

Vegan and plant-based food



Key points

- At present **4.5% of the UK population** follows a meat-free diet, with **1.5%** classing themselves as vegan
- **76.4% of consumers** surveyed believed that food labelled as vegan should be completely free of anything derived from an animal
- With **1 in 6 people** suffering with food allergies there is a very important need for food to be labelled correctly
- There is **no legal definition** for vegan or plant-based food, which leaves the responsibility down to food businesses
- **63.9%** said they believed that meat and dairy product descriptions should only be used on products containing meat or dairy ingredients, but CTSI research shows that some consumers find this useful when preparing vegan meals

Policy recommendations

- A legal definition of vegan food. This would include legal thresholds for what constitutes animal-free food
- An education campaign to raise awareness of what to look for on a label
- Further stakeholder engagement to explore the steps needed to produce updated guidance to be in line with international counterparts



1 Introduction

1.1. This paper examines the current landscape in terms of vegan and plant based-food, how the current market creates consumer choice for those practicing non-meat-based diets, and whether this can be confusing for those living with allergies to navigate. Currently 14% of adults living in the UK follow a meat-free diet compared to 12.3% in 2019. The reasons for cutting out meat from diets can be down to health considerations, religious beliefs or concerns about the perceived environmental impact of meat production.









Trading Standards has a vital role to play in protecting consumers from food that is labelled incorrectly, and to do that effectively there is a need for businesses to be clear on what their legal obligations are in terms of food manufacturing and labelling.

1.2. There are differences between the various types of diet discussed in this report and we recognise these and their importance to consumers. Whereas vegetarianism is the dietary practice of abstaining from meat products, veganism is the practice of abstaining from all animal-derived products in diet and other areas of consumption, such as clothing and household goods. The term 'plant-based' is looser, involving the avoidance of animal-based products and their substitution for plant-based alternatives when available.

There will inevitably be areas of overlap between different types of diet depending on an individual's own preferences, circumstances and requirements. In many ways this contributes to the difficulty of creating a legal definition for terms such as 'vegan' and 'plant-based', as discussed in section 2.



Fig. 1: Different types of diet

	Vegan	Vegetarian	Pescatarian	Predominately Plant-based
 Meat & poultry	✗	✗	✗	✗
 Seafood	✗	✗	✓	✗
 Eggs & dairy	✗	✓	✓	✗
 Oils	✓	✓	✓	✓
 Highly processed foods	✓	✓	✓	✓
 Whole grains	✓	✓	✓	✓
 Fruits & vegetables	✓	✓	✓	✓
 Legumes	✓	✓	✓	✓

✓
Generally eaten

✗
Not generally eaten

1.3. According to the Vegetarian Society, at present around 4.5% of the UK population follow a meat-free diet.¹ The latest FSA 'Food and You' survey indicates that around 3% of the population is completely vegetarian, with 1% of the population following a strict vegan diet.² When combining data with the YouGov survey that has been running since 2019, the figure sits at 1.5%.

However, strict adherence to a vegan diet is not a prerequisite for buying vegan food. CTSI's own research³ shows that around 1 in 5 (19.3%) of UK shoppers buy food labelled as vegan or plant-based at least once a week, with younger shoppers being slightly more likely to buy such products than their older counterparts – 21.8% of 25- to 34-year-olds compared to 17% of people aged 55 and over.

CTSI's polling also shows that just over half of respondents (52.3%) have at some point bought plant-based or vegan alternatives to a meat-based product, such as vegan sausages. Again, this number is higher among younger age groups – 61.3% of 25- to 34-year-olds vs. 38.9% of people aged 55 and over.

YouGov data suggests that vegan, vegetarian and plant-based diets are becoming more popular, with the majority of people who adhere to such diets having adopted them within the past five years.⁴ So-called 'flexitarian' diets – in which consumers seek to reduce their meat consumption, rather than eliminating meat from their diets completely – are also becoming increasingly popular.

