

SURVEY ON THE FAT CONTENT IN MINCED MEAT

This survey was conducted as part of the Agency's food authenticity programme, which aims to gather information about the description of food in the UK.

Summary

- The primary aim of the survey was to compare the fat content of minced meat when claims such as "lean", "extra/super lean" were used to the fat content of mince with no claim ('standard' mince) and to the Association of Public Analysts' (APA) advice on the use of these claims.
- The fat contents found were also checked against declared fat values, fat claims such as "typically less than 10% fat" or legal requirements for fat content where names controlled by the Minced Meat and Meat Preparations (Hygiene) Regulations 1995 were used.
- A total of 561 samples of fresh and frozen, loose and pre-packed products, comprising 444 (80%) beef, 58 (10%) lamb, 30 (5%) pork, 23 (4%) turkey and 6 (1%) chicken mince samples, were collected from a range of retail outlets and catering suppliers between December 2003 and March 2004. Samples collected were representative of products being sold in the UK marketplace at the time of collection and were analysed for total fat content by 23 Public Analyst laboratories.
- A total of 152 (27%) of all the mince types sampled made one of the descriptive claims "lean" or "extra/super lean". For minced beef the fat content range for "standard" beef mince was 1.9g/100g to 32.3g/100g, for products described as "lean" it was 4.0g/100g to 15.7g/100g and for "extra/super lean" it was 1.9g/100g to 17.7g/100g. Thus there was extensive overlap of fat contents between these categories.
- Nineteen (40%) of the 48 "extra/super lean" minced beef samples contained more than the 9% maximum fat limit recommended by the APA. Five (2%) of the 233 minced

beef samples exceeded the APA's maximum limit of 25% fat for 'standard' minced beef.

- From 308 samples that gave nutrition information, 55 (18%) samples had a higher fat content (taking into account allowed tolerances) than that declared in the nutrition labelling panel whilst 25 (8%) samples were found to have a lower fat content than that indicated. Eleven (9%) out of 116 samples making a claim about the fat content of the form "typically less than x% fat" had a higher determined fat content than the value specified in the claim. Five (22%) out of the 23 products using the specific designations in the Minced Meat Regulations 1995 exceeded the fat content requirements specified in the Regulations.
- The survey has shown that claims used to describe minced meat can be misleading or inaccurate. It is clear that action needs to be taken to ensure that products described as "extra/super lean" meet APA criteria and accurate nutrition information is given.
- All findings have been passed to local authorities participating in the survey as well as relevant home authorities. To date, seven of these have taken action and the Agency is encouraging the remaining authorities to do so. In addition, three companies have since made changes to their product labelling.
- The Agency now plans to develop, in consultation with stakeholders, clear guidance on use of terms like "lean" and "extra lean" on mince. It will also explore the potential for improved rules with the European Commission, who are considering the need for replacement of the current provisions.

Introduction

1. Minced meat accounts for approximately 40% of the total UK sales of beef, 9% of lamb sales and 2% of pork sales. Mince can comprise minced prime cuts of meat, minced trimmings or off-cuts of meat, or a mixture of meat or meat-based ingredients (fat, rind, etc).
2. Consumer interest in healthy eating has led to the marketing of minced meat described as "lean" or "extra/super lean" mince. Products described as "minced steak" may also

be perceived as higher quality. Many products also make specific claims, such as “typically less than x% fat”.

3. Previous local authority surveys have shown that some products described as “lean” or “extra lean”, in fact, contained more fat than ‘standard’ mince samples. The fat content of minced beef on sale in the UK not described as “lean” was found to be about 18%, however, several samples of “lean” minced beef analysed had fat contents in excess of 25%⁽¹⁾.
4. The primary aim of the survey was to compare the fat content of minced meat when claims such as “lean”, “extra/super lean”, “steak” etc. were used to the fat content of “standard” mince and to APA advice on the use of these claims. The fat contents found were also checked to see whether they matched nutrition labelling fat values, fat claims such as “typically less than 10% fat” or legal requirements for fat content when names controlled by *The Minced Meat and Meat Preparations (Hygiene) Regulations 1995*⁽²⁾ were used.

