

Analysis was carried out for each scone sample to provide nutritional information per 100g and per portion. For each sample, results are available per 100g and per portion for calories, fat, saturated fat, sugar, fibre and salt. Full data tables are available in Appendix 2, 3 and 4. Colour coding has been applied to each table to indicate what a front of pack nutrition label would look like if the scones were pre-packed⁶.

Portion size

The weight of the sampled scones varied widely ranging from 44g to 233g as shown in Figure 3 with average values shown in Figure 4.

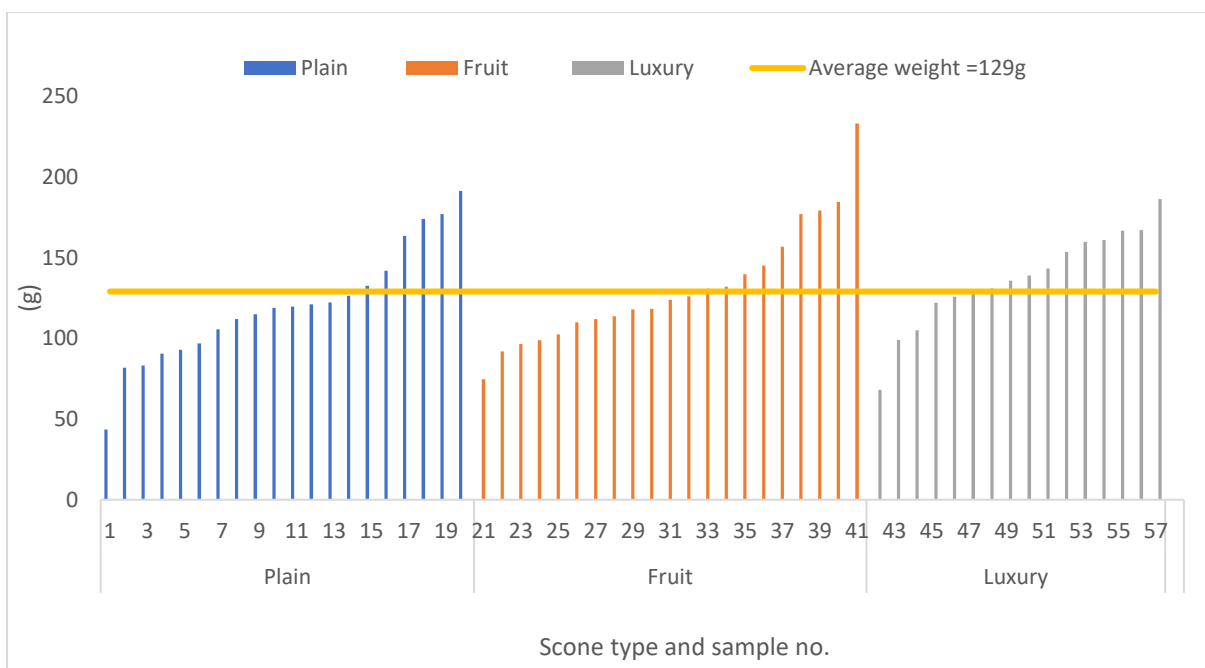


Figure 3: Weight (g) for all scones



Figure 4: The average weight of each scone category

Calories

On average a scone purchased from a high street cafe in NI will provide 408kcal per scone (384kcal for plain scones, 414kcal for fruit scones and 431kcal for luxury scones). The range of calories per scone varied widely from 154-756kcal. The range of calories in plain scones varied from 154-618kcal. For fruit scones the range was 223-756kcal and for luxury scones the range was 201-641kcal (Figure 5a).

When comparing calories per 100g, values were found to be similar across the three categories: 317kcal/100g for plain scones, 312kcal/100g for fruit and 313kcal/100g for luxury scones (average for all categories 314kcal/100g). The range of calories per 100g was also similar for each category (258-356kcal/100g for plain, 260-358kcal/100g for fruit and 252-360kcal/100g for luxury) (Figure 5b).