Combined with CTSI's findings that younger people are more likely to buy vegan and plant-based products, this suggests that vegan and plant-based food is a growth area for businesses, and there will be an increasing need for food manufacturers and retailers to meet rising consumer demand across the UK and Europe.⁵

1.4. There are several ways in which consumers who follow a vegan diet – whether for ethical, health, religious or other reasons – are vulnerable to being misled. CTSI's engagement with organisations such as DEFRA and the Vegan Society indicate that there is also a degree of uncertainty among businesses as to what claims they can make about vegan foods, and what requirements they must follow to confidently label a food as 'vegan'.

In some situations, a business may be reluctant to declare their product as vegan when in fact there is no good reason not to do so; in others, it is possible that a business could claim its product is vegan when in fact it contains trace amounts of animal-derived ingredients.

The key issue is that because there is no legal definition of 'vegan', and no threshold for how much of an animal-derived ingredient a vegan product can contain, there is a degree of confusion amongst businesses and consumers about what can and cannot be described as a 'vegan product'. This is largely due to pragmatic concerns around the likelihood of even trace amounts of animal-derived ingredients finding their way into supposedly vegan food at some point in the manufacturing process.

1.5. This lack of clarity for consumers and businesses can be dangerous. For example, Celia Marsh, who had a known allergy to milk, died as a result of anaphylaxis after eating a 'vegan' wrap which contained milk protein as a result of contamination. In her report into Marsh's death, Coroner Maria Voisin noted that:

“The wording used on food products, and the public's understanding of these phrases in terms of implying the absence of a particular allergen, can be potentially misleading. Examples include: “free-from” and “vegan”. Foods labelled in this way must be free from that allergen, and there should be a robust system to confirm the absence of the relevant allergen in all ingredients and during production when making such a claim.”⁶

This confusion can be compounded by misleading or unverified claims about the supposed health or environmental benefits of certain vegan or plant-based products (see section 4).

¹<https://vegsoc.org/facts-and-figures/>

²<https://www.food.gov.uk/sites/default/files/media/document/food-and-you-wave-5-combined-report.pdf>

³Polling of 2,004 UK consumers was carried out between 15 and 17 March 2023.

⁴<https://yougov.co.uk/topics/society/articles-reports/2022/01/20/meet-britains-vegans-and-vegetarians>

⁵<https://www.mintel.com/press-centre/plant-based-push-uk-sales-of-meat-free-foods-shoot-up-40-between-2014-19/>

⁶https://www.judiciary.uk/wp-content/uploads/2022/11/Celia-Marsh-Prevention-of-future-deaths-report-2022-0379_Published.pdf

1.6. CTSI's polling shows that more than three quarters of consumers (76.4%) believe that food products that are labelled as vegan do not contain any animal products, even in very small amounts. Interestingly, that belief was particularly high (84.4%) among the 55+ cohort, compared with 56.3% among 16-24-year-olds.

Almost half (49.6%) of respondents to CTSI's polling thought that foods labelled as 'plant-based' are vegan.

According to the FSA's Food and You survey, around 1 in 6 (17%) people experience an adverse reaction to certain foods. Women were more likely than men to report an adverse reaction (19% vs. 14% respectively). The most common food groups that people report having an adverse reaction to are cows' milk and cows' milk products (23% of those who reported any adverse reaction).⁷

1.7. As illustrated by the Celia Marsh case, buying vegan products in the belief that no animal-derived substances are contained therein can sometimes be a false, and even dangerous, assumption to make. Perhaps most worryingly, CTSI's polling shows that among respondents with an allergy to milk, 84.6% believe vegan foods are safe for them to eat. This belief was the highest (92.7%) among 35-44-year olds.

With 12.3% of respondents to CTSI's polling saying they have a milk allergy – and a further 4.1% being unsure – the amount of people potentially vulnerable to being misled in this area is deeply concerning.

⁷<https://www.food.gov.uk/sites/default/files/media/document/food-and-you-wave-5-combined-report.pdf>

Vegan food – what am I really eating?

Hampshire and Kent Scientific Services carried out sampling to look for allergens in vegan food that were not declared on the label.

