

Annex A

Request

Under the Freedom of Information Act I would like to request results of meat sample tests carried out by the FSA in the last 12 months in England, Wales and Northern Ireland.

I would like to ask for a breakdown of where the samples were collected from.

How many samples tested contained unspecified meat?

How many were contaminated with the DNA of meat not on the label?

How many beef products had DNA from other animals and what were those animals?

How many lamb products had DNA from other animals and what were those animals?

Was horsemeat found in any of the samples tested and if it was how many?

Which products were the most commonly mislabelled?

Are tests still ongoing?

Response

How sampling is carried out

The Food Standards Agency (FSA) is the Central Competent Authority for food safety and has a statutory function to protect public health and consumers' other interests in relation to food and drink.

The day to day responsibility for food standards enforcement rests with local authorities (LAs) and they decide upon their local sampling priorities using a risk based approach. They conduct the sampling, arrange for relevant testing and carry out enforcement activity where required. The number of samples taken will depend on a range of factors including the number and types of businesses, the results of past inspections and other types of intervention.

The results of samples are reported to the FSA through the United Kingdom Food Surveillance System (UKFSS). The system is not used by all LAs to report their sampling data.

Those LAs that do not use UKFSS report their sampling activity through the annual Local Authority Enforcement Monitoring System (LAEMS). This system only provides high level information on the total number of samples taken by each LA and does not provide details of the parameter tested or the sample results.

Food sampling is only one of a number of different approaches that LAs will take to assess compliance with food standards law, including whether products are being mislabelled. During food standards inspections, officers will check invoices, traceability, menus and descriptions, the physical product being processed or in storage including checking the labels to gain assurances that food business operators are providing food that is accurately

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described. It's not always necessary to sample foods in order to determine whether a business is compliant.

Food sampling data

As outlined above, the FSA does not hold data from all sampling work carried out by LAs. From the data that is available to the FSA through the UKFSS, it indicates that 69 meat samples were analysed for speciation identification in the last 12 months, from June 2018 to May 2019.

The following factors should be taken into account when considering this figure:

- The FSA does not hold data from all sampling work carried out by LAs.
- Recent data may not have been processed and reported to the FSA.
- Food sampling is only one of a number of different methods LAs use to assess whether products are being mislabelled.
- Sampling is not conducted on a random or representative basis. It is used by LAs as part of a targeted approach where mislabelling may already be more likely.

A breakdown of where the 69 meat samples were collected from and of the species they were described as is detailed in the table below.

Of the 69 samples, 12 products were found to contain unspecified meat or DNA species that were not declared on the label, of which three samples contained extremely low trace levels of unspecified species which is consistent with cross contamination. A further two samples of doner kebab meat were labelled as containing a mix of lamb, beef and chicken. The results of the analysis reported an absence of lamb in either sample.

None of the samples were found to contain horsemeat.

A breakdown of the unsatisfactory samples including their results is detailed in Annex B.

Details of samples taken by local authorities

Described/labelled species	Premises type					
	Manufacturers mainly selling by retail	Manufacturers /processors	Restaurants and other caterers	Retailers	Slaughterhouses	Total
Beef	4	3		13		20
Beef and Pork meat products		1				1
Chicken		1	7	2	1	11
Venison		1				1
Doner Kebab		2				2
Duck			3			3
Goat			1			1
Lamb			7	8	1	16
Pepperoni meat products			1			1
Pork	7		2	2		11
Turkey				1		1
Not recorded on UKFSS	1					1
Total	12	8	21	26	2	69



National Food Crime Unit samples

Although day to day responsibility of enforcement of food standards law rests with LAs, the FSA established the National Food Crime Unit (NFCU) in 2015 as a result of recommendations made in the Elliot Review conducted following the horse meat incident in 2013. The NFCU has a role in identifying specific instances of dishonesty within food supply chains, analysing and investigating specific intelligence and to instigate action by others capable of addressing it. During the last 12 months (June 2018 to May 2019) the NFCU have procured one sample of pork meat product which the analysis was satisfactory for speciation.