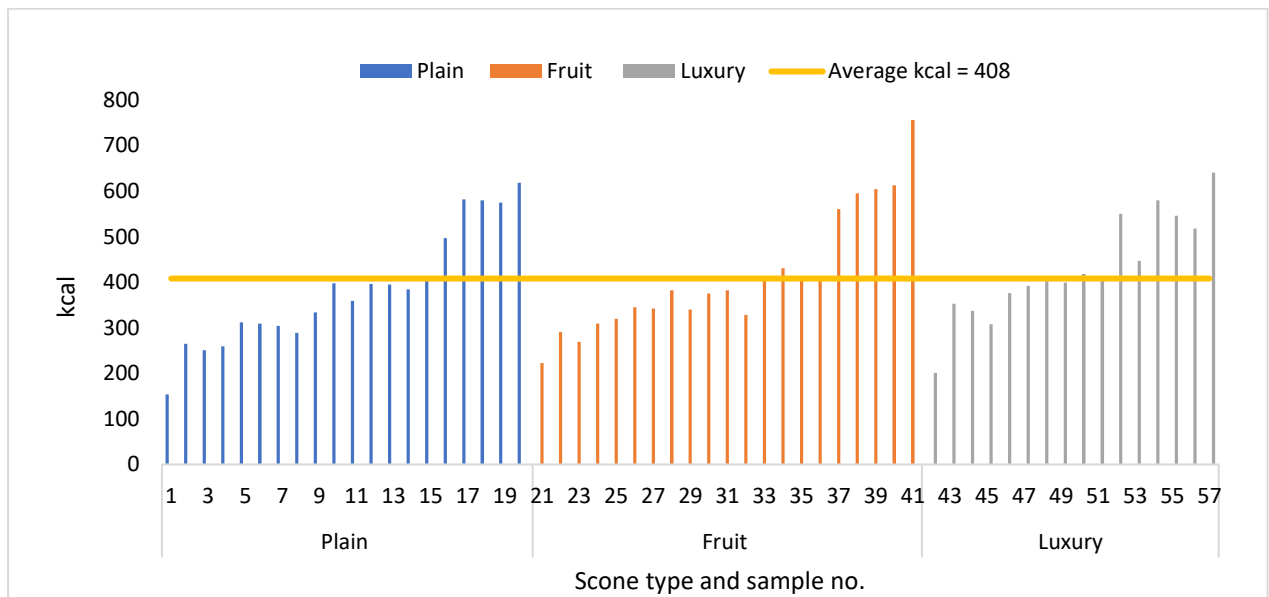


Figure 5a: Energy kcal per portion for all scones

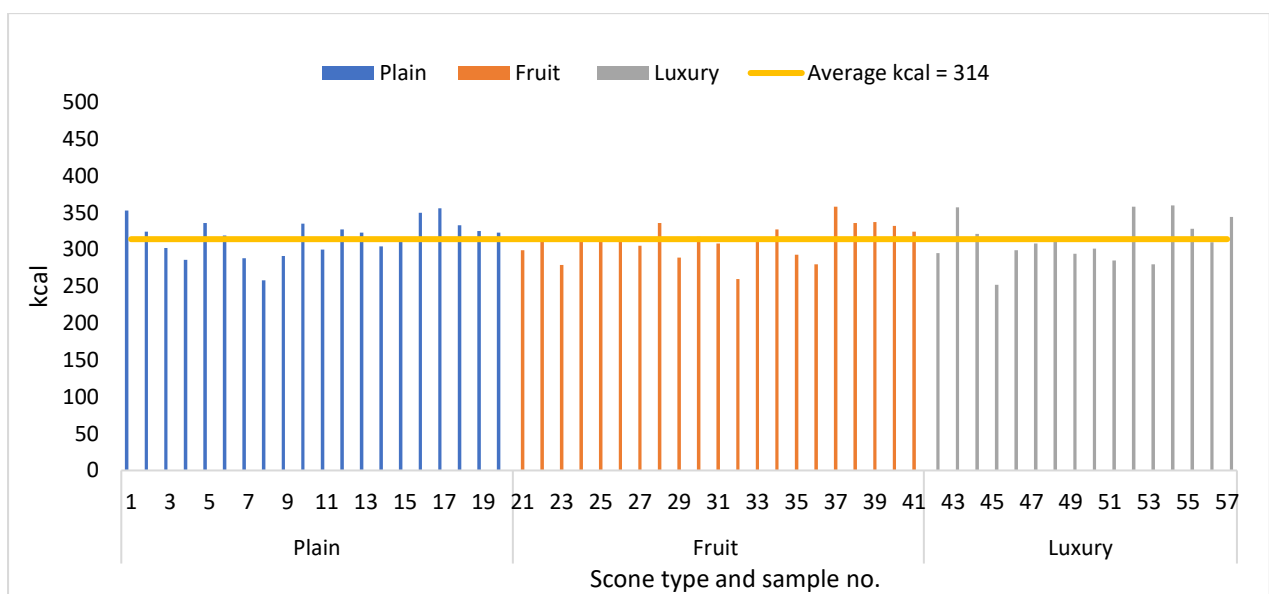


Figure 5b: Energy kcal per 100g for all scones

Sugar

On average a scone purchased from a high street cafe in NI will provide 20g sugar per scone, the equivalent of 5 sugar cubes (14g sugar for plain scones, 24g sugar for fruit scones and 21g sugar for luxury scones). The range of sugar per scone varied widely and the upper end of the range was highest for fruit scones (12.9-39.2g sugar per scone), followed by luxury scones (3.1-38.6g sugar per scone) and lowest for plain scones (6.2g-28.5g sugar per scone) (Figure 6a). When comparing sugar per 100g, values were highest for fruit scones at 18g sugar/100g (range 10.6-26.6g sugar/100g), followed by luxury scones at 14.5g sugar/100g and plain at 11.7g sugar/100g (Figure 6b).

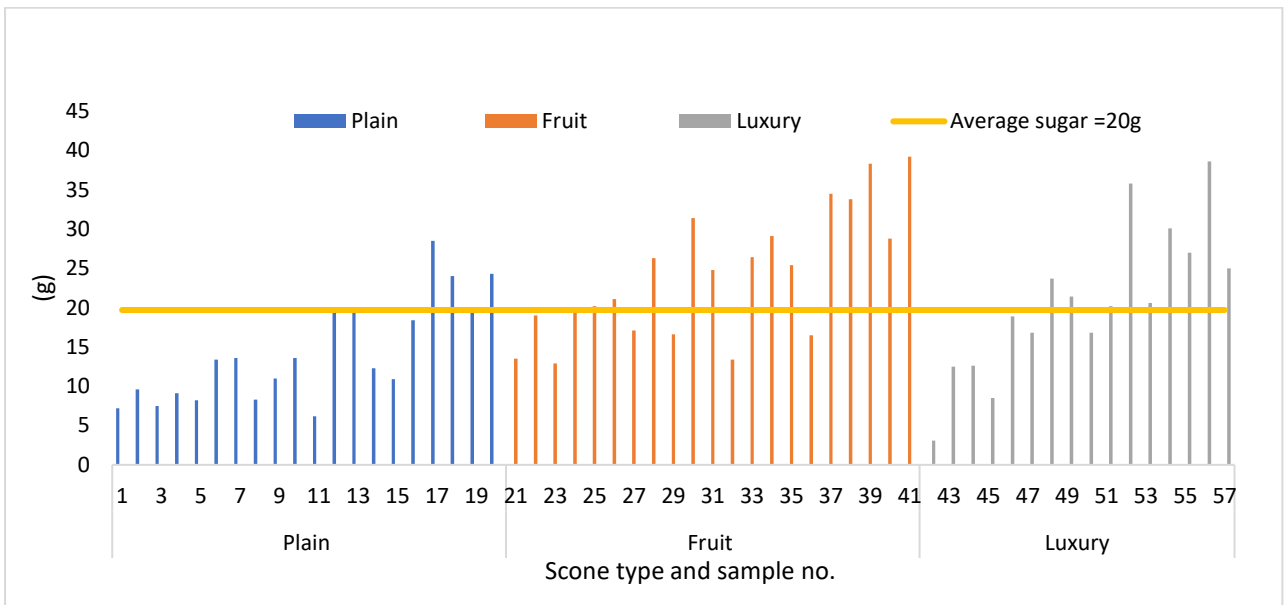


Figure 6a: Sugar (g) per portion for all scones

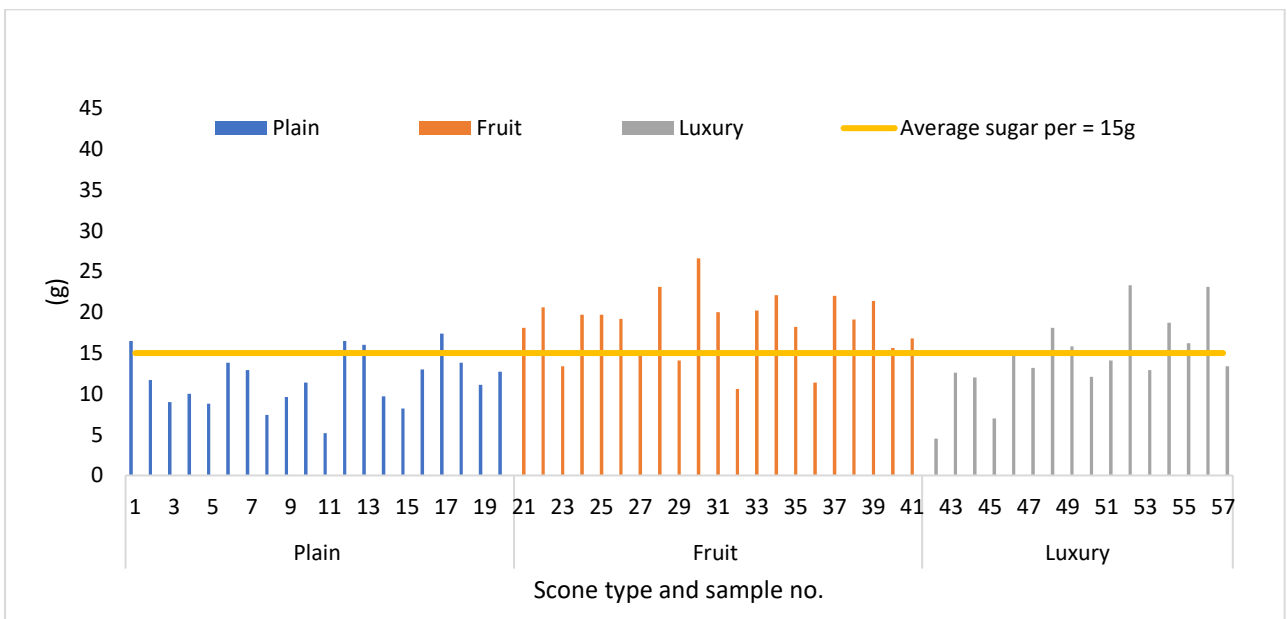


Figure 6b: Sugar (g) per 100g for all scones

Salt

On average a scone purchased from a high street cafe in NI will provide 1.9g salt per scone. It must also be noted that one sample of a plain scone contained 5g salt per scone. The range of salt varied from 1.16-5.01g per scone for plain, 0.54-3.19g per scone for fruit and 0.81-2.91g per scone for luxury. The average salt content per portion for plain scones was 2.1g, for fruit it was 1.7g and for luxury it was 1.8g (Figure 7a). When comparing salt per 100g, average values were the highest for plain scones at 1.9g/100g. Fruit and luxury scones both contained an average of 1.4g salt/100g(Figure 7b).