During May 2021 and April 2023 they found failings on:

Food item tested	Allergen found
Chocolate vegan truffles	Milk 
Chocolate torte with vegan ice cream	Milk 
Vegan chocolate muffin	Milk 
Vegan pizza	Milk 
Deep pan vegan veggie pizza	Milk 
Vegan burger and chips	Milk 
Vegan pizza	Egg 
Vegan pecan pie	Milk 
Cheese & tomato pizza with vegan cheese	Milk 
Vegan victoria sponge cake	Milk 
Vegan margherita pizza with vegan sauce	Milk 
Vegan millionaire's shortbread	Egg 
Vegan flapjacks	Milk 
Vegetarian pizza	Milk 
Vegan vegetable curry	Milk 
Vegan brownies	Milk 
Vegan plant based burger	Egg 
Vegan veggie pizza - no milk	Milk 
Vegan cocoa dusted truffles	Milk 
Vegetarian pizza	Milk 
Vegano pizza	Milk 
Mediterranean vegan pizza	Milk 
Real Quinoa Corn Puffs (Vegan)	Milk 

2.1. The dramatic increase in consumption and production of vegan and plant-based foods over the past five years has caused the sector to increase in value and shows no sign of slowing.⁸ The term 'vegan' is often more prominently and repeatedly used on labelling and in food information, to attract and highlight this aspect of the product.

With the increasing demand for vegan and plant-based foods, those in the food production and supply sector are looking to meet those demands with a variety of products awash with terms such as 'vegan', 'vegan friendly' and 'plant-based'.

2.2. At present there are no legal definitions of what constitutes vegan or plant-based food. To mark a food as 'vegan' is classed as voluntary information, along with the term 'vegetarian', and must not be misleading or false in relation to the suitability for those following a vegan lifestyle.

This is based on the principles of 'fair information practices' and the law expects the information given not to mislead consumers as to the (special) characteristics, effects, properties, or other descriptors used, including graphics or pictures. These matters are subjective legal principles found in Article 7 of Retained Regulation (EU) No 1169/2011, amongst others.

2.3. Frequently, these products will also have a precautionary allergen warning(s) on them, advising of the cross-contamination risk with allergens, often milk and/or egg. Indeed, guidance by The Vegan Society accepts that many vegan-marked products will also have precautionary statements about the risk of animal-derived allergens.

For consumers with allergies to animal-derived products (including fish, shellfish, milk and/or eggs), choosing to purchase and consume a food product marked 'vegan' or 'plant-based' is becoming synonymous with meaning 'safe for them to eat' (see section 1.5). The presumption is that these products will not contain any traces of anything animal-derived, including animal-derived allergens.⁹

2.4. The aforementioned regulation recognises that the consumer makes a decision to consume food based on numerous factors such as economic, environmental and ethical considerations, amongst others. The overarching principle of the regulation is to provide consumers with a guaranteed right to food information to allow them to make an informed choice regarding the food they select to eat.

The practice of 'vegan-washing' products with ambiguous phrases that are legally undefined and often in conflict with other information is at odds with these legal principles (see section 4). Instead, there is a reliance on non-legal guidance to help understand the terms and how they are used.

Which Government Department has responsibilities for which areas

	Food Standards Agency (FSA)			Food Standards Scotland (FSS)
	England	Wales	Northern Ireland	Scotland
Food labelling (safety, allergy)	FSA			FSS
Nutrition standards	Department of Health and Social Care	Welsh Government	FSA in Northern Ireland	
Nutrition food labelling				
Other food labelling (includes food composition standards, country of origin)	Defra	FSA in Wales		

⁸<https://www.mintel.com/food-and-drink-market-news/emerging-plant-based-trends/>

⁹<https://www.vegansociety.com/news/blog/TM2021/allergen-vs-vegan-labelling>

Food safety – who does what?