Legislation and Guidance

Compositional Rules

5. Minced meat is defined in *The Minced Meat and Meat Preparations (Hygiene) Regulations 1995*⁽²⁾ (which implements Council Directive 94/65/EC⁽³⁾) as being “meat which has been minced into fragments or passed through a spiral screw mincer and includes such meat to which not more than 1 per cent salt has been added”. These Regulations set compositional requirements for total fat content of pre-packed minced meat of different species sold using specific designations (see Table A). They only apply to products that use the exact wording of the Regulations. The Regulations do not apply to minced meat sold loose in butchers’ shops. There are no statutory limits for the fat content of mince sold as “lean” or “extra/super lean”.
6. New EC legislation, The Animal Products Hygiene Regulation, due to come into force in January 2006 will consolidate all the meat hygiene directives currently in force. This legislation will revoke and replace the 1995 Regulations. The consolidated Hygiene Regulation will contain no compositional requirements for mince.

Table A: Compositional Criteria for Pre-packed Minced Meat
 (reproduced from Schedule 11 of the 1995 Regulations⁽²⁾)

Designation	Fat content (%)
“Lean minced”, used in relation to meat of any permitted species	= 7
“Minced pure”, used in relation to meat of bovine animals	= 20
“Minced”, used in relation to meat of any permitted species and containing pig meat	= 30
“Minced”, used in relation to sheep meat or goat meat	= 25

7. The Association of Public Analysts (APA) has issued guidance⁽¹⁾ on recommended fat levels for minced beef. The APA advises that any “lean” minced beef should contain not more than 16% total fat. For “extra/super lean” minced beef, the guidance advises a maximum 9% fat (Annex 1, Table 1). Public analysts have applied a maximum limit of 25% fat for ‘standard’ minced beef, which is widely established in case law.

General Labelling

8. Under more general UK food legislation it is an offence under Sections 14 and 15 of the *Food Safety Act 1990*⁽⁴⁾ to sell food that is not of the nature, substance or quality demanded by the consumer or to falsely or misleadingly describe or present food. The *Food Labelling Regulations 1996 (as amended, (FLR))*⁽⁵⁾ state that the name of a food has to be precise enough to indicate the true nature of the product and to distinguish it from other foods with which it could be confused.

Nutrition Labelling

9. The FLR require that, where a nutrition claim is made for a product, nutrition labelling is compulsory. This information is required in a particular format. The nutrition labelling must include the amount of any nutrient which is the subject of a claim presented as grams nutrient per 100g of food. The nutrition information declared should be based on: manufacturer’s analysis; or calculation from known or actual average values of the ingredients used; or calculation from generally established and accepted data⁽⁵⁻⁷⁾.

10. The figures declared for specific nutrients are average values which take into account seasonal/natural variability etc. Local Authorities Coordinators of Regulatory Services (LACORS) has issued guidance⁽⁸⁾ on tolerances which should be applied to nutrition labelling declarations regarding fat content (Annex 1, Table 2).

Sampling

11. The collection and analysis of samples for this survey were co-ordinated by the Public Analyst Service Limited, involving 23 Public Analyst laboratories (Annex 2.I). Samples were collected either by laboratory staff, or their appointed Local Authority (Annex 2.II) in the following areas of the UK: England (East Anglia, Midlands, North East, North West, South East, South West); Scotland; Wales; and, Northern Ireland. A breakdown of the different species of minced meat collected from each of the UK regions and the UK as a whole is presented at Annex 3, Figure 1.

12. Collecting officers were provided with a written sampling protocol detailing the type of samples to be collected, and the product information to be recorded on a specially designed sample collection form. Samples were collected between December 2003 and March 2004 from a range of retail outlets across the UK, including 301 supermarkets, 96 independent retailers/small chain stores, 110 butchers, 37 catering suppliers/wholesalers, 16 market stalls and 1 farm (Annex 3, Figure 2).

13. In total 561 samples of raw minced meat were collected, comprising 444 (80%) beef mince, 58 (10%) lamb mince, 30 (5%) pork mince, 23 (4%) turkey mince and 6 (1%) chicken mince samples (Annex 3, Figure 3). The proportions of each type of product and brands collected are representative of products available on sale in the marketplace. Of these, 127 samples were frozen when collected and 434 were fresh/chilled. Both pre-packed mince (426 samples) and non-pre-packed mince (135 samples) prepared/produced on premises for sale direct to the final consumer were included (such as butchers' shops).

Methodology

14. Public Analyst laboratories conducted the analyses using an agreed analytical protocol and analytical quality assurance. Each minced meat sample (of at least 250g) was homogenised and a sub-sample of 2-3g analysed for total fat content using the Werner-Schmidt method or equivalent. This method is based on, but not identical to, British Standard: 4401: Part 4 1970⁽⁹⁾. Analysis involved an acid hydrolysis step to release bound lipids followed by solvent extraction of the separated fat layer. The total fat content calculated is expressed as grams per 100g.