Figure 7a: Salt per portion for all scones



Figure 7b: Salt per 100g for all scones

Fat

On average a scone purchased from a high street cafe in NI will provide 11.6g fat per scone (11.1g fat for plain scones, 10.7g fat for fruit scones and 13.3g fat for luxury scones). The range of fat per scone varied widely and the upper end of the range was highest for luxury scones (6.2-22.7g fat per scone), followed by plain scones (3.4-20.8g fat per scone) and lowest for fruit scones (4.9-19.8g fat per scone) (Figure 8a). When comparing fat per 100g, average values were 9.1g fat/100g for plain scones, 7.9g fat/100g for fruit scones and 9.6g fat/100g for luxury scones (Figure 8b).

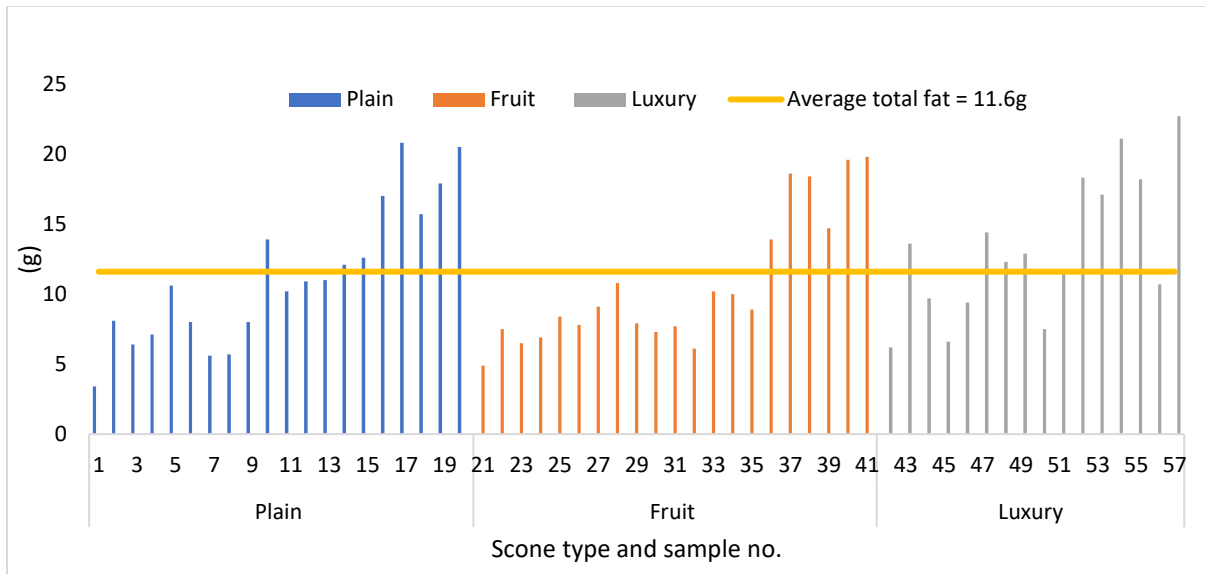


Figure 8a: Total fat per portion for all scones



Figure 8b: Total fat per 100g for all scones

Saturated Fat

On average a scone purchased from a high street cafe in NI will provide 4.9g saturated fat per scone (4.7g saturated fat for plain scones, 4.4g saturated fat for fruit scones and 6g saturated fat for luxury scones). The range of saturated fat per scone varied widely and the upper end of the range was highest for luxury scones (2.3-14.0g saturated fat per scone), followed by plain scones (0.68-13.43g saturated fat per scone) and lowest for fruit scones (1.84-12g saturated fat per scone) (Figure 9a). When comparing saturated fat per 100g, average values were 3.6g saturated fat/100g for plain scones, 3.2g saturated fat/100g for fruit scones and 4.2g saturated fat/100g for luxury scones (Figure 9b).

