# Vegetarian meat substitutes 

Products available in supermarkets on the island of Ireland and consumer behaviours and perceptions

( ) safefood

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## Foreword

Foods such as meat, poultry, fish, eggs, beans, peas, lentils and nuts play a very important role in the diet by providing protein. There has been a growth in the market of vegetarian, plant-based meat substitutes in recent years. safefood undertook a survey of these products currently available in retail outlets on the island of Ireland. This snapshot survey provides detail on the nutritional profile of the products surveyed and compares them with their meat equivalents. The report also provides data on consumer perceptions of these products.

## Executive summary

## Aims

- To provide an overview of the different types and the nutritional content of vegetarian, plantbased meat substitutes available online from a range of supermarkets on the island of Ireland
- Investigate consumer perceptions of the nutritional content of vegetarian, plant-based meat substitutes, their reported purchase, motivations and consumption of these products


## Methods

The report presents findings from an online audit of ready-to-eat/cook vegetarian main meal vegetarian, plant-based meat substitutes available in supermarkets on the island of Ireland between 28 April and 26 May 2020. Consumers' behaviours and motivations for purchasing vegetarian, plantbased meat substitutes were determined via the safefood safetrak survey of 802 consumers ( 500 ROI and 302 NI ) between mid-November 2020 and mid-December 2020.

## Key findings

## What type of vegetarian, plant-based meat substitutes are available?

The audit identified 354 products in :

- Meat-style meat-substitute burgers ( $\mathrm{n}=28$ )
- Bean/vegetable-style meat-substitute burgers ( $n=36$ )
- Meat-substitute steaks, mince, meatballs and Bolognese ( $\mathrm{n}=31$ )
- Chicken substitutes e.g. nuggets, southern fried, goujons, escalopes, chicken-style (excluding burgers) ( $n=67$ )
- Sausage substitutes ( $\mathrm{n}=44$ )
- Fish substitutes ( $\mathrm{n}=9$ )
- Meat substitute ham, bacon \& deli slices ( $n=14$ )
- Pastry-based meat substitutes including sausage rolls \& pies ( $n=42$ )
- Miscellaneous meat style substitutes e.g. kebab, melts, duck ( $\mathrm{n}=20$ )
- Miscellaneous vegetarian substitutes e.g. spinach bites, cheese grills/melts, veg fingers ( $\mathrm{n}=34$ )
- Falafel and other lentil/pulse/nut based meat substitutes ( $\mathrm{n}=29$ )
- The products included burgers, steaks, mince, meatballs, Bolognese, nuggets, fillets, goujons, escalopes, schnitzels, kievs, sausages, sausage rolls, pasties, pies, spring rolls, fish
fingers/fillets/cakes, ham, bacon, pudding, kebabs, pulled pork, and duck. Also included were falafels and other bean/pulse based products, and vegetarian products such as cheese grills and melts.
- The product labels bear marketing terms such as vegan; plant power; and $100 \%$ plant based.
- The products contain proteins from a number of ingredient sources including:
- Mycoprotein ${ }^{\text {TM-protein }}$ derived from fungi, especially as produced for human consumption
soya protein
(rehydrated/reconstituted/dried/textured/concentrate/isolate/structure) pea protein (textured concentrate/rehydrated/ textured/isolate/pea flour)
wheat protein (hydrated/rehydrated/textured/gluten)
beans (black beans, soya beans, edamame soya beans, red kidney beans, haricot beans), peas (chickpeas, yellow split peas), lentils
mixed nuts
cheese (goat's milk/cow's milk),
chestnut mushrooms, mushrooms
tempeh, quinoa
tofu


## What is the nutritional profile of the products surveyed?

- The products surveyed are highly processed and contain multiple ingredients, including ingredients added for flavour and texture.
- The protein content of the products surveyed ranged from 0.9 to 30.6 g per 100 g (average 10.7 g per 100 g$)$. Almost 1 in $4(23 \%, n=84)$ of the products sampled were a source of protein (where the percentage of energy from protein ranged from 12-19.9\%) while $49 \%$ ( 173 products) were high in protein (where the percentage of energy from protein is $20 \%$ or more). This means that one quarter ( $28 \%$ ) of the products surveyed are not a source of or high in protein and consumers need to be aware of this if relying on these foods as a protein source.
- The protein content varied both within each category and across the categories sampled. Half of the products $(50 \%, n=178)$ made a protein-related claim, 39 products ( $11 \%$ ) made a claim that they are a source of protein and 139 products (39\%) bear a claim that they are high in protein.
- When the products are profiled according to front of pack traffic light labelling, they tend to be low in sugar and saturated fat, and medium for salt and total fat.
- The majority $(80 \%)$ of the products are a source of fibre, which means they contain at least 3 g of fibre per 100g. This is because these products have added carbohydrates unlike their equivalents meat products, which do not contain fibre in their natural form.
- 27 out of 354 products provide data on micronutrients, iron was the most commonly listed micronutrient (on $6 \%$ of products) followed by B12 (on $4 \%$ of products).