Analytical Quality Assurance

15. All participating laboratories were required to undertake a number of duplicate determinations in their analyses. Where samples are analysed in duplicate the result is presented as an arithmetic mean of the values obtained. As a quality control check, each batch of samples also included analysis of a standard reference material, for which laboratories returned satisfactory results within 2 standard deviations of the assigned value.

Analysis of results

Method Uncertainty

16. There is a method uncertainty associated with each individual analytical result. However, given the number of contractor laboratories involved and results being reported in this survey, individual measurement uncertainties are not being reported but maximum uncertainties at certain concentration ranges have been calculated (Table B below). The uncertainties are relatively small (i.e. less than 10%).

17. The method of analysis used for the determination of fat has been fully validated and so includes estimates of precision at different fat concentrations. Provided internal quality control requirements are met, these precision values may be used by laboratories in estimating their uncertainties. The precision requirements given in the method have, therefore, been used to calculate the maximum measurement uncertainty that would be estimated by the analysts. These maximum uncertainties have been deducted from the analytical values determined but do not unduly affect the final outcome (see Annex 6, Table 1).

Table B: Maximum Uncertainties Applied to Determined Fat Content prior to Comparison with Label Declarations and Claims

Fat Concentration (g/100g)	Maximum Uncertainty (g)
0-10	0.8
10-30	1.7
30-50	2.5

Nutrition Labelling Tolerances

18. For a nutrition declaration of 10% fat, the nutrition labelling tolerance is +/- 20% of the declared value (Annex 1, Table 2), meaning an individual product when analysed should contain between 8% and 12% fat. These tolerances for nutrition labelling were used in addition to the maximum uncertainties applied to analytical values.

Results & Discussion

19. Table 1 in Annex 4 presents a numerical summary of the different claims and declarations for the various types of minced meats. The fuller details of samples and results are presented in Table 1, Annex 6.

Overall Fat Contents

20. For the 311 (55% of total) 'standard' mince samples the fat content varied from 0.7g/100g for a minced chicken sample to 32g/100g for a minced beef sample. All the different types of mince exhibited a wide range of fat contents: minced beef ranged from 1.9 to 32.3g/100g, minced beef steak from 3.1 to 20.1g/100g, minced lamb from 7.2 to 27.2g/100g, minced pork from 2.1 to 19.0g/100g, minced turkey from 2.0 to 14.3g/100g and minced chicken from 0.7 to 14.0g/100g.

Claims

21. Several types of claim were found. These comprised claims such as "lean", "extra/super lean", "steak" and quantitative claims such as "typically less than 10% fat". Claims such as "lean", "extra/super lean" and "steak" are not considered to be nutrition claims as they do not make reference to a particular nutrient. However, fat claims such as typically less than 10% fat may be considered to be nutrition claims.

22. Overall, 250 (45%) samples gave some sort of claim. Of these 58 (23%) samples gave a description “lean”, or “extra lean”, 98 (39%) samples gave some other fat claim (e.g. typically less than 10% fat”, “90% lean”, etc.), whilst a further 94 (38%) samples were labelled with both a descriptive and a fat content claim.
23. Products described as “extra/super lean” did not necessarily contain less fat than “lean” mince which, in turn, did not always have a lower fat content than the ‘standard’ product. This was most notable for “lean” and “extra/super lean” minced beef samples, with a fat content range of 4.0g/100g to 15.7g/100g for products described as “lean” and a wider fat range of 1.9g/100g to 17.7g/100g for products described as “extra/super lean”. These ranges in turn overlapped with those found in “standard” minced beef which were 1.9g/100g to 32.3g/100g.
24. Significant overlap of the fat content ranges was also found for beef steak mince described as “lean” (3.6g/100g to 15.5g/100g), “extra/super lean” (3.1g/100g to 13.9g/100g) and “standard” beef steak mince (3.5g/100g to 20.1g/100g). Thus, the descriptions “lean” or “extra/super lean” did not reliably indicate a lower fat product. A substantially narrower range of fat contents was found for “standard” steak mince products (3.5g/100g to 20.1g/100g) compared with “standard” non-steak mince (1.9g/100g to 32.3g/100g). However, “lean” and “extra/super lean” steak minces had similar ranges to their non-steak counterparts.
25. Nineteen (40%) of the “extra/super lean” minced beef samples contained more than the APA maximum 9% fat limit. None of the “lean” minced beef samples exceeded the APA maximum 16% fat limit. Five (2%) of the 233 minced beef samples exceeded the case law limit of 25% fat established for ‘standard’ minced beef.
26. Only 4 out of 58 lamb mince samples used descriptors, namely “prime lean” and “extra lean” so a meaningful comparison could not be made. Nevertheless, a range of 15.4g/100g to 19.3g/100g fat for “prime lean” lamb seems quite a high value when consumers may expect such products to have a low fat content. The “extra lean” term was also used by 4 (13%) of the 30 pork mince samples and by 2 (9%) of the 23 turkey mince samples. None of the 6 chicken mince samples used any of these descriptive claims. The fat values found could not be compared against any regulations or guidance as none exist for lean versions of lamb, pork and turkey mince.