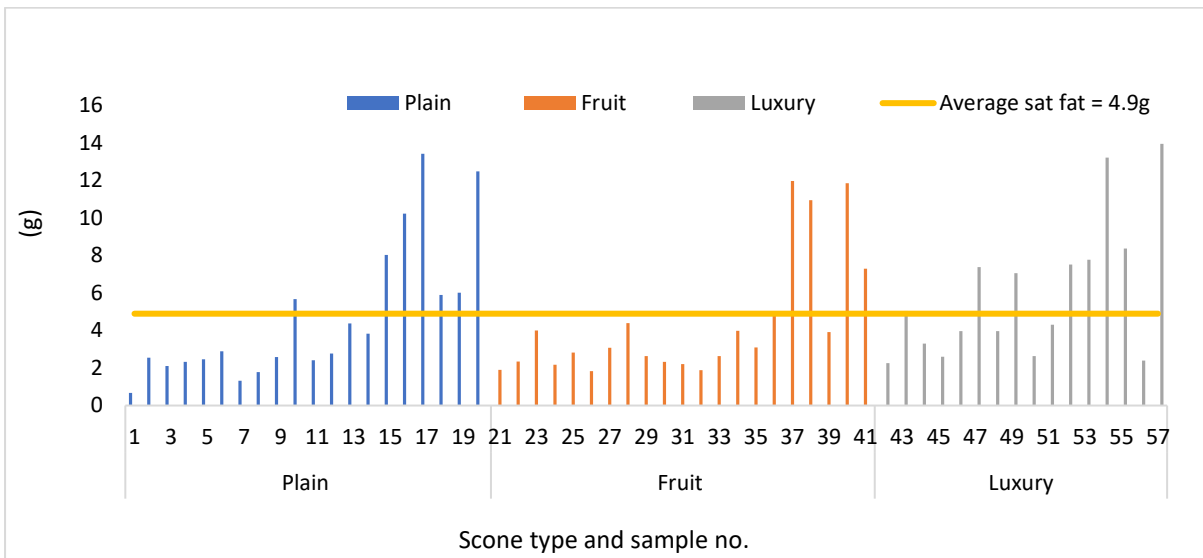


Figure 9a: Saturated fat per portion for all scones

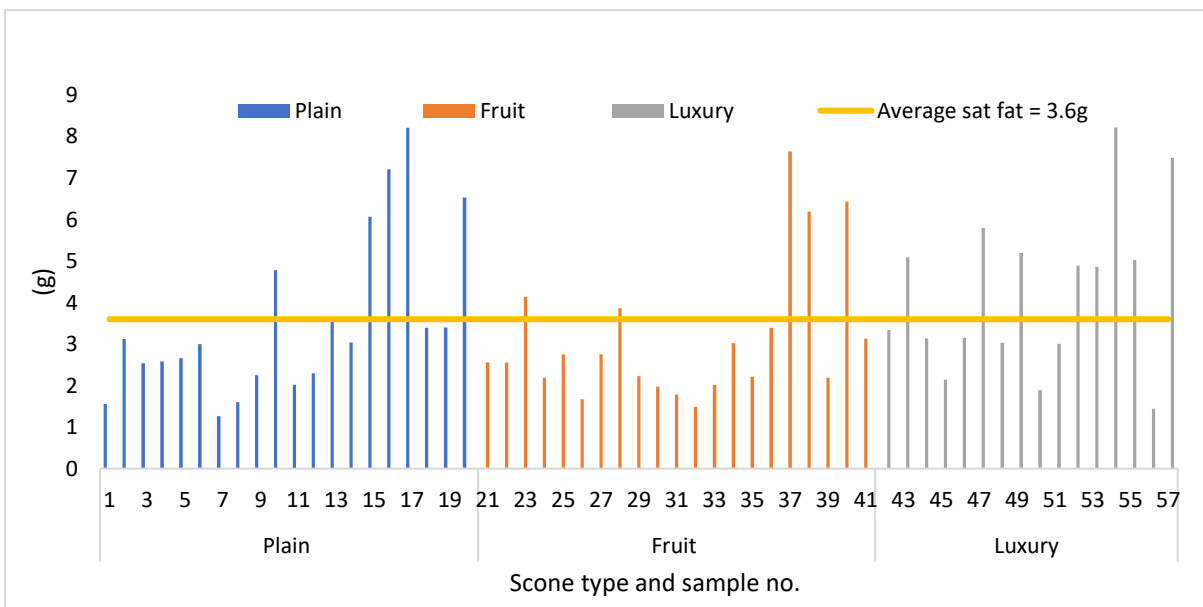


Figure 9b: Saturated fat per 100g for all scones

Fibre

On average a scone purchased from a high street cafe in NI will provide 2.3g fibre per scone (1.8g fibre for plain scones, 2.2g fibre for fruit scones and 2.3g fibre for luxury scones). The range of fibre per scone varied widely and the upper end of the range was highest for luxury scones (1.4-8g fibre per scone), followed by plain scones (0.5-3.8g fibre per scone) and fruit scones (1-3.7g fibre per scone) (Figure 10a). When comparing fibre per 100g, average values were 1.5 fibre/100g for plain scones, 1.8g fibre/100g for fruit scones and 2.0g fibre/100g for luxury scones (Figure 10b). Fruit and luxury generally contained more fibre than plain scones with one apple and cinnamon scone containing 8g of fibre.



Figure 10a: Fibre per portion for all scones

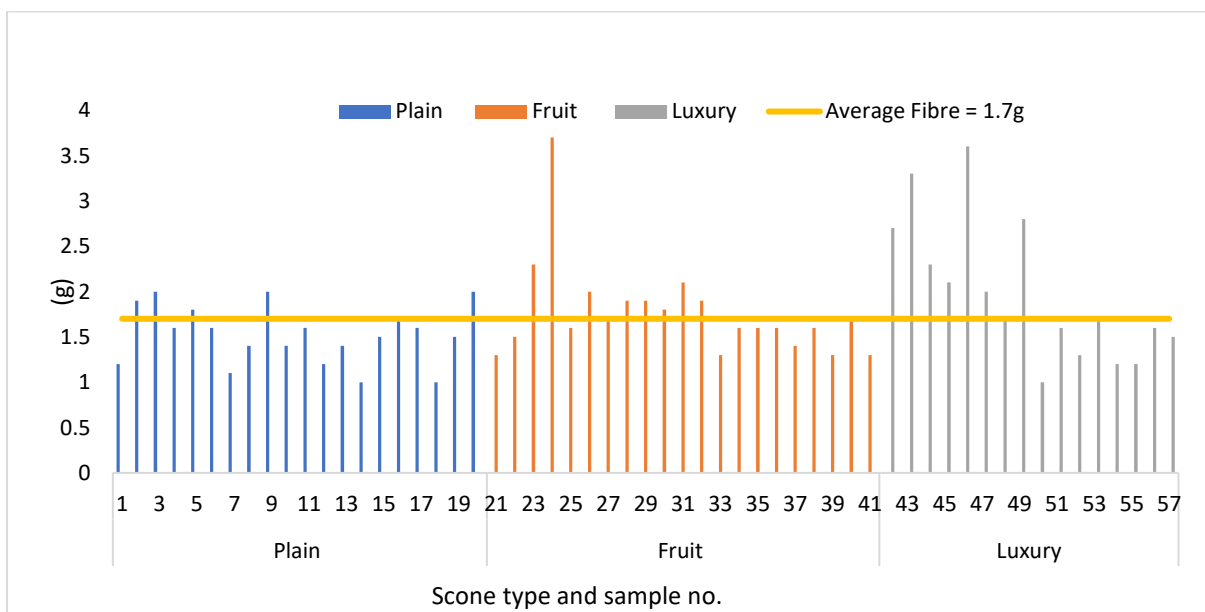


Figure 10b: Fibre per 100g for all scones

Preparation methods

The information gathered on the different preparation methods highlights that the majority (91%) scones made in high street bakeries in NI are made from scratch, with only 5% using a commercial mix and 4% buying scones ready-baked from other NI suppliers (Figure 11). When scones were made from scratch the average calories were found to be 314.6 kcal/100g. Ready baked scones had an average of 298 kcal/100g and those made using a commercial mix had an average of 314.3kcal/100g (Table 2a and 2b).

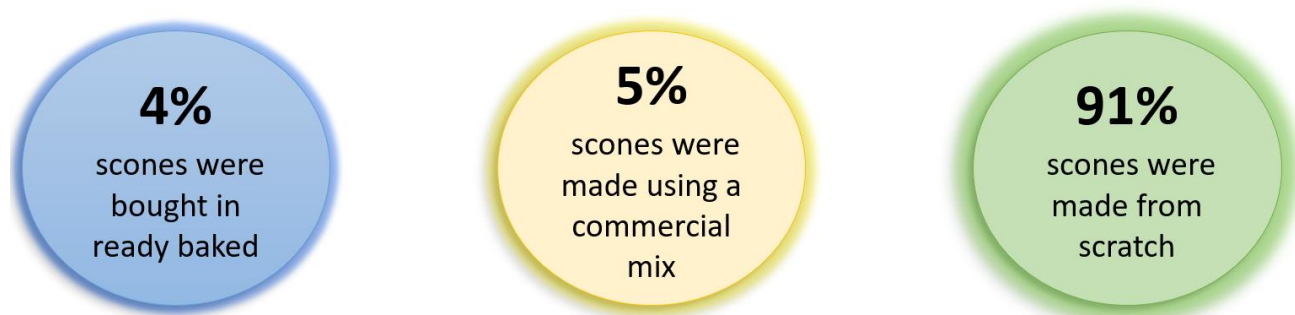


Figure 11: Scone preparation methods

Table 2a Comparison of the nutritional value (per 100g) of scones made from scratch with those ready baked and made using a commercial mix

	Made from scratch (n= 52)	Bought in ready baked (n=2)	Made using commercial mix (n=3)
Weight (g)	128.6	120.7	144.7
Calories (kcal)	314.6	298	314.3
Total fat (g)	8.9	8.3	7.2
Saturated fat (g)	3.7	2.6	2.4
Sugar (g)	15.1	9.7	16.6
Fibre (g)	1.8	1.5	1.4
Salt (g)	1.6	1.8	1.4

Table 2b Comparison of the nutritional value (per portion) of scones made from scratch with those ready baked and made using a commercial mix

	Made from scratch (n=52)	Bought in ready baked (n=2)	Made using commercial mix (n=3)
Weight (g)	128.6	120.7	144.7
Calories (kcal)	407	359	456
Total fat (g)	11.7	10	10.9
Saturated fat (g)	5.1	3.2	3.7
Sugar (g)	19.9	11.6	22.6
Fibre (g)	2.3	1.8	2.1
Salt (g)	1.9	2.2	2.3

When portioning scones for baking, the majority of businesses (87%) use a pastry cutter to determine the size, with 13% using a knife or metal hasher. In 42% of cases where pastry cutters are used, there is only one size of cutter available (Figure 12).