How do the vegetarian plant-based meat substitutes compare with their meat equivalents?

- A comparison of the range of plant-based meat substitutes surveyed illustrates that they are different from their meat equivalents.
- Most plant-based meat substitutes are lower in energy, total and saturated fat than their meat equivalents.
- Plant-based meat substitutes are usually a source of fibre and carbohydrates while their meat equivalents are generally not (exceptions being chicken in breadcrumbs/cod in breadcrumbs and sausage rolls, which contain added carbohydrates).
- Plant-based meat substitutes tend to have less protein than their meat equivalents but this varies depending on the category of substitutes.
- Salt levels tend to be either similar or higher in plant-based meat substitutes than in meat equivalents.
- Micronutrients cannot be compared due to the lack of data.


## Findings from consumer survey on vegetarian meat substitutes?

- One third of consumers reported eating meat substitutes such as vegan or vegetarian versions of burgers, sausages, chicken or fish.
- The most popular meat substitutes that participants reported eating were meat-substitute burgers; mince, meatballs \& Bolognese; and sausage substitutes including sausage rolls.
- For those consumers who report eating plant-based meat substitutes, $48 \%$ of consumer on the island of Ireland eat them once a week or more.
- Of those consumers who report eating these products, one third reported that they select these products because of health/better for you, $21 \%$ because of taste and $15 \%$ because of environment/climate change.


## What is the guidance for consumers?

- The plant-based meat-substitutes surveyed range in nutritional quality so consumers are advised to read labels and look for products containing sources of protein when possible.
- A quarter of the products sampled were neither a source of protein nor high in protein.
- If the percentage of energy that comes from protein is between 12 and $19.9 \%$ the product can claim to be a source of protein
- If the percentage of energy that comes from protein is $20 \%$ or greater the product can claim to be high in protein
- Plant-based meat-substitutes contain more carbohydrates than meat and less calories and so may call for adjustments when using these products to directly replace meat due to their differing nutritional profile.
- The plant-based meat-substitutes surveyed contained a number of ingredients and were processed in nature.
- There are a variety of dietary sources of protein that you can choose from including meat, poultry, eggs, fish, beans, peas, lentils, nuts, seeds and tofu.
- In ROI, the Healthy Eating Guidelines' recommend that those aged 5 years and older eat 2 servings a day of protein foods such as meat, poultry, fish, eggs, beans and nuts. Choose lean meats and fish (up to 2 portions oily per week), and limit processed salty meats such as sausages, bacon and ham - not every day. The guidelines recommend beans and eggs as good sources of protein that are low in fat and a good choice for meat-free days ${ }^{2}$.
- The UK Eatwell guide ${ }^{3}$ recommends eating some beans, pulses, fish, eggs, meat and other proteins (including 2 portions of fish every week, one of which should be oily). It states that these foods are sources of protein, vitamins, and minerals. The guide advises that if you eat more than 90 of red or processed meat per day, try to cut down to no more than $70 g$ per day. The term processed meat includes sausages, bacon, cured meats and reformed meat products. It also mentions tofu, bean curd and Mycoprotein ${ }^{T M}$ as vegetable sources of protein. The guide notes that pulses, such as beans, peas and lentils, are good alternatives to meat because they're lower in fat and higher in fibre and protein, too.

[^0]- Consult a trusted source of information if you are seeking guidance on eating a balanced diet as a vegetarian, for example safefood https://www.safefood.net/how-to/vegetarian-diet


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## 1 Introduction <br> What are vegetarian, plant-based meat substitutes?