Specific Names under the Minced Meat Regulations 1995

27. Only 23 (4%) samples used the specific designations in the 1995 Minced Meat Regulations and the fat content of 5 (22%) of these (i.e. 4 beef and 1 lamb mince) exceeded the fat content requirements specified in the Regulations.

Nutrition Labelling

28. Comparison of nutrition labelling could only be made where the labelling declaration was given on a raw basis. Of the 308 samples that gave nutrition labelling, 80 (26%) samples were found to give an inaccurate indication of the fat content: 55 (18%) samples had a higher fat content (taking into account allowed tolerances) than that declared whilst 25 (8%) samples gave a lower indication. 116 (21%) of the samples made a claim about the fat content of the form “typically less than x% fat”. Eleven (9%) of these products had a higher determined fat content than the value specified in the claim (taking in to account allowed tolerances).

29. In a few instances the fat content was found to vary quite considerably for identically branded products collected in different parts of the UK. Some values were too high to be attributable to the ‘normal’ production variation. These findings show that in some cases production controls over fat content in minced meat may need improvement.

Conclusions

30. Consumers expect products described as “lean”, “extra/super lean” to contain less fat than “standard” mince. The results show that there was a wide range of fat contents associated with “lean” and “extra/super lean” products, which overlapped with the range of fat contents found in standard products. Therefore, choosing products described as “lean” or “extra/super lean” is not always a reliable way of selecting a reduced fat product.

31. Action is required to introduce consistent criteria for use of “lean” and “extra/super lean” descriptions. A substantial number of products exceeded the APA guidance limits on fat content for “extra/super lean” minced beef.

32. A high proportion of nutrition information was inaccurate. Enforcement follow-up actions as well as improvements to production practices are required.

Follow-up Action

33. Results of the survey were sent to companies and local and home authorities in advance of publication, highlighting those products where the nutrition information was found to be inaccurate, fat contents exceeded APA advice, and/or the regulatory specifications had been exceeded. Companies were invited to submit comments on the results and those received are reproduced in Annex 5.

34. The Agency is encouraging enforcement authorities to take action where nutrition labelling or claims are inaccurate or fat contents exceeded APA guidance on maximum fat limits. To date, seven home authorities have reported follow up action on the results. In addition three companies have since made changes to their product labelling.

35. The Agency plans to meet with stakeholders to develop clear guidance on the use of terms like “lean” and “extra lean” on mince. The Agency will also explore the potential for improved EU rules on labelling of minced meat products with the European Commission, who are considering the need for replacement of the current provisions.

References

- (1) Maximum Fat Content of Lean Minced Beef. Association of Public Analysts (APA), Scientific Affairs Committee, <http://www.the-apa.co.uk/Information/mince.html>
- (2) The Minced Meat and Meat Preparations (Hygiene) Regulations 1995. SI1995 No. 3205. London: HMSO, ISBN: 0-11-053805-6
- (3) Council Directive 94/65/EC of Dec. 1994 Requirements for the Production and Placing on the Market of Minced Meat and Meat Preparations. OJ L368, 31/12/94, p.10-31
- (4) Food Safety Act 1990. S. 14 & 15. London: HMSO, ISBN: 0-10-541690-8
- (5) Food Labelling Regulations 1996 (as amended by SI 1999 No. 1483 (Food), FLR). SI 1996 No. 1499. London: HMSO, ISBN: 0-11-035941-0

(6) FSA Guidelines for the Use of Certain Nutrition Claims in Food Labelling and Advertising,

<http://www.food.gov.uk/foodindustry/guidancenotes/labelregsguidance/nutclaimsadguid>

(7)MAFF Guidance Notes on Nutrition Labelling.