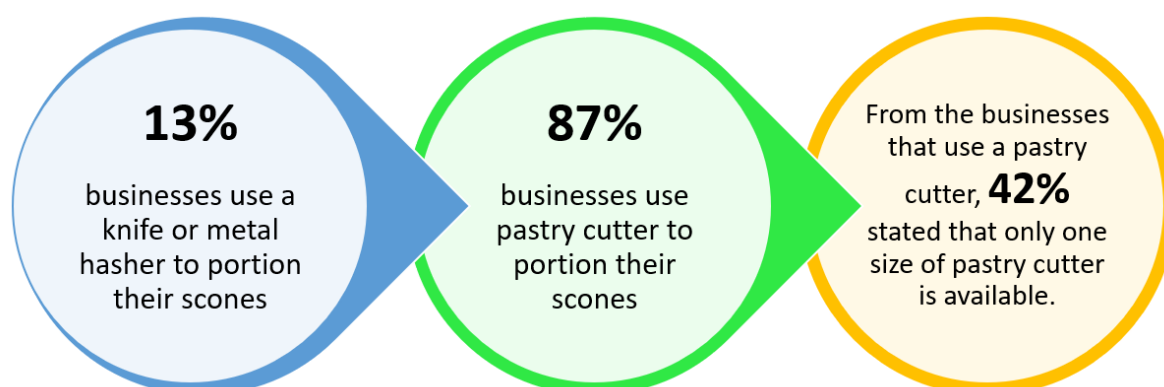


Figure 12: Techniques for portioning scones

It is also interesting to note that the majority of businesses (89%) stated that the same mix is used to make different types of scones.



Most bakeries use measuring equipment for baking scones with only 18% reporting they do not measure ingredients.

Use of measuring equipment appears to have an impact on the nutritional values (calories, sugar, fat, salt) of the scones that were sampled, with heavier and higher calorie scones found when measuring equipment was used (Table 3a and 3b).

Figure 13: Percentage of businesses not using measuring equipment

Table 3a Average nutritional values when measuring equipment was **not used**.

Average	per 100g	per portion
Weight (g)	120.5	120.5
Calories (kcal)	307	371.4
Total fat (g)	8.1	9.6
Saturated fat (g)	2.7	3.1
Sugar (g)	14.4	18.5
Fibre (g)	1.7	2.6
Salt (g)	1.6	1.9

Table 3b Average nutritional values when measuring equipment was **used**.

Average	per 100g	per portion
Weight (g)	131.2	131.2
Calories (kcal)	315.8	416
Total fat (g)	9	12
Saturated fat (g)	3.8	5.4
Sugar (g)	15.2	20.2
Fibre (g)	1.7	2.2
Salt	1.5	1.9

It is worth considering that the results are analysed per scone as purchased. Scones are usually consumed with the addition of butter, or a spread, or cream or jam or a combination of these. The calories for typical servings of these additions are shown in Table 6. Using this data for a typical serving with the addition of two wrapped portions of butter and one wrapped portion of jam would provide an additional 187kcal.

Table 4: Calories (kcal) provided from addition of butter and spread, jam and cream

	Calories (kcal)
Butter (10g =1 wrapped portion)	74
Margarine (10g=1 wrapped portion)	53
Low fat margarine (10g=1 wrapped portion)	37
Jam (15g=1 wrapped portion)	39
Cream – whipping (30ml)	114
Double cream (30ml)	149

(Data from MenuCal, June 2018)



Discussion

Scones purchased from high street coffee shops and cafes in NI varied widely in terms of size and nutritional composition. This is also true when comparing the different categories of scones, with a wide variety of sizes of plain, fruit and luxury scones.

Calories and portion size

The calorie content of some scone samples was surprising with five of the scone samples having more than 600kcal per portion. The recommended daily intake for calories is 2000 calories per day for women and 2500 calories per day for men⁷. The Public Health England (PHE) 'One You' campaign⁸ suggests achieving this with a breakdown of calories during the day to provide 400 calories for breakfast, 600 for lunch and 600 for dinner. For a typical adult aiming to maintain weight, this allows another 400 calories in the day for all remaining snacks and drinks. Traditionally in NI, scones are enjoyed as a snack e.g. mid-morning or in meetings, and consideration should be given to the contribution these items are making to the overall daily intake. The highest calorie scone, without the addition of spread or jam, provides over a third (38%) of the recommended daily calorie intake⁷.

There appeared to be a correlation between scone portion size and calorie content, with larger portions having higher number of calories, regardless of the category of scone. There were only small variations when comparing calories per 100g across the different categories of scone, which seems to confirm that portion size independently determines the calorie content of a scone.

It is worth noting that most coffee shops and cafes use a pastry cutter to determine the portion size of scones. In 42% cases where pastry cutters are used there is only one size of cutter available therefore a simple solution to the larger portion sizes could be to use a smaller portion cutter in the baking process.

Sugar

57% of people in NI are concerned about sugar in food⁹, which is higher than England (55%) and Wales (52%), with adults in NI currently consuming double the recommended daily amount of sugar, and children triple the amount². The FSA are working with the food industry in NI to reformulate foods which contribute the most to sugar intakes. One fruit scone sampled in this survey contained 39.2g sugar, the equivalent of 10 sugar cubes, which is also equivalent to the sugar in a can of regular cola.



Fruit scones in general tended to have the highest sugar contents ranging from 12.9-39.2g sugar per scone. Consideration must be given to the contribution of sugar from dried fruit, and acknowledgment that the analysis provided values for total sugar and did not distinguish this from sugar added as an ingredient. 14% of the scones sampled contained more than 30g sugar which is the maximum recommended amount of sugar per day for everyone over the age of 11 years⁷.

Salt

Just under half of people in NI are concerned about salt in food⁹. Salt intakes in NI are generally too high, at 8.3g salt per day, compared to a maximum recommended intake of 6g per day for adults¹⁰. Most of the salt we eat is already in the food we buy¹¹. The scones sampled from across NI contained high levels of salt with an average salt content of just under 2g or a third of the recommended daily intake of salt. Salt targets set for achievement by industry in 2017¹¹ state that scones should contain no more than an average of 1.13g or maximum of 1.25g salt per 100g. 68% of the samples contained more than the recommended maximum salt level per 100g. One scone contained 5g salt which would therefore provide 80% of the recommended daily salt intake. The range of salt varied widely from 0.54g-5.01g per scone which would suggest there is scope for reducing salt towards the lower level.

Fat, saturated fat and fibre

There was also a wide variation in fat and saturated fat contents of scones with luxury scones tending to be higher in both. The scones sampled contained an average of 2.3g fibre with fruit and luxury tending to contain more fibre than plain scones, probably due to the contribution fruit makes to fibre. An apple and cinnamon scone contained 8g fibre which would be a significant contribution to the recommended 30g fibre per day¹⁰.

Nutritional overview

Scones sold in coffee shops are not pre-packed and therefore are not legally required to have nutritional labelling. To put the survey results in context, Table 5 applies traffic light labelling⁶ to the **average** plain, fruit and luxury scone. See Appendix 5 for traffic light labelling guidelines.

Table 5: Traffic light labelling of average scone samples (per 100g)

	Energy (kcal)	Fat (g)	Saturates (g)	Sugars (g)	Salt (g)
Plain	317	9.1	3.6	11.7	1.9
Fruit	312	7.9	3.2	18.0	1.4
Luxury	313	9.6	4.2	14.5	1.4

Key:

	The food is low in that nutrient
	The food is neither high nor low in that nutrient.
	The food is high in that nutrient

Traffic light labelling has also been applied to the results tables found in Appendix 2, 3 and 4 to demonstrate where scone samples contained low, medium or high

amounts of sugar, fat, saturated fat and salt. Interestingly, none of the scones were found to be low in salt. In addition, the red colour was often applied for certain nutrients due to the large scone size (>100g), in accordance with official guidance⁶.

For comparison, Table 6 demonstrates how the nutrients in an average plain, fruit and luxury scone compare with other typical mid-morning snacks. Generally, scones appear to be higher in calories, fat, saturated fat and sugar than most common mid-morning snacks (except for croissants).