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Annex B – Unsatisfactory samples

UKFSS Sample Reference	Premises Type	Food Description	Analyst Comments
807006225068	Manufacturers / processors	VENISON SAUSAGE	<p>The apparent meat content of the sample was 96% which is in sufficient agreement with the quantitative ingredient declarations made for Venison of 82% and Pork of 13% (total of 95% meat ingredients).</p> <p>DNA was extracted from the sample. Nine real-time PCR assays for <i>Bos taurus</i> (Beef), <i>Sus scrofa</i> (Pork), <i>Ovis aries</i> (Sheep), <i>Capra hircus</i> (Goat), <i>Equus caballus</i> (Horse), <i>Gallus gallus</i> (Chicken), <i>Cervus elaphus</i> (deer), <i>Equus asinus</i> (Donkey) and <i>Meleagris gallopavo</i> (Turkey) were then applied to detect and measure the amount of those animal species present.</p> <p>The measurement is semi-quantitative, and estimates from the detected signals the amount of DNA present for all tested species and each individual species in bands as follows: Major part (60 - 100%) Medium part (30 - 60%) Minor part (5 - 30%) Diminutive part (1 - 5%) Very diminutive part (<1%).</p> <p>The following species were detected in the sample: Deer (major part) Beef (minor part) Pork (diminutive part).</p> <p>The labelling indicates that the sausages contain Venison and Pork. Beef which is present in the food as a minor part (5 - 30%) was not declared as an ingredient or in the name of the food. I am therefore of the opinion that the sample was not of the substance demanded and was unsatisfactory in this respect.</p> <p>The name of the food was Venison sausage, under the terms of Regulation (EU) 1196/2011 on the provision of food information to consumers, this name would not be sufficiently descriptive as the sausage is not wholly Venison.</p>

UKFSS Sample Reference	Premises Type	Food Description	Analyst Comments
80900480015	Manufacturers / processors	BEEF AND BLACK PEPPER SAUSAGE	<p>As a result of the analysis, I am of the opinion that the apparent meat content met the minimum meat content requirement for the reserved description 'sausage' where the meat ingredient consists of meat other than pork, meat from birds or meat from rabbits as laid down in The Products Containing Meat etc. Regulations (Northern Ireland) 2014.</p> <p>The apparent meat content of the sample was 16% lower than the QUID declaration made for beef, a deficiency equivalent to approximately 26% of the declared content; this is unsatisfactory.</p> <p>DNA was extracted from the sample. Five real-time PCR assays for <i>Bos taurus</i> (Beef), <i>Sus scrofa</i> (Pork), <i>Ovis aries</i> (Sheep), <i>Capra hircus</i> (Goat), <i>Equus caballus</i> (Horse) were then applied to detect and measure the amount of those animal species present. The easurement is semi-quantitative, and estimates from the detected signals the amount of DNA present for all tested species and each individual species in bands as follows:</p> <p>Major part (60 - 100%) Medium part (30 - 60%) Minor part (5 - 30%) Diminutive part (1 - 5%) Very diminutive part (<1%).</p> <p>The following species were detected in the sample: Beef (major part) Sheep (minor part)</p> <p>The presence of other meats in sausages other than sausages described as pork sausages is not specifically prohibited by the Products Containing Meat etc (Northern Ireland) Regulations 2014. However, under the terms of the Food Information Regulations (Northern Ireland) 2014 which provide for the execution and enforcement of Regulation (EU) No. 1169/2011 on the provision of food information to consumers, I am of the opinion that other meats which characterise the food should be included in the name of the food to prevent consumers being misled.</p> <p>The sample was described in the submission information as prepacked for the ultimate consumer. Under the terms of the Food Information Regulations (Northern Ireland) 2014 which provide for the execution and enforcement of Regulation (EU) No. 1169/2011 on the provision of food information to</p>