<http://www.food.gov.uk/foodindustry/guidancenotes/labelregsguidance/nutlabelguid>

(8) Working LACORS Guidance on Tolerances to be Applied to Nutrition Labelling Declarations, May 2003, <http://www.lacors.gov.uk/pages/trade/lacors.asp>

(9) British Standards Institution, BS4401: Analytical methods for meat and meat products: Determination of Total Fat: Part 4, 1970/1986 (ISO 1443:1973)

Further Information

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Table 1: APA Guidance on the Maximum Fat Content of Lean Minced Beef

	Maximum fat content (%) for further sampling and analysis purposes	Absolute maximum fat content (%) for enforcement purposes
Lean minced beef	10	16
Super or extra lean minced beef	5	9

Table 2: LACORS Guidance on Tolerances Applied to Declared Levels of Fat for Nutrition Labelling (May 2003)

Declared Values	Recommended Tolerance
More than 5%	+/- 20% of the declared value
More than 2% and less than 5%	+/- 30% of the declared value
Less than 2%	Use discretion based on the specific individual circumstances

I. Participating Public Analysts' (PA) Laboratories

Analytical and Scientific Services (Edinburgh)
Birmingham City Laboratories
Bristol City Council Scientific Services
Casella G.M.S.S. Ltd. (Manchester)
Dundee City Council Scientific Services
Durham County Council Scientific Services
Eurofins Laboratories Ltd. (Chester)
Eurofins Laboratories Ltd. (London)
Glasgow Scientific Services
Hampshire Scientific Service
Kent Scientific Services
Leicestershire County Council Public Analyst Laboratory
Lincoln Sutton & Wood Ltd.
Liverpool City Council Public Analyst's Dept*
Minton, Treharne & Davies Ltd (H.J.Evans Division)(Carmarthen)
Pattinson Scientific Services (Newcastle)
Public Analyst's Laboratory (Aberdeen)
Ruddock & Sherratt (Belfast)
Somerset Scientific Services
Staffordshire County Laboratory & Scientific Services
Tickle & Reynolds (Exeter)
West Yorkshire Analytical Services
Worcestershire Scientific Services

* Liverpool for logistical reasons was unable to undertake the analysis and passed samples to Casella GMSS Ltd (Manchester) for this purpose.

II. Local Authorities involved in Sampling on behalf of some PA Laboratories

Aberdeenshire Environmental Health
Belfast City Environmental Health
Birmingham Environmental Health
Cornwall Trading Standards
Gloucestershire Trading Standards
Liverpool Trading Standards
Plymouth Trading Standards
Staffordshire Trading Standards
Somerset Trading Standards
Suffolk Trading Standards
West Yorkshire Trading Standards
Worcestershire Trading Standards

Figure 1: Breakdown of Different Minced Meat Species Collected, shown by UK Region

Species	England	Scotland	Wales	N. Ireland	UK total
Beef	300	80	55	9	444
Lamb	43	8	6	1	58
Pork	20	5	5	0	30
Turkey	16	3	4	0	23
Chicken	4	2	0	0	6
All samples	383	98	70	10	561