Table 6: Comparison of the nutrients in scones with other mid-morning snacks (per portion)

	Weight (g)	Energy (kcal)	Fat (g)	Saturates (g)	Sugar (g)	Salt (g)
Plain scone	120	384	11.1	4.7	14	2.1
Fruit scone	132	414	10.7	4.4	24	1.7
Luxury scone	137	431	13.3	6	21	1.8
2 slices white bread	80	192	1.8	0.4	2	0.8
2 slices brown bread	80	186	2.4	0.4	2.4	0.8
2 slices of wheaten	100	232	2.6	0.8	3.6	1
2 small pancakes	60	162	4	0.4	9.8	0.58
1 croissant	41	165	8.5	5.4	2.5	0.3

As scones are usually enjoyed with the addition of butter or spread, possibly jam and in some cases cream, consideration should be given to the additional calories provided by these toppings. In some cases, the addition of a spread and jam could increase the total calories consumed in one eating occasion to over 1000 calories or half of the recommended daily intake.

Conclusions

Scones served in high street cafes can be very large in size, weighing an average of 129g but with portion sizes up to 233g. It appears that portion size is the most important factor in determining the calorie values of scones. Basically, the bigger the scone, the higher it is in calories. Although, there does not appear to be a considerable difference in the calorie content or sugar and fat levels per 100g between plain, fruit and luxury scones, it is evident that fruit scones are often higher in sugar, luxury scones are often higher in fat and saturated fat and plain scones are often higher in salt than the other categories of scones.

It is difficult to compare the nutritional value of scones baked from scratch with those made using a commercial mix or bought in ready baked due to the small number of samples of the latter two categories (n=3, n=2). However, it would appear that the preparation methods used does not have a significant impact on the nutritional value (calories, sugar, fat, fibre, salt) of the scones that were sampled. The results of this survey indicate that measuring equipment is used by businesses in the production of heavier and higher calorie scones.

This survey has produced valuable information on the variety of scones available in coffee shops across NI and their contribution to consumer's overall calorie intake.

Recommendations

Industry

- The majority of scones in this survey were made from scratch, presenting a real opportunity for coffee shops to make a difference to the healthiness of the scones they produce through reformulation and portion control. In addition, most businesses stated that the same mix is used to make different types of scones, again providing an opportunity for reformulation across all scone categories.
- It is recommended that coffee shops and cafes take steps to reduce the portion size of large scones, which will subsequently reduce the calorie content of the scones. A smaller cutter could be used to achieve this. Alternatively, coffee shops selling larger scones could take steps to introduce more of a variety of scone sizes for customers.
- High street coffee shops and manufacturers of scones in NI should take measures to reduce the levels of salt in their scones as this survey demonstrates high and varying levels of salt.
- The results of this survey demonstrated a wide range of nutritional values and portions sizes of scones indicating that there must be consumer acceptance of smaller scones and those which are lower in salt, sugar and fat. This should provide reassurance to other coffee shops considering reformulation and reducing portion size.
- Manufacturers of scones should refer to government guidance for the recommended amounts of salt¹¹, sugar and calories⁴ in scone products which fall under the category of morning goods (see links below).

Salt targets - <https://www.food.gov.uk/business-guidance/salt>

Sugar and calorie reduction (reference to scones on page 23)

<https://www.gov.uk/government/publications/sugar-reduction-achieving-the-20>

- Coffee shops should consider applying calorie labelling to the scones they produce to allow their customers to make a more informed choice. Recent statistics show that 78% of NI consumers would like to see more information about healthy eating options when they are eating out¹². Coffee shops could consider participating in the 'Calorie Wise' scheme - a voluntary calorie labelling scheme delivered by the FSA and district councils in NI <https://www.food.gov.uk/business-guidance/calorie-wise>¹³. Businesses participating in the scheme would receive support and recognition for carrying out calorie labelling. The FSA provide a free online tool called MenuCal¹⁴ to assist businesses in calculating calories per portion or per item.

Consumer

- Consumers should be aware of the portion size of scones. For reference, Figure 14 demonstrates an 80g, 150g and 230g scone



Figure 14: Illustration of different scone sizes

- 80g scone can provide in the region of 250-260kcal
- 150g scone can provide in the region of 500kcal
- 230g scone can provide in the region of 750kcal
- Consumers should also be mindful of the additions of butter and jam when eating scones. Lower fat and lower sugar versions should be chosen and used sparingly.
- Consumers should make use of the Front of Pack labels (Appendix 6) when purchasing prepacked scones and other prepacked food items, to help them make more informed food choices.

FSA and district councils

- FSA and the district councils should consult with local Knowledge Providers (i.e. academic institutions) on the production of technical guidance for coffee shops on the manufacture of scones. A local Knowledge Provider could provide the technical expertise required. The guidance should be built on the findings of this survey, reformulation trials and consumer tasting. This recommendation should be taken forward through the Health and Wellbeing Working group which includes representation from four district councils and the FSA.
- District council EHOs should conduct targeted awareness raising of the survey results with coffee shop owners and local bakeries and encourage adoption of the technical guidance once produced.
- Further sampling of scones should be considered following any intervention by EHOs to encourage adoption of the technical guidance e.g. workshops or one-to-one guidance.
- EHOs should encourage the reduction of portion size across other products on sale in coffee shops e.g. tray bakes, puddings, hot meals etc.
- EHOs should promote the Calorie Wise scheme¹³ and the MenuCal tool¹⁴ with coffee shops and cafes. The application of calorie labelling on scones and other menu items will allow customers to make more informed choices.

Tables

Table 1: Sample inclusion and exclusion criteria

Table 2a: Comparison of the nutritional value (per 100g) of scones made from scratch with those ready baked and made using a commercial mix.

Table 2b: Comparison of the nutritional value (per portion) of scones made from scratch with those ready baked and made using a commercial mix.

Table 3a: Average nutritional values when measuring equipment was **not used**

Table 3b: Average nutritional values when measuring equipment was **used**

Table 4: Calories provided from addition of butter and spread, jam and cream

Table 5: Traffic light labelling of average scone samples

Table 6: Comparison of the nutrients in scones with other mid-morning snacks

Figures

Figure 1: 2016 obesity rates in NI

Figure 2: Top 10 sources of sugar for 11-18-year olds in NI

Figure 3: Weight (g) for all scones

Figure 4: The average weight of each scone category

Figure 5a: Energy kcal per portion for all scones

Figure 5b: Energy kcal per 100g for all scones

Figure 6a: Sugar (g) per portion for all scones

Figure 6b: Sugar (g) per 100g for all scones

Figure 7a: Salt per portion for all scones

Figure 7b: Salt per 100g for all scones

Figure 8a: Total fat per portion for all scones

Figure 8b: Total fat per 100g for all scones

Figure 9a: Saturated fat per portion for all scones

Figure 9b: Saturated fat per 100g for all scones

Figure 10a: Fibre per portion for all scones

Figure 10b: Fibre per 100g for all scones

Figure 11: Scone preparation methods

Figure 12: Techniques for portioning scones

Figure 13: Percentage of businesses not using measuring equipment

Figure 14: Illustration of different scone sizes

References

¹ Corrigan D and Scarlett M. Health Survey (NI): First Results 2017/18. Available from: <https://www.health-ni.gov.uk/sites/default/files/publications/health/hsni-first-results-17-18.pdf> [Accessed 26th November 2018].

² National Centre for Social Research, MRC Human Nutrition Research and the University College London Medical School. National Diet and Nutrition Survey rolling programme: Results from Years 1-4 (combined) for Northern Ireland (2008/09-2011/12). Available from: <https://www.gov.uk/government/statistics/national-diet-and-nutrition-survey-rolling-programme-results-from-years-1-4-combined-for-northern-ireland-200809-201112-republication> [Accessed 20th August 2018].