These products are generally processed convenience foods that are rich in protein and prepared to resemble meat in texture and appearances. Some definitions include:

- Meat analogues, or plant-based products are products that simulate the properties of traditional meat products (1)
- Meat analogue is the food which is structurally similar to meat but differs in composition. Meat analogue, also called a meat substitute, mock meat, faux meat, or imitation meat (2), approximates the aesthetic qualities (primarily texture, flavour, and appearance) and/or chemical characteristics of specific types of meat. It may also refer to a meat-based, healthier, and/or less-expensive alternative to a particular meat product, such as surimi. Generally, meat analogue is understood to mean a food made from non-meat ingredients, sometimes without dairy products (3).

A 2019 audit of plant-based meat substitutes in Sydney, Australia describes how "Meat substitutes such as tofu and textured soy protein products have existed in the Western world since at least the 1960s, however it now appears that the target has moved from niche, to more mainstream, with products designed specifically to appeal to meat-eaters (4). Products resembling burger patties, mince, sausages, and chicken are displayed alongside meat in the chilled cabinets and many mimic meat products directly, with 'bleeding' burgers and other products designed to exhibit 'meaty’ characteristics. Since 2015, launches of plant-based meat substitutes that mimic the taste, texture, and appearance of animal-based products have exceeded 4400 products worldwide."

## Plant-based meat substitutes and healthy eating

Plant-based meat substitutes are generally positioned as protein-rich foods, which belong to the meat, poultry, fish, eggs, beans and nuts food group in the Healthy Eating Guidelines in ROI (5) and to the beans, pulses, fish, eggs, meat and other protein in the Eatwell guide in the UK (6). This food
group is the most important food group for providing protein ${ }^{4}$ and iron and Vitamin B12. Foods in this group are not a source of carbohydrate and dietary guidelines recommend selecting options that are lower in fat and salt:

- In ROI, the Healthy Eating Guidelines ${ }^{5}$ recommend that those aged 5 years and older get 2 servings a day of protein foods such as meat, poultry, fish, eggs, beans and nuts (5). It suggests choosing lean meats and fish (up to 2 portions oily per week), and limiting processed salty meats such as sausages, bacon and ham. The guidelines also recommends beans and eggs as good sources of protein that are low in fat and a good choice for meat-free days ${ }^{6}$.
- The UK Eatwell guide ${ }^{7}$ recommends eating some beans, pulses, fish, eggs, meat and other proteins (including 2 portions of fish every week, one of which should be oily)(6). It states that these foods are sources of protein, vitamins, and minerals. The guide advises that if you eat more than $90 g$ of red or processed meat per day, try to cut down to no more than 70 g per day. It also explicitly mentions tofu, bean curd and Mycoprotein ${ }^{\top M}$ as vegetable sources of protein. The Eatwell guide notes that pulses, such as beans, peas and lentils, are good alternatives to meat because they're lower in fat and higher in fibre and protein, too.

The most recent dietary data relating to meat consumption on the island of Ireland shows that:

- In ROI (7), meat (including meat products and dishes) was consumed by $98 \%$ of the population. The average intake of fresh meat among consumers was similar for both 18-64 year olds ( 71 g ) and those aged 65 years and over ( 67 g ). Bacon and ham are the most commonly consumed meats ( $73 \%$ ) followed by poultry (57\%).
- In Northern Ireland (8), the mean consumption of red and processed meat for women aged 19 to 64 years $(57 \mathrm{~g})$ met the current recommendation that adult average intakes should not

[^1]exceed $70 g$ per day. However, mean consumption for men aged 19 to 64 years ( 89 g ) exceeded the recommendation.

In addition to the public health dietary guidelines on the island of Ireland, the World Health Organisation and World Cancer Research Federation have issued recommendations to limit the consumption of red and processed meats (9). Experts from the International Agency of Research on Cancer, which is part of the World Health Organisation, concluded eating 50 g of processed meat daily increases the risk of colorectal cancer by 18 per cent. The World Cancer Research Federation ${ }^{8}$ recommends that consumption of red meat should be limited to no more than about three portions per week. Three portions is equivalent to about 350-500g (about 12-18oz) cooked weight. In relation to processed meats, the World Cancer Research Federation recommends that very little, if any at all, is consumed (9).

## The market for plant-based meat-substitutes

A Mintel report (10) indicates that the number of consumers in the UK who report having eaten meatfree foods including meat substitutes, or dishes made using meat substitutes, including ready meals, sausages, burgers, deli ingredients (e.g. vegetarian mince), pastry products and snacks, has increased from $50 \%$ of the population in 2017 to $65 \%$ of the population in 2019. The report notes that the sales of meat-free foods in the UK grew $40 \%$ from $£ 582$ million in 2014 to an estimated $£ 816$ million in 2019 with an expectation that sales will be in excess of $£ 1.1$ billion by 2024 (10).