In England, the legal requirements around food safety matters are enforced at a local level by two main bodies – Trading Standards and Environmental Health. In most areas, where there is a “two tier” authority system, Trading Standards are found in the County Councils and Environmental Health is in the District/Borough Councils. There is usually a “memorandum of understanding” between the two bodies to agree who will be responsible for the food safety areas, for clarity and to prevent duplicating work. This is particularly needed where a “legal duty” and a “legal power” exist for the requirements for both Trading Standards and Environmental Health. A “duty” means you **must** enforce it; a “power” means you **can** enforce it.

Where a “unitary” authority exists, such as Metropolitan Authorities, London Boroughs, and some City Councils, the food safety team can consist of both Trading Standards and Environmental Health staff.



As a rule of thumb, this is how the food safety work is split:

Food safety matter	Trading Standards	Environmental Health
Out of date food (use by)	✓	✓
Out of date food (best before/best before end)	✓	✗
Microbiology, food pathogens & complaints	✗	✓
Chemical contamination & complaints	✗	✓
Physical contamination & complaints	✗	✓
Allergenic contamination & complaints	✓	✓
Food Labelling and information – general	✓ (Duty)	✓ (Power)
Food Labelling and information – product specific	✓	✗
Adulteration	✓	✗
Imported foods	✓	✓

More often than not, Trading Standards will lead on the food standards matters – information, labelling, food sold beyond the stated date, composition (including adulteration) and food allergen matters, ensuring food is safe to eat from a composition and labelling/information perspective. Environmental Health tends to lead on the food hygiene matters – food pathogens (bacterium and food borne illness), chemical and physical contamination, ensuring food is fit and safe to eat from that perspective.



3 Thresholds for vegan products versus consumer perceptions

- 3.1.** Unlike the requirements for products that contain trace amounts of gluten,¹⁰ there is currently no threshold requirement for animal-derived products in vegan foods. This means that a consumer with an allergy to ingredients such as milk or shellfish could unknowingly eat a food labelled as ‘vegan’ or ‘plant-based’ without realising the potential risk they are in (see section 1.5).

The more complex a product is, and the more ingredients or processing stages it requires, the more difficult it becomes to guarantee that it contains absolutely no animal-derived products. Some businesses have shied away from describing their products as vegan entirely because they cannot be 100% confident that they contain no animal products.

- 3.2.** It is a common practice in the vegan and plant-based food sector to use terms traditionally associated with meat-based foods to describe their products. The majority of respondents to CTSI’s polling (58.1%) believed that terms such as ‘steaks’ or ‘sausages’ should only be used to describe products derived from animals. This figure was highest among the 55+ cohort (66%). Just over half (52.8%) of respondents said that they believed references to dairy or meat products on the labelling of vegan and plant-based foods – such as references to butter on plant-based spreads – could cause confusion.

A high number of respondents (63.9%) said they believed that meat and dairy product descriptions should only be used on products containing meat or dairy ingredients. This was notably higher (70.9%) among the 55+ age group than among younger people – 50% of 16-24-year-olds felt likewise.

- 3.3.** As CTSI’s polling suggests, the use of ‘meat-derived’ terminology to describe vegan and plant-based products can cause confusion among some consumers. There have been calls for such terminology to be banned when used to refer to vegan and plant-based products, including by the National Farmers’ Union (NFU) and meat industry representatives.¹¹ Indeed, moves to ban such terms have already been introduced in France¹² and Italy¹³ – not without some controversy.¹⁴

However, there is also an argument that such terms as ‘vegan steaks’ or ‘plant-based chicken’ can help to familiarise consumers with the fundamental characteristics and intended use of certain vegan products. The Vegan Society, for example, argues that attempts to ban such terms are the result of vested interests in the meat and dairy industry “desperately trying to restrict the marketing of vegan products at a time where we desperately need to rebalance diets to be more plant-based for environmental reasons. It’s important that consumers are able access familiar products and understand how they are intended to be used.” according to a Vegan Society spokesperson.¹⁵

¹⁰<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R0828>

¹¹<https://www.dailymail.co.uk/news/article-11394985/Words-sausage-bacon-steak-BANNED-describing-plant-based-options-farmers-say.html>