³ Department of Health. A fitter future for all - Outcomes framework 2015 – 2019. Available from: <https://www.health-ni.gov.uk/sites/default/files/publications/dhssps/fitter-future-for-all-outcomes-framework-2015-2019.pdf> [Accessed 20th August 2018].

⁴ Tedstone A, Targett V, Owtram G, Pyne V, Allen R, Bathrellou K et al. Sugar Reduction: Achieving the 20% A technical report outlining progress to date, guidelines for industry, 2015 baseline levels in key foods and next steps. Available from: <https://www.gov.uk/government/publications/sugar-reduction-achieving-the-20> [Accessed 21st August 2018].

⁵ Northern Ireland Executive. Draft Programme for Government Framework 2016-21 and Questionnaire. Available from: <https://www.northernireland.gov.uk/consultations/draft-programme-government-framework-2016-21-and-questionnaire> [Accessed 21st August 2018].

⁶ Department of Health and Food Standards Agency. Guide to creating a front of pack (FoP) nutrition label for pre-packed products sold through retail outlets. Available from: https://www.food.gov.uk/sites/default/files/media/document/fop-guidance_0.pdf [Accessed 24th September 2018].

⁷ Public Health England. Government Dietary Recommendations. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/618167/government_dietary_recommendations.pdf [Accessed 10th August 2018].

⁸ Tedstone A. Public Health Matters. Available from: <https://publichealthmatters.blog.gov.uk/2018/03/06/why-we-are-working-to-reduce-calorie-intake/> [Accessed 21st August 2018].

⁹ Food Standards Agency. Attitudes Tracker Wave 16 - Wave on Wave data (counts). Available from: <https://www.food.gov.uk/sites/default/files/media/document/attitudes-tracker-wave-16-wave-16-data-counts.pdf> [Accessed 22nd August 2018].

¹⁰ British Nutrition Foundation. Nutrition Requirements. Available from: https://www.nutrition.org.uk/attachments/article/234/Nutrition%20Requirements_Reviewed%20Oct%202016.pdf [Accessed 20th August 2018].

¹¹ Food Standards Agency. Salt. Available from: <https://www.food.gov.uk/business-guidance/salt> [Accessed 24th September 2018].

¹² Sondaal A, Bates B, Yeoh SN and Rooney K. The Food and You Survey Wave 4. Available from: <https://www.food.gov.uk/sites/default/files/media/document/food-and-you-northern-ireland-report.pdf> [Accessed 24th September 2018].

¹³ Food Standards Agency. Calorie Wise. Available from: <https://www.food.gov.uk/business-guidance/calorie-wise> [Accessed 24th September 2018].

¹⁴ Food Standards Agency. MenuCal – helps you put allergens and calories on your menu. Available from: <https://www.menucalni.co.uk> [Accessed 24th September 2018].

Appendix 1

Protocol for survey of scones available from high street coffee shops in Northern Ireland 2018

Background

The Northern Ireland (NI) diet contains too much salt, saturated fat and sugar, whilst at the same time most people do not consume enough fruit, vegetables and wholegrain products. For people's diet to improve, the healthy choice should be the easy choice.

Within NI's Obesity Prevention Strategy 'A Fitter Future for All' the Food Standards Agency (FSA) and District Councils have committed to improving the nutritional quality of menu choices including the regulation of portion sizes and the provision of appropriate nutritional information for consumers by caterers.

The FSA Eating Well Choosing Better programme supports small and medium sized businesses in NI with food product improvement/reformulation, as well as increasing the availability of small and/or reduced portion sizes, to make the healthy choice easy for the NI consumer. This applies to all sectors of the food industry whether that be manufacturing, retail or the out of home sector.

Through the National Diet and Nutrition Survey (NDNS) data, the FSA have identified the categories which contribute most to sugar intakes of the population. Within this the NI bakery and ice cream sectors have been identified as significant local manufacturers of produce that is consumed within NI, whereas other food sectors are more likely to be subject to import from or export to other regions.

Eating Well Choosing Better is encouraging and supporting industry to:

- reformulate products to reduce the levels of sugar, salt or fat in foods,
- reduce the portion size, and/or the number of calories in single-serve products,
- shift consumer purchasing towards lower or no added sugar products.

The FSA reports on the activity of the programme to the Department of Health, twice per year, under the programme for Government framework.

Purpose and scope of survey

The survey will identify the portion size (g) and nutritional information per portion and per 100g (energy, sugar, fat, saturated fat and salt) of scones available from high street coffee shops and cafes in Northern Ireland. The results of this survey will inform targeted intervention with the bakery sector, supported by technical expertise from one or more of the local Knowledge Providers (i.e. academic institutions) to increase the availability of healthier products in local bakeries and coffee shops.

Duration of survey

Sampling commences January 2018 and concludes March 2018

Foods to be sampled

Single serve scones which are sold loose and likely to be consumed by an individual in one eating occasion.

A range of scones should include plain, white chocolate and raspberry, fruit.

Scones should be purchased from **local** businesses where the produce is manufactured in NI.

Multinational chains such as Starbucks, Costa, Nero, Greggs who already engaged with work led by Public Health England, should **not** be included.

A minimum of three samples will be taken by each of the 11 District Councils. Samples will be taken by District Council Environmental Health Officers.

Target businesses

Local coffee shops and cafes.

Appendix 2: Nutritional analysis results for Plain scones per 100g and per portion

Sample No.	Weight (g)	Per 100g						Per portion					
		Energy kcal	Total fat	Sat Fat	Sugar	Fibre	Salt	Energy kcal	Total fat	Sat Fat	Sugar	Fibre	Salt
1	44.0	353	7.9	1.6	16.5	1.2	2.7	154	3.4	0.7	7.2	0.5	1.2
2	81.7	324	9.9	3.1	11.7	1.9	2.0	265	8.1	2.6	9.6	1.6	1.6
3	83.2	302	7.7	2.5	9.0	2.0	2.3	251	6.4	2.1	7.5	1.7	1.9
4	90.5	286	7.8	2.6	10.0	1.6	2.5	259	7.1	2.3	9.1	1.4	2.2
5	92.9	336	11.4	2.7	8.8	1.8	2.6	312	10.6	2.5	8.2	1.7	2.4
6	96.8	319	8.3	3.0	13.8	1.6	1.5	309	8.0	2.9	13.4	1.5	1.5
7	105.5	288	5.3	1.3	12.9	1.1	2.1	304	5.6	1.3	13.6	1.2	2.3
8	111.9	258	5.1	1.6	7.4	1.4	1.8	289	5.7	1.8	8.3	1.6	2.1
9	114.9	291	7	2.3	9.6	2.0	1.8	334	8.0	2.6	11.0	2.3	2.0
10	118.9	335	11.7	4.8	11.4	1.4	2.2	398	13.9	5.7	13.6	1.7	2.6
11	119.6	300	8.5	2.0	5.2	1.6	1.5	359	10.2	2.4	6.2	1.9	1.8
12	121	327	9	2.3	16.5	1.2	1.5	396	10.9	2.8	20.0	1.5	1.8
13	122.3	323	9	3.6	16	1.4	1.7	395	11.0	4.4	19.6	1.7	2.1
14	126.4	304	9.6	3.0	9.7	1.0	1.9	384	12.1	3.8	12.3	1.3	2.4
15	132.5	312	9.5	6.1	8.2	1.5	1.7	413	12.6	8.0	10.9	2.0	2.3
16	141.9	350	12	7.2	13.0	1.7	1.0	497	17.0	10.2	18.4	2.4	1.5
17	163.6	356	12.7	8.2	17.4	1.6	0.9	582	20.8	13.4	28.5	2.6	1.4
18	174.1	333	9	3.4	13.8	1.0	1.7	580	15.7	5.9	24.0	1.7	3.0
19	177	325	10.1	3.4	11.1	1.5	2.8	575	17.9	6.0	19.6	2.7	5.0
20	191.3	323	10.7	6.5	12.7	2.0	1.0	618	20.5	12.5	24.3	3.8	2.0