UKFSS Sample Reference	Premises Type	Food Description	Analyst Comments
			<p>consumers, I am of the opinion that the sample label possessed the following irregularities: -</p> <p>1) As a result of the analysis, I am of the opinion that the sample contained sheep meat but this was not included in the ingredients list. 2) As a result of the analysis, I am of the opinion that the sample contained excess connective tissue but this was not included in the ingredients list.</p>
80900490091	Manufacturers mainly selling by retail	THICK PORK SAUSAGES	<p>The apparent meat content of the sample was satisfactory.</p> <p>DNA was extracted from the sample. Five real-time PCR assays for <i>Bos taurus</i> (Beef), <i>Sus scrofa</i> (Pork), <i>Ovis aries</i> (Sheep), <i>Capra hircus</i> (Goat), <i>Equus caballus</i> (Horse) were then applied to detect and measure the amount of those animal species present. The measurement is semi-quantitative, and estimates from the detected signals the amount of DNA present for all tested species and each individual species in bands as follows:</p> <p>Major part (60 - 100%) Medium part (30 - 60%) Minor part (5 - 30%) Diminutive part (1 - 5%) Very diminutive part (<1%).</p> <p>The following species were detected in the sample: Pork (major part) Sheep (minor part) Beef (diminutive part)</p> <p>The Products Containing Meat etc. Regulations (Northern Ireland) 2014 require pork sausages to contain meat from pigs only.</p> <p>The sample was described as pork sausages and was therefore not of the substance demanded, contrary to the requirements of Article 13 of the Food Safety (Northern Ireland) Order 1991.</p>
80900490131	Manufacturers mainly selling by retail	PORK & LEEK SAUSAGES	<p>The apparent meat content of the sample was satisfactory.</p> <p>DNA was extracted from the sample. Five real-time PCR assays for <i>Bos taurus</i> (Beef), <i>Sus scrofa</i> (Pork), <i>Ovis aries</i> (Sheep), <i>Capra hircus</i> (Goat), <i>Equus caballus</i> (Horse) were then applied to detect and measure the amount of those animal species present. The measurement is semi-quantitative, and estimates from the detected signals the amount of DNA present for all tested</p>

UKFSS Sample Reference	Premises Type	Food Description	Analyst Comments
			<p>species and each individual species in bands as follows:</p> <p>Major part (60 - 100%) Medium part (30 - 60%) Minor part (5 - 30%) Diminutive part (1 - 5%) Very diminutive part (<1%).</p> <p>The following species were detected in the sample: Pork (major part) Sheep (diminutive part)</p> <p>The Products Containing Meat etc. Regulations (Northern Ireland) 2014 require sausages qualified with the name 'pork' but not by the name of any other type of meat to contain meat from pigs only.</p> <p>The sample was described as pork & leek sausages and was therefore not of the substance demanded, contrary to the requirements of Article 13 of the Food Safety (Northern Ireland) Order 1991.</p> <p>The Food Information Regulations (Northern Ireland) 2014 require this meat product to be labelled with a QUID declaration of meat content. In the case of meat products which are not pre-packed, or are pre-packed for direct sale, the declaration should appear on a ticket or notice displayed in immediate proximity to the food, or on a label attached to the food.</p> <p>The information submitted with the sample stated that 69% pork was declared. However, based on the results of analysis, I am of the opinion that the sample must be marked or labelled separately with the quantity of pork used in the preparation of the food and the quantity of sheep meat used in the preparation of the food.</p>
80900480201	Retailers	SLIMMERS PORK BBQ SAUSAGES	<p>The sample was described as "Slimmer's pork bbq sausages"; there was no quantitative ingredient declaration (QUID) for the pork but there was a claim "less than 3% fat".</p> <p>DNA was extracted from the sample. Five real-time PCR assays for <i>Bos taurus</i> (Beef), <i>Sus scrofa</i> (Pork), <i>Ovis aries</i> (Sheep), <i>Capra hircus</i> (Goat), <i>Equus caballus</i> (Horse) were then applied to detect and measure the amount of those animal species present. The measurement is semi-quantitative, and estimates from the detected signals the amount of DNA present for all tested species and each individual species in bands as follows:</p>