¹²<https://www.thegrocer.co.uk/plant-based/as-france-bans-use-of-meat-terminology-vegan-brands-will-have-to-get-more-creative/669147.article>

¹³<https://www.foodnavigator.com/Article/2023/03/07/No-more-vegan-mortadella-Why-meaty-names-for-plant-based-could-get-the-chop-in-Italy>

¹⁴<https://www.veganfoodandliving.com/news/france-places-ban-on-plant-based-meat-names/>

¹⁵<https://www.dailymail.co.uk/news/article-11394985/Words-sausage-bacon-steak-BANNED-describing-plant-based-options-farmers-say.html>



- 4.1.** While there is strong evidence¹⁶ that vegan and plant-based diets can be beneficial to both individual health and the environment, and that vegan and plant-based food has a lower overall carbon footprint than animal-derived alternatives¹⁷, it is important to recognise that not all vegan and plant-based diets are the same, and not all such diets are inherently healthy or sustainable.

Certain crops and vegan foods can have a high carbon footprint as a result of the agricultural practices, processing, packaging, or transportation involved in their manufacture and sale¹⁸. In some cases, a diet consisting of highly processed or imported vegan foods may have a higher carbon footprint than a diet which relies on sustainably produced and locally available equivalent products.

Just under half of respondents to CTSI's polling (48%) said they believe that foods labelled as plant-based or vegan are healthier and better for the environment. This number was highest (56.4%) among those aged between 25 and 34.

- 4.2.** Some companies (see below) have taken advantage of consumers' preconceptions about vegan diets to make misleading claims that their vegan or plant-based products are more healthy, sustainable or ethically produced than they actually are, in a practice known as 'vegan-washing'.

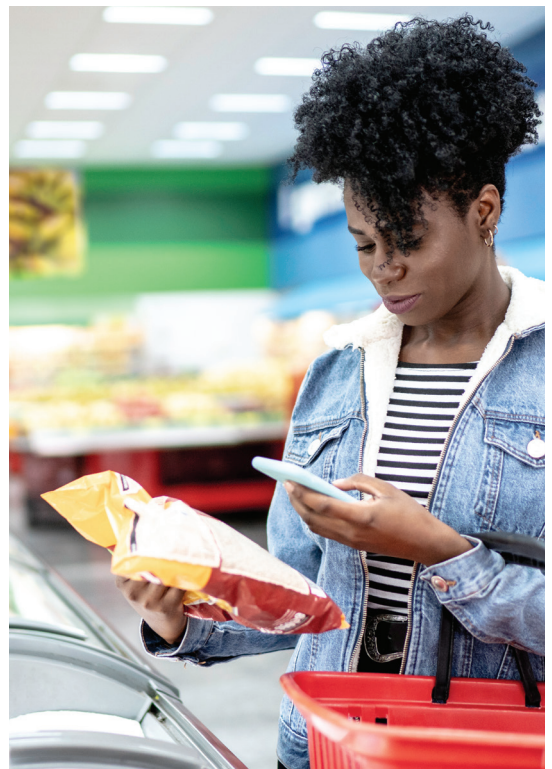
Such practices might include the misleading use of terms such as 'vegan' or 'plant-based' when in fact the product has been prepared in an environment where cross-contamination with animal-derived products is highly likely, or animal-derived products such as egg or milk constitute part of the product's ingredients. Trading Standards would be responsible for enforcement in this area with guidance from DEFRA.

Vegan-washing might also involve the marketing of highly processed or fatty plant-based products in a manner designed to appeal to health-conscious consumers; emphasising the supposed environmental benefits of certain vegan and plant-based foods while ignoring their reliance on unsustainable, environmentally

damaging monocultures; or pushing an 'ethical lifestyle' message without acknowledging unsustainable transportation methods or exploitative manufacturing practices.

Vegan-washing is a problem because it can mislead consumers – including those with allergies – and work to the detriment of the development of truly sustainable and ethical practices in food production. Examples of 'vegan-washing' claims over the last few years include:

- 4.3.** The Advertising Standards Authority (ASA) has dealt with several cases in which companies have, knowingly or otherwise, made claims about the characteristics, health benefits or environmental sustainability of vegan and plant-based products¹⁹.