Appendix 3: Nutritional analysis results for Fruit scones per 100g and per portion

		Per 100g						Per portion					
Sample No.	Weight (g)	Energy kcal	Total fat	Sat Fat	Sugar	Fibre	Salt	Energy kcal	Total fat	Sat Fat	Sugar	Fibre	Salt
21	74.6	299	6.6	2.6	18.1	1.3	2.6	223	4.9	2.0	13.5	1.0	1.9
22	92.0	316	8.1	2.6	20.6	1.5	1.6	291	7.5	2.6	19.0	1.4	1.4
23	96.5	279	6.7	4.1	13.4	2.3	1.9	269	6.5	4.0	12.9	2.2	1.8
24	98.9	312	7.0	2.2	19.7	3.7	1.6	309	6.9	2.2	19.5	3.7	1.6
25	102.5	312	8.2	2.8	19.7	1.6	2.0	320	8.4	2.8	20.2	1.6	2.0
26	109.9	314	7.1	1.7	19.2	2.0	0.5	345	7.8	1.8	21.1	2.2	0.5
27	112.0	305	8.1	2.8	15.3	1.7	1.6	342	9.1	3.1	17.1	1.9	1.8
28	113.8	336	9.5	3.9	23.1	1.9	1.7	382	10.8	4.4	26.3	2.2	1.9
29	117.8	289	6.7	2.2	14.1	1.9	1.7	340	7.9	2.6	16.6	2.2	2.0
30	118.2	317	6.2	2.0	26.6	1.8	0.9	375	7.3	2.3	31.4	2.1	1.1
31	123.9	308	6.2	1.8	20	2.1	1.1	382	7.7	2.2	24.8	2.6	1.4
32	126.1	260	4.8	1.5	10.6	1.9	1.6	328	6.1	1.9	13.4	2.4	2.0
33	130.7	311	7.8	2.0	20.2	1.3	1.3	406	10.2	2.6	26.4	1.7	1.7
34	131.9	327	7.6	3.0	22.1	1.6	1.4	431	10.0	4.0	29.1	2.1	1.9
35	139.8	293	6.4	2.2	18.2	1.6	1.8	410	8.9	3.1	25.4	2.2	2.5
36	145.0	280	9.6	3.4	11.4	1.6	1.3	406	13.9	4.9	16.5	2.3	1.9
37	156.7	358	11.9	7.6	22	1.4	0.8	561	18.6	12.0	34.5	2.2	1.2
38	177.0	336	10.4	6.2	19.1	1.6	0.9	595	18.4	11.0	33.8	2.8	1.5
39	179.2	337	8.2	2.2	21.4	1.3	0.4	604	14.7	3.9	38.3	2.3	0.7
40	184.5	332	10.6	6.4	15.6	1.7	1.0	613	19.6	11.9	28.8	3.1	1.9
41	233.2	324	8.5	3.1	16.8	1.3	1.4	756	19.8	7.3	39.2	3.0	3.2

Appendix 4: Nutritional analysis results for Luxury scones per 100g and per portion

Sample No.	Weight (g)	Per 100g						Per portion					
		Energy kcal	Total fat	Sat Fat	Sugar	Fibre	Salt	Energy kcal	Total fat	Sat Fat	Sugar	Fibre	Salt
42	68.1	295	9.1	3.3	4.5	2.7	2.6	201	6.2	2.3	3.1	8	1.8
43	99.0	357	13.7	5.1	12.6	3.3	1.0	353	13.6	5.0	12.5	3.3	1.0
44	105.1	321	9.2	3.1	12.0	2.3	2.1	337	9.7	3.3	12.6	2.4	2.2
45	122.1	252	5.4	2.1	7.0	2.1	1.7	308	6.6	2.6	8.5	2.6	2.1
46	125.9	299	7.5	3.2	15.0	3.6	1.6	376	9.4	4.0	18.9	4.5	2.1
47	127.4	308	11.3	5.8	13.2	2.0	1.6	392	14.4	7.4	16.8	2.5	2.0
48	131.0	316	9.4	3.0	18.1	1.7	1.2	414	12.3	4.0	23.7	2.2	1.6
49	135.7	294	9.5	5.2	15.8	2.8	1.2	399	12.9	7.1	21.4	3.8	1.7
50	139.0	301	5.4	1.9	12.1	1	0.6	418	7.5	2.6	16.8	1.4	0.8
51	143.3	285	8.0	3.0	14.1	1.6	1.6	408	11.5	4.3	20.2	2.3	2.3
52	153.7	358	11.9	4.9	23.3	1.3	0.7	550	18.3	7.5	35.8	2	1.0
53	159.8	280	10.7	4.9	12.9	1.7	1.8	447	17.1	7.8	20.6	2.7	2.8
54	161.0	360	13.1	8.2	18.7	1.2	0.9	580	21.1	13.2	30.1	1.9	1.4
55	166.6	328	10.9	5.0	16.2	1.2	1.2	546	18.2	8.38	27.0	2.0	2.1
56	167.0	310	6.4	1.4	23.1	1.6	1.7	518	10.7	2.4	38.6	2.7	2.9
57	186.4	344	12.2	7.5	13.4	1.5	1.0	641	22.7	14.0	25.0	2.8	1.9

Appendix 5: Colour coding criteria used in Department of Health/FSA Guidance

Text	LOW ⁸	MEDIUM	HIGH	
Colour code	Green	Amber	Red	
			>25% of RIs	>30% of RIs
Fat	≤ 3.0g/100g	> 3.0g to ≤ 17.5g/100g	> 17.5g/100g	> 21g/portion
Saturates	≤ 1.5g/100g	> 1.5g to ≤ 5.0g/100g	> 5.0g/100g	> 6.0g/portion
(Total) Sugars	≤ 5.0g/100g	> 5.0g to ≤ 22.5g /100g	> 22.5g/100g	> 27g/portion
Salt	≤ 0.3g/100g	> 0.3g to ≤ 1.5g/100g	>1.5g/100g	>1.8g/portion

Note: portion size criteria apply to portions/serving sizes greater than 100g

Appendix 6: Traffic light labels explained

TRAFFIC LIGHT LABELS EXPLAINED

All measures per 100g



Food
Standards
Agency
food.gov.uk

	FAT	SATURATES	SUGARS	SALT
LOW	≤3.0g	≤1.5g	≤5.0g	≤0.3g
MEDIUM	>3.0g - ≤17.5g	>1.5g - ≤5.0g	>5.0g - ≤22.5g	>0.3g - ≤1.5g
HIGH	>17.5g	>5.0g	>22.5g	>1.5g

Remember the amount of a particular food you eat will also contribute to the amount of sugar, salt, fat or saturated fat you eat.

Use traffic light labels to help you choose healthier food and drink options. These show you if food has high, medium or low amounts of fat, saturated fat, sugar and salt.

GREEN

The food is low in that nutrient. The more green, the healthier the choice.

AMBER

The food is neither high nor low in that nutrient. Ambers help balance your diet.

RED

The food is high in that nutrient. Keep an eye on how often you choose these foods and how much you eat.

Many traffic light labels will have a mixture of red, amber and greens. Try to go for more greens and ambers, and fewer reds, to help you eat a healthier diet.