From an ROI perspective, a Bord Bia article ${ }^{9}$ from October 2019 (11) notes that vegan is the third fastest growing on-pack claim for food and drink launches globally over the last five years. A recent press release by the Food Safety Authority of Ireland ${ }^{10}(12)$ noted that "once considered niche, vegan products in recent years have seen an increasing trend in people moving towards plant-based diets, including those who describe themselves as 'dietary vegans’ (those who are vegan for food consumption only). The release also notes that there has also been a noticeable increase in foods sold that are marketed as vegan, to cater for the rising demand."

[^2]
## Consumer behaviours regarding plant-based meat substitutes

According to a press release from Mintel ${ }^{11}$ (10), the proportion of meat eaters in the United Kingdom who have reduced or limited the amount of meat they consume has risen from $28 \%$ to $39 \%$ between 2017 and 2019. Women (42\%) are more likely than men (36\%) to have limited/reduced the amount of meat in their diets; this rises to $45 \%$ among all those under 45 years old. The release also notes that $38 \%$ of those who do not use meat substitutes would prefer to substitute meat with other ingredients such as cheese or pulses, rather than buy meat substitutes (10). A study from the Netherlands (13) found that the most common foods chosen to substitute for meat (in ascending order) were fish and eggs, followed by cheese, with plant-based meat substitutes ranked further down the list.

In 2018, $4.3 \%$ ( $\mathrm{n}=153,569$ ) of adults in ROI described themselves as vegetarians (meaning they do not consume meat products, but they can still consume other ingredients derived from animals, like egg and dairy products) while $4.1 \%$ ( $n=146,426$ ) of adults considered themselves as dietary vegans (those who are vegan for food consumption only) (14). The most recent data from NI (data from the National Diet and Nutrition Survey 2008-2012) (15) shows that $1 \%$ of adults report following a vegetarian diet.

## Nutritional profile of plant-based meat substitutes

There is little published data on the nutritional profile of the types of products that have been marketed in recent times. An audit of plant-based meat products in Australia (4) found that plantbased options were generally lower in kilojoules, total and saturated fat, and higher in carbohydrate, sugars, and dietary fibre compared with meat equivalents. Only $4 \%$ of products were low in sodium and less than a quarter of products ( $24 \%$ ) were fortified with vitamin B12, $20 \%$ with iron, and $18 \%$ with zinc. The protein content of the products surveyed had a great range (0.3-36.1g per 100g). The protein content of the plant-based burger and plant-based mince was significantly less that their meat equivalents but there was no significant difference between the protein content of the plantbased sausages and that of their meat-equivalents. An investigation of modern meat analogues in USA and Canada found that firstly, the ingredients used in the formulation of modern meat analogue products make these products fit under the classification of ultra-processed foods; and secondly, the nutrient specifications of popular meat analogue products can effectively simulate the nutrient specifications of the meat products they are attempting to simulate (1). Fresán and colleagues reviewed the nutritional profile of 56 meat analogues and reported that there were no major nutritional differences among meat analogues which differ in their main source of protein (16).

[^3]
## Consideration of plant-based meat substitutes in the context of sustainable and healthy diets

The WHO/FAO guiding principles for sustainable healthy diets reference health, environmental and socio-cultural aspects (Figure 1) and a number of these principles are relevant in the context of selecting protein sources including:

- sustainable healthy diet are based on a variety of unprocessed or minimally processed foods balanced across food groups while restricting highly processed food and drink products
- sustainable healthy diets including wholegrains, legumes and nuts and an abundance and variety of fruits and vegetables
- sustainable healthy diets can include moderate amounts of eggs, dairy, poultry and fish and small amounts of red meat

These guiding principles also reference environmental aspects that relate to protein sources including greenhouse gas emissions, water and land use and biodiversity (but there is no information on these aspects on the product label in the supermarket). The guiding principles also reference the need to take cultural dietary patterns into account in order to achieve and a healthy diet is accessible and desirable.

Studies of food and health relationships have consistently highlighted associations between low intakes of plant-based foods and high intakes of animal products and ultra-processed foods with poor health outcomes. These findings point to plant- versus animal-based diets and degree of food processing as priority characteristics for analysing dietary patterns in the context of sustainability considerations (17).