¹⁶[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext)

¹⁷<https://www.science.org/doi/10.1126/science.aag0216>

¹⁸<https://www.bbc.com/future/article/20200211-why-the-vegan-diet-is-not-always-green>

¹⁹<https://www.asa.org.uk/news/squash-those-code-breaches-it-s-veganuary.html>

- 4.4. In 2020, the ASA upheld a complaint against three adverts for Burger King's plant-based 'Rebel Whopper' burger. The ASA considered that consumers would understand the ads' '100% WHOPPER. NO BEEF' tagline, and in particular the term 'plant-based burger', to mean that it did not contain any beef or animal products. However, while the patty itself was plant-based, it was cooked on the same grill as meat products and the complete burger contained egg-based mayonnaise and was therefore not suitable for vegans or vegetarians. The ASA also considered that the presence of the 'Vegetarian Butcher' logo, the ads' green colour palette and the timing of the product release to coincide with 'Veganuary' contributed further to the erroneous impression that it was suitable for vegans and vegetarians. The ads were ruled to be in breach of CAP Code rules 3.1 and 3.3 (Misleading advertising).²⁰

Figure 2: Burger King's 'misleading' Rebel Whopper ad



- 4.5. The ASA also upheld a complaint in 2020 against vegan drink company Oatly for claiming that its product had a lower environmental impact than dairy milk. The ASA found that the evidence provided by Oatly did not support this claim, as it relied on outdated data and did not take into account the full lifecycle of the product.²¹
- 4.6. In February 2023, the ASA took fitness brand Huel to task for exaggerating the supposed health benefits of its vegan shakes while failing to provide evidence to support its claims, which the ASA ruled was 'irresponsible'.²²

²⁰<https://www.asa.org.uk/rulings/bkuk-group-ltd-g20-1049988-bkuk-group-ltd.html>

²¹<https://www.asa.org.uk/rulings/oatly-uk-ltd-g21-1096286-oatly-uk-ltd.html>

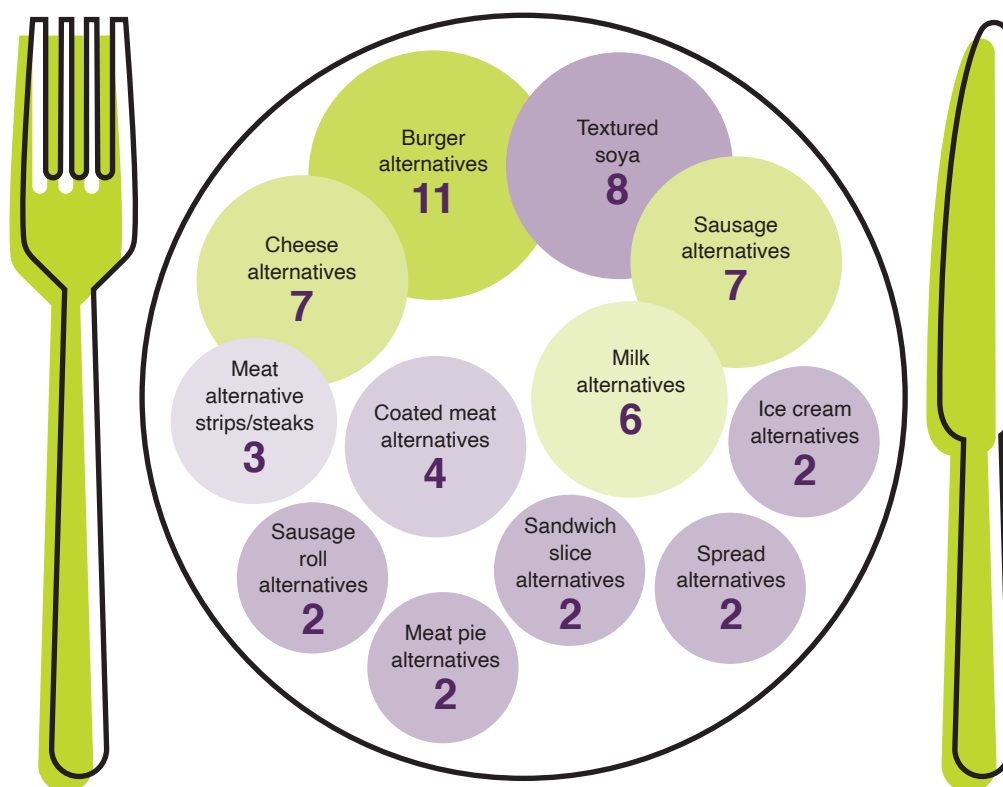
²²<https://www.asa.org.uk/rulings/huel-ltd-g22-1169110-huel-ltd.html>