Figure 2: Outlet Types from which Samples Collected

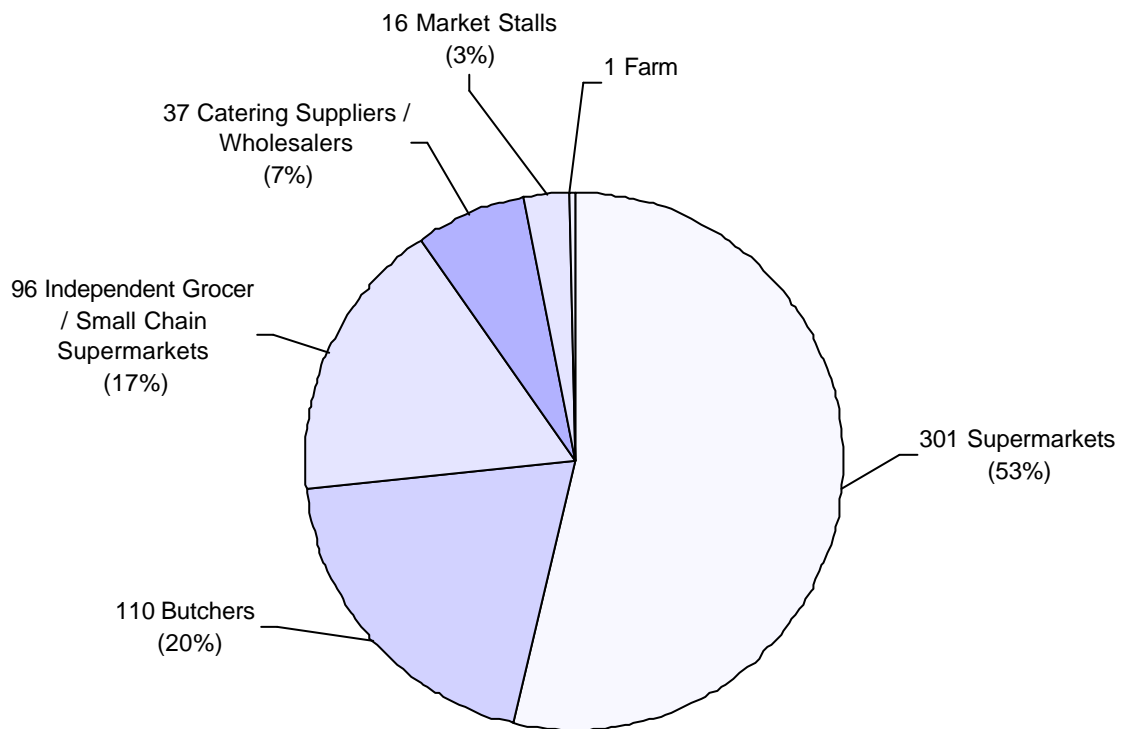


Figure 3: Types of Minced Meat Sampled

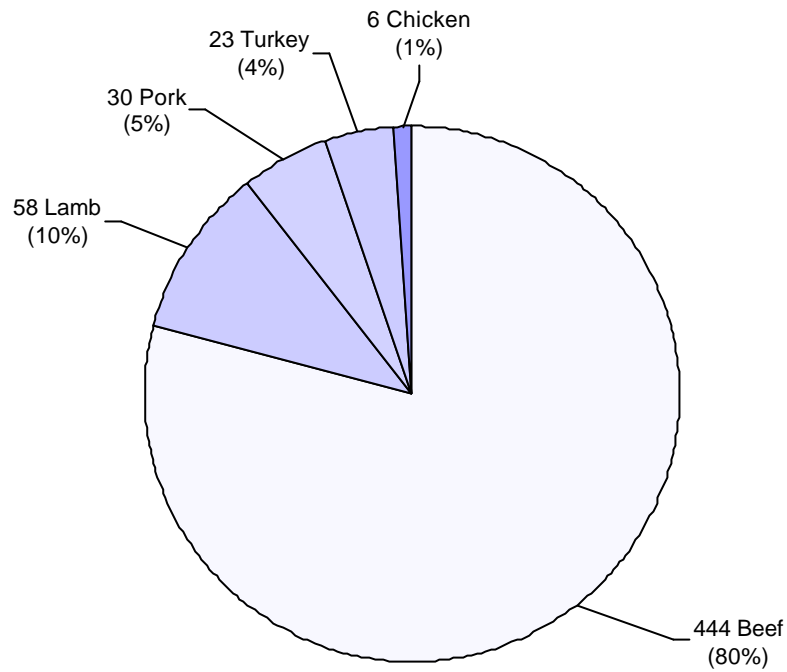


Figure 4: Range of Fat Values Associated with Minced Beef

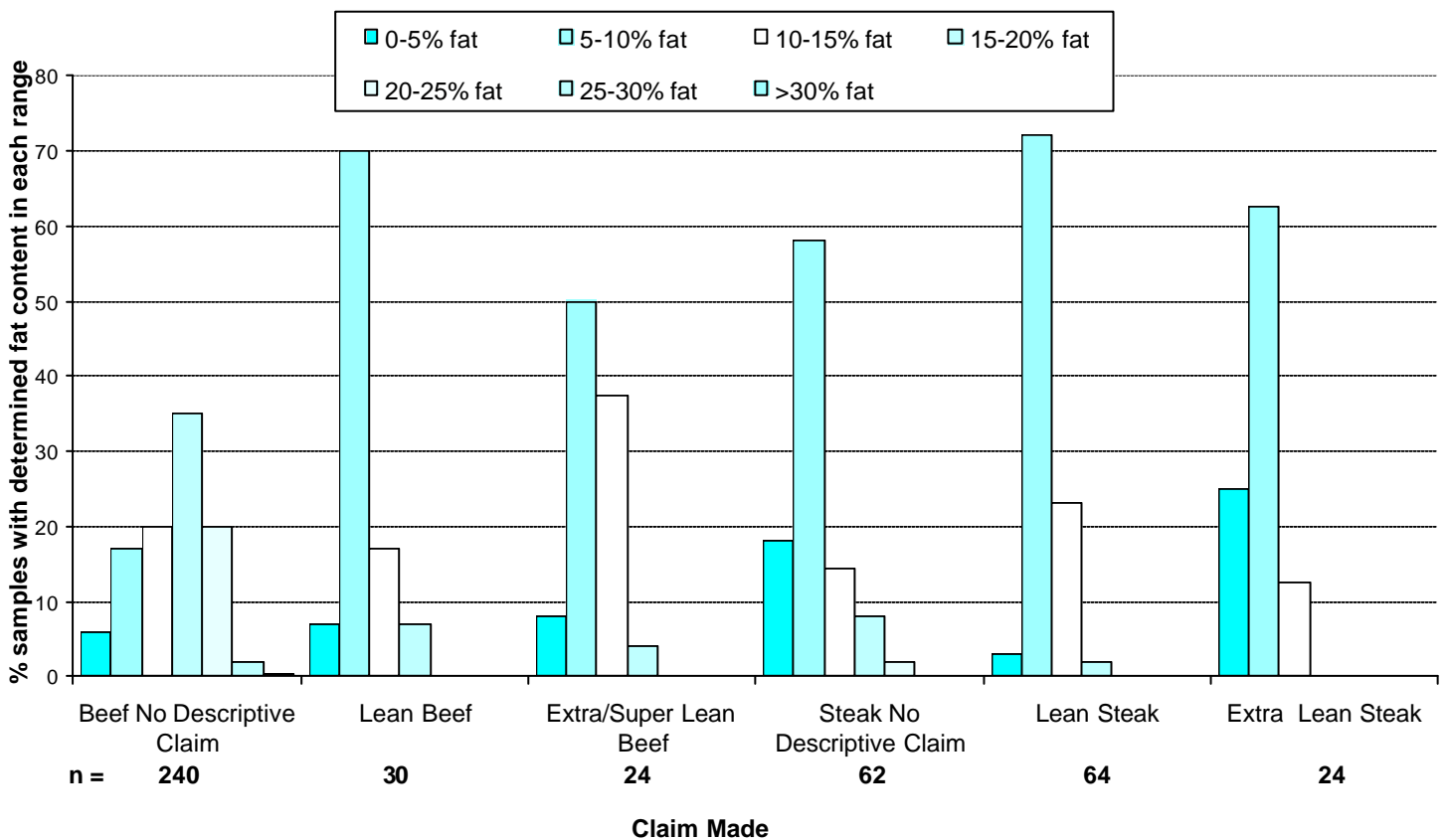


Table 1: Numerical Summary of Claims and Declarations by Mince Type.

Type of mince	Total no. of samples	Claim made			Lean mince		Extra/Super lean mince		Standard mince (no claims made)		Products using regulation names		Products giving nutrition labelling fat values	
		Descriptive claim eq lean	Other fat claim eg typically 5% fat	Both descriptive and other fat claim	No. of samples	Assoc. av. fat content & fat range (g/100g)	No. of samples	Assoc. av. fat content & fat range (g/100g)	No. of samples	Assoc. av. fat content & fat range (g/100g)	No. of samples	No. of samples above req fat level requirements	No. of samples	No. of samples above nut. labelling tolerance