## Figure 1 WHO/FAO Guiding Principles for Sustainable Healthy Diets



## 2 Aims and objectives

## Aims

- To provide an overview of the different types and the nutritional content of plant-based meat substitutes available online from a range of supermarkets on the island of Ireland.
- Investigate consumer consumption patterns and motivations for choosing ready-to-eat/cook vegetarian main meal options.


## Objectives

- Conduct an audit of vegetarian and vegan main meal ready-to-cook/eat options available online from the major supermarkets on the island of Ireland
- Identify the ingredients and nutritional content per serving (and 100 g ) of these products specifically protein $(\mathrm{g})$, calorie (kcal), total fat $(\mathrm{g})$, saturated fat $(\mathrm{g})$, salt $(\mathrm{g})$ and sugar $(\mathrm{g})$ and any micronutrient data provided.
- Describe the products using the Front of Pack labelling criteria
- Review protein claims on the products
- Compare the nutritional content of different types of products to their equivalent meatbased product (per 100g)
- Conduct a survey of consumer to assess their consumption patterns and motivations for choosing ready-to-eat/cook vegetarian main meal options.


## 3 Methodology

## Online audit

## Supermarket selection

Supermarkets included in the audit were selected based on market share data (Kantar database accessed on $x$ date). In the context of the COVID pandemic only supermarkets with an online food shopping service could be selected for the purpose of the audit. The supermarkets selected were:

- ROI - Tesco and SuperValu (Dunnes, Aldi, Lidl and convenience stores were excluded, as they do not offer online shopping)
- NI - Tesco, Sainsbury's and Asda (the websites used for all three NI supermarkets were the UK website as there is no separate website for NI )


## Search process

A search of the selected supermarket websites for plant-based meat-substitutes was made using key words - ‘meat alternatives’, ‘meat substitutes’, ‘meat-free’, ‘meat free’, 'plant-based’, 'vegan’, and 'vegetarian' - to ensure all available products were captured. Where the product was available on more than one supermarket, the first supermarket listing the product was noted as the source of the product. The audit was carried out between 28 April-26 May 2020.

## Inclusion/exclusion criteria

Products were included if they were:

- a direct alternative to meat in a meal e.g. Quorn ${ }^{\text {TM }}$ products, meat-free burgers, fishless fillets, meat-free steak pies. Other vegetarian/vegan main meal options etc. that are marketed as alternatives to meat in meals were also included
- 'ready to cook' with little preparation involved, e.g. inclusion of falafels or lentil ragu but not of dried or tinned lentils.

Products were excluded if they were:

- raw ingredients often found in meat substitues such as dried lentils or jackfruit in water. Composite meals containing carbohydrates such as rice or potato, which would have skewed nutrition results.


## Data collection

Screenshots of the plant-based meat substitutes identified from the audit were taken to capture the data relevant to the audit including:

- product description
- product weight
- portion size
- nutrition information - protein, energy, fat, saturated fat, carbohydrates, sugar, salt, fibre, and any micronutrients referenced
- nutrition and health claims if present
- ingredients
- cost


## Categorisation

The products were categorised based on the product description e.g. 'burger’, 'mince', 'sausage’ etc. Miscellaneous products were categorised based on main component of foods e.g. if they were bean and lentil products e.g. falafels or included pastry e.g. pasties and pies. The twelve categories were:

1. meat-style meat substitute burgers
2. bean/vegetable-style meat substitute burgers
3. meat substitute steaks, mince, meatballs \& Bolognese
4. chicken substitutes e.g. nuggets, southern fried, goujons, escalope's, chicken-style (excluding burgers)
5. sausage substitutes
6. fish substitutes
7. meat substitute ham, bacon \& deli slices
8. pastry-based meat substitutes including sausage rolls \& pies
9. miscellaneous meat style substitutes e.g. kebab, melts, duck
10. miscellaneous vegetarian substitutes e.g. spinach bites, cheese grills/melts, veg fingers
11. falafel and other lentil/pulse/nut based meat substitutes.

## Data analysis

Excel was used for statistical analysis of the data. Front of pack traffic light labelling (Table 1) was used to classify products as low, medium or high in total fat, saturated fat, sugars, and salt (18).