Am I getting what it says on the label?

Those following a vegan or plant-based diet need to ensure they are eating a balance of foods that provide the nutrients, vitamins and minerals we all need in order to stay healthy. Consumers rely heavily on nutritional labelling provided on food labels and any false or misleading claims could leave them with gaps in their diet.

Hampshire and Kent Scientific Services carried out some testing of the nutritional claims on meat alternatives and dairy alternatives. A total of 61 different types of food items were submitted for testing. Of these, six (10%) were satisfactory and 55 (90%) were unsatisfactory.

The 61 samples submitted consisted of:



There was also one each of a meatball alternative, a mince alternative, a cheese alternative bite, a sandwich and a dumpling meal.

Of the 55 unsatisfactory samples, 27 (49%) were related to labelling anomalies only and did not include nutrition information value inaccuracies.

Of the remaining 28 samples (51%), 39 nutrition inaccuracies were identified, which was on average at least one per sample. The highest of these related to carbohydrate, which was deemed to be inaccurate in 14 cases. This was followed by fat (6), fibre (5), sugar (4), protein (3), salt (3), saturates (3) and energy (1).

30 of the inaccuracies (77%) related to meat alternatives and nine (23%) to dairy alternatives.

16 of the inaccuracies were higher than the declared value and 23 were lower. Interestingly, as meat alternatives are perceived as being a good source of protein, all the protein inaccuracies (3) were low and below the declared level in the nutrition information.

Of the six satisfactory samples, four were non-prepacked and either had point of sale energy information or website information provided relating to the nutrition composition. The remaining two were prepacked and consisted of one sausage alternative and one cheese alternative.

How do we help consumers navigate the complex world of vegan and plant-based food in order to make informed and safe food choices, and to help businesses understand their obligations?

CTSI is calling for:

- A legal definition of vegan food. This would include legal thresholds for what constitutes animal-free food and help protect those living with food allergies
- Updated and refreshed guidance for businesses with the need for deeper stakeholder engagement to bring UK guidance in line with international counterparts
- An education campaign to raise awareness of what to look for on a label. This could include highlighting terms for animal-derived products with which some consumers may be unfamiliar, for example:

- ◆ Casein: a milk protein
- ◆ Lactose: a milk sugar and milk protein
- ◆ Whey: a milk by-product
- ◆ Collagen: from the skin, bones and connective tissues of animals
- ◆ Elastin: found in the neck ligaments and aorta of bovine, similar to collagen
- ◆ Keratin: from the skin, bones and connective tissues of animals
- ◆ Gelatine/gelatin – obtained by boiling skin, tendons, ligaments and/or bones
- ◆ Aspic – industry alternative to gelatine; made from clarified meat, fish or vegetable stocks and gelatine
- ◆ Lard/tallow – animal fat
- ◆ Shellac – obtained from the bodies of the female scale insect tachardia lacca
- ◆ Vitamin D3 – from fish-liver oil or sheep's wool
- ◆ Albumen/albumin – from egg
- ◆ Isinglass – a substance obtained from the dried swim bladders of fish, and is used mainly for the clarification (fining) of wine and beer
- ◆ Pepsin – from the stomachs of pigs, a clotting agent used in vitamins