UKFSS Sample Reference	Premises Type	Food Description	Analyst Comments
			<p>Major part (60 - 100%) Medium part (30 - 60%) Minor part (5 - 30%) Diminutive part (1 - 5%) Very diminutive part (<1%).</p> <p>The following species were detected in the sample: (major part): <i>Sus scrofa</i> (Pork) (minor part): <i>Bos taurus</i> (Beef) (very diminutive part): <i>Ovis aries</i> (Sheep)</p> <p>In my opinion the presence of less than 1% of <i>Ovis aries</i> (Sheep) DNA in the sample is unlikely to be due to deliberate substitution however, a significant amount (5-30%) of beef was detected in the sausage. The Products Containing Meat etc. (Northern Ireland) Regulations 2014 require the meat portion of a food described as pork sausage to consist entirely of pork. Food Standards Agency advice is that values above 1% should be regarded as deliberate addition therefore, this sample failed to comply with the requirements of the Regulations.</p> <p>The apparent meat content was found, by analysis, to be 62.7% with no excess fat or connective tissue.</p> <p>The sample label claimed that the product contained "less than 3% fat" however, by analysis, the sausage was found to contain 7% fat; this level was more than double the claimed amount.</p> <p>In my opinion, the label associated with the sample falsely described the food with regard to the fat content contrary to the requirements of The Food Safety (Northern Ireland) Order 1991. The fat content of the sample exceeded the maximum of 3% specified for food described as or implied to be "Low fat", by Regulation (EC) 1924/2006. On this basis the description "Slimmer's" applied to the food was unsatisfactory.</p>
05400070401	Retailers	STEAK MINCE	The results of analysis were consistent with the predominant species being cow but pig DNA was detected at or around the limit of detection of the test at 0.1%.
19300570346	Slaughterhouses	LAMB SAMOSAS	The sample was described as 'Lamb Samosas'. DNA of cow, sheep and chicken was detected in the sample. I am of the opinion that the food was falsely described.

UKFSS Sample Reference	Premises Type	Food Description	Analyst Comments
87000310017	Restaurants and other Caterers	HAM	The sample bore the description 'Ham'. In my opinion a product bearing the name 'ham' is derived from pork meat. The sample was tested for a range of meat species using a DNA based technique. The DNA present in the sample was consistent with turkey meat. DNA from porcine (pig) meat was not detected. In my opinion the sample fails to satisfy the requirements of The Food Safety Act 1990 in that it is not of the nature demanded by the purchaser as it was not derived from pork meat.
87000310020	Restaurants and other Caterers	PEPPERONI	The sample bore the description 'Pepperoni'. In my opinion a product bearing the name 'Pepperoni' is derived from pork and beef meat. The sample was tested for a range of meat species using a DNA based technique. The DNA present in the sample was consistent with beef, chicken and turkey. Chicken DNA was the major meat DNA component whereas beef DNA equated to 6% of the total meat DNA. A trace of turkey DNA was detected at a level of less than 0.1% of the total meat DNA. DNA from pig meat was not detected. In my opinion the sample fails to satisfy the requirements of The Food Safety Act 1990 in that it is not of the nature demanded by the purchaser as in that it did not contain pig meat.
56300390110	Restaurants and other Caterers	LAMB TIKKA MASSALA	The food was obtained from a catering establishment and from information provided by the submitting officer, was sold as 'lamb tikka massala'. Genetic material consistent with ovine (sheep) and bovine (beef) was found by analysis. Quantified DNA analysis estimate of the amounts by determining the normalised ratio of the target species DNA copy number to the total copy numbers (bovine, ovine, porcine, gallus, caprine and horse equine). The copy number ratio of the ovine and all species indicates that as a best estimate based on the DNA extraction variability between different types of tissues, the level of ovine is 10-50% of the meat component. I am of the opinion that the sample is predominantly beef (bovine), with a medium level of ovine (sheep). I am subsequently of the opinion that a food described and sold as lamb should consist entirely of sheep and I am therefore of the opinion that the sample was not of the nature demanded by the purchaser within the meaning of section 14 of the Food Safety Act 1990.
56300500027	Retailers	WELSH DICED LAMB (MINCED)	The sample consisted of a bag of minced meat and from the description information provided by the submitting officer was being sold as 'lamb'. All of the submitted minced meat matrix was homogenised together in order to form the sample for analysis for DNA testing for six species (equine / ovine / porcine / bovine / gallus / meleagris). Genetic material consistent with ovine (sheep) and bovine (beef) was found by analysis. Quantified DNA analysis estimate of the amounts by determining the normalised ratio of the target species DNA copy number to the total copy numbers (bovine, ovine, porcine, gallus, meleagris and horse equine). The copy number ratio of the bovine and all species indicates that as a best estimate based on the DNA extraction variability between different types of tissues, the level of bovine is a trace less than 1% of the meat