Beef	294	18	61	36	30	Av = 9.1 Range = 4.0 – 15.7	24	Av = 9.8 Range = 1.9 – 17.7	179	Av = 15.7 Range = 1.9 – 32.3	7	4	155 (+5 dry fried)	31
Beef steak	150	34	8	54	64	Av = 9.1 Range = 3.6 – 15.5	24	Av = 7.2 Range = 3.1 – 13.9	54	Av = 8.8 Range = 3.5 – 20.1	2	0	77 (+11 dry-fried)	14
Lamb	58	4	8	0	3	Av = 16.9 Range = 15.4 – 19.3	1	7.6	46	Av = 16.8 Range = 7.2 – 27.2	10	1	34 (+ 6 dry fried/cooked as per instructions)	5
Pork	30	0	10	4	0	0	4	Av = 7.7 Range = 5.5 – 8.5	16	Av = 9.9 Range = 2.1 – 19.0	4	0	18 (+1 dry fried)	1
Turkey	23	2	11	0	0	0	2	Av = 7.9 Range = 7.8 – 8.0	10	Av = 5.1 Range = 2.0 – 14.3	0	0	21 (+1 cooked as per instructions)	3
Chicken	6	0	0	0	0	0	0	0	6	Av = 7.0 Range = 0.7 – 14.0	0	0	3	1
Totals	561	58	98	94	97		55		311		23	5	308 (+24 dry-fried/cooked as per instructions)	55

NB: Nutrition labelling fat values given for product when dry fried/cooked as per instructions can not be compared with the determined values as these relate to the raw material only

WRITTEN COMMENTS RECEIVED FROM COMPANIES

NB *The comments listed in this Annex were received by the Food Standards Agency in response to notification of their individual results from the companies concerned and reflect their views.*

From: Iceland, Deeside Industrial Park, Flintshire, CH5 2NW

“The one anomaly, relating to Iceland Turkey Mince was identified and resolved by us, more than six months prior to receiving the results of this survey from the FSA”.

From: Kepak Buchan, Markethill, Turriff, Aberdeenshire AB53 4PA

“Kepak were very surprised to see the significant deviation of fat results published in the recent survey compared to their in-house results. To date they have had confidence in the accuracy of the production monitoring which is substantiated with both in-house chemical analysis and external analysis conducted by a UKAS accredited laboratory. Kepak are clearly aware of the serious implications the survey results reflect. In response they are taking a proactive stance to investigate why such anomalies have arisen. All current supporting analysis has shown no significant deviations to fat results being within specification. The in-house monitoring methodologies are being reviewed and challenge tested. The business undertakes to comply with the LACOTS guidelines on tolerances. (To this end, a deviation of 20% on the declaration is permitted.) A further review of the voluntary nutritional declarations will also be carried out and amendments will be made as appropriate to ensure that the information provided is accurate and reflective of the substance of the product.”

From: Lidl, 19 Worples Road, London SW19 4JS

" Lidl regularly tests its mince beef products for fat content to ensure that our strict quality standards are maintained. The results from the FSA Fat in Mince Survey are inconsistent with those carried out by Lidl. Since mince is a not a homogenous product, Lidl sends numerous samples to an independent accredited laboratory to validate fat content. From

these results Lidl can assure the FSA and Lidl's customers that the typical fat content described on the label is correct. Although the sample size for this survey was small compared to the number of samples taken by Lidl, further analysis will be undertaken by Lidl to ensure that the fat content is consistent with the label. The supplier of the mince has been contacted and assured Lidl that their quality control procedures are stringent and robust."

From: Netto, South Elmsall (Samples NE57 & NE58)

'Netto purchases both products from the same supplier that, following repeated external audits, has proved to be a reputable supplier of fresh meat products. The products are produced in-line with detailed specifications which have agreed by Netto and its supplier. Regular sampling, carried out on-line by the supplier and externally, by accredited laboratories, has revealed that the products continually meet the values quoted within the specifications, particularly in relation to the fat content.

Lean Beef Steak Mince

The value for this product determined by the FSA appears to be an anomaly. As mentioned above, the routine sampling of the product by Netto and its supplier has continually found the fat content to be in-line with the value quoted in the specification and that quoted on the product label.

Beef Mince

The value for this product determined by FSA was in-line with the value quoted in the specification, however, on investigation it has been established that there has been an error with the value quoted on the product label. The error has, unfortunately, been overlooked by both Netto and its supplier. In response, measures have been taken to ensure that the product complies with the value quoted on the label."

From: Waitrose, Berkshire RG12 8YA (Sample SW08)

"We can confirm that our own analysis on the mince sample repeated the high result. This both surprised and concerned us. We have a long and satisfactory trading record with our supplier. The product, as with all our minces, is carefully blended to achieve homogeneity at the right fat content. This is verified by comprehensive non-destructive analysis regularly calibrated against standard methodology. Our investigation has shown us that the sample in question coincided with a transfer of production into a new facility. It is our

conclusion that, whilst the changeover was professionally managed and all the test results were satisfactory, this is a rogue batch of mince somehow linked to the change. The matter has been thoroughly discussed with our supplier. As a result their procedures have been reviewed and where a benefit could be identified they have been changed. All their relevant personnel have been rebriefed and we continue to monitor the situation.”