UKFSS Sample Reference	Premises Type	Food Description	Analyst Comments
			component. I am of the opinion that the sample is predominantly sheep, with a trace level of beef consistent with cross contamination. The most likelihood is that it has arisen from use of the same machinery for products of the two species without proper cleaning.
56800230154	Retailers	BEEF MINCE	From information supplied by the submitting officer, the food was not prepacked (appendix image 1). All of the submitted minced meat matrix was homogenised together in order to form the sample for DNA speciation analysis (appendix image 2). Genetic material consistent with bovine (beef) and gallus (chicken) was found by analysis. Quantified DNA analysis estimate of the amounts by determining the normalised ratio of the target species DNA copy number to the total copy numbers (bovine, ovine, porcine, gallus, meleagris and horse equine). The copy number ratio of the gallus and all species indicates that as a best estimate based on the DNA extraction variability between different types of tissues, the level of gallus is a trace less than 1% of the meat component. I am of the opinion that the sample is predominantly beef, with a trace level of chicken consistent with cross contamination. The most likelihood is that it has arisen from use of the same machinery for products of the two species without proper cleaning.
42201570006	Manufacturers/processors	CHICKEN MECHANICALLY SOURCED MEAT, BEEF AND LAMB KEBAB MEAT	Sheep DNA was not detected in the sample which was indicative of the absence of meat derived from sheep. I am of the opinion that the food was falsely described.
42201570009	Manufacturers/processors	DONER KEBAB	The label supplied with the sample included the following information 'Doner' and 'Ingredients: Mechanically Recovered Meat (20%), Beef (35%), Beef Fat (20%), Lamb (10%)' I would expect the meat ingredients of a meat product described as 'doner' to be derived only from sheep unless otherwise qualified. Consequently, I am of the opinion that the name was misleading as to the nature of the food. Sheep DNA was not detected in the sample which was indicative of the absence of meat derived from sheep. I am of the opinion that the list of ingredients was misleading as to the nature of the food. The Food Information Regulations 2014 require that the list of ingredients shall include all the ingredients of the food, in descending order by weight, as recorded at the time of their use in the manufacture of the food. The list of ingredients was not provided in descending order by weight as required by the Regulations. The Regulations require that the name

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			<p>used as the name of an ingredient shall be its legal name. In the absence of such a name, the name of the ingredient shall be its customary name, or, if there is no customary name, or the customary name is not used, a descriptive name shall be provided. The name must enable consumers to know the true nature of the ingredient and to distinguish it from foods with which it could be confused. I am of the opinion that the name 'Mechanically Recovered Meat' did not enable consumers to know the true nature of the ingredient and to distinguish it from foods with which it could be confused.</p>