Table 1 Criteria for determining red, amber and green colour coding per 100g of food for front of pack nutrition label

| Text | LOW | MEDIUM | HIGH |  |
| :--- | :---: | :---: | :---: | :---: |
| Colour code | Green | Amber | Red |  |
| Fat | $\leq 3.0 \mathrm{~g} / 100 \mathrm{~g}$ | $>3.0 \mathrm{~g}$ to $\leq$ <br> $17.5 \mathrm{~g} / 100 \mathrm{~g}$ | $>17.5 \mathrm{~g} / 100 \mathrm{~g}$ | $>21 \mathrm{~g} /$ portion |
| Saturates | $\leq 1.5 \mathrm{~g} / 100 \mathrm{~g}$ | $>1.5 \mathrm{~g}$ to $\leq$ <br> $5.0 \mathrm{~g} / 100 \mathrm{~g}$ | $>5.0 \mathrm{~g} / 100 \mathrm{~g}$ | $>6.0 \mathrm{~g} /$ portion |
| (Total) Sugars | $\leq 5.0 \mathrm{~g} / 100 \mathrm{~g}$ | $>5.0 \mathrm{~g}$ and $\leq$ <br> $22.5 \mathrm{~g} / 100 \mathrm{~g}$ | $>22.5 \mathrm{~g} / 100 \mathrm{~g}$ | $>27 \mathrm{~g} /$ portion |
| Salt | $\leq 0.3 \mathrm{~g} / 100 \mathrm{~g}$ | $>0.3 \mathrm{~g}$ to $\leq$ <br> $1.5 \mathrm{~g} / 100 \mathrm{~g}$ | $>1.5 \mathrm{~g} / 100 \mathrm{~g}$ | $>1.8 \mathrm{~g} /$ portion |

The EU criteria for nutrition labelling was used to categorise products as sources of or high in fibre and protein (European Commission Regulation EC 1924/2006).

## Comparison of products with meat equivalents

Nutritics was used to access the nutritional composition of meats. The code GB15, which refers to the McCance \& Widdowsons 7th edition food composition data, were the standard used. The meatsubstitutes were categorised and their meat equivalents were searched for on Nutritics, which provided an average nutritional profile. Screenshots of the relevant Nutritics items identified were taken to capture the data relevant to the comparison. The format of the meat equivalent selected was chosen to reflect the format of the plant-based meat substitutes in terms of cooking and preparation required.

## Consumer survey

Consumers' behaviours and motivations for purchasing plant-based meat-substitutes were determined via the safefood safetrak consumer survey. Due to restrictions in place to prevent the spread of COVID-19, the 2020 safetrak research was undertaken using a telephone methodology. The total number of interviews achieved was 802 ( 500 ROI and 302 NI ) and fieldwork was conducted between mid-November 2020 and mid-December 2020. Data was weighted to Census estimates at the analysis stage. The questions addressed frequency and types of meat substitutes eaten and the motivations for doing so.

## 4 Results

## What type of plant-based meat substitutes were found during the audit?

A total of 354 plant-based meat-substitutes were identified from the online audit of supermarkets in the UK and ROI conducted. The products were divided into 11 categories:

1. Meat-style meat substitute burgers ( $\mathrm{n}=28$ ). This category included meat substitutes such as 'Meat Free Meat Style Burgers', 'Meat Free Beef Style Burgers’, ‘Chicken Style Burgers’ and 'Vegetarian Pulled Pork 1/4 LB Burgers'.
2. Bean/vegetable-style meat substitute burgers ( $n=36$ ). This category included meat substitutes such as ‘Smoky ‘Jack' Quarter Pounders’, ‘Sweet Potatoes \& Blackbean Burgers’, ‘Kale and Quinoa Burgers', and 'Vegetable Quarter Pounders'.
3. Meat substitute steaks, mince, meatballs \& Bolognese ( $n=31$ ). This category included meat substitutes such as 'Meat Free Vegetarian Mince', 'Vegetarian Bolognese', 'Vegan Mushrooms Steaks', and 'Meat Free Swedish Style Balls'.
4. Chicken substitutes e.g. nuggets, southern fried, goujons, escalopes, chicken-style (excluding burgers) ( $n=67$ ). This category included meat substitutes such as 'Crispy Nuggets’, 'Meat Free Roast Style Sliced Fillets’, ‘Family Roast’ and ‘Sweet Chipotle Goujons’.
5. Sausage substitutes ( $n=44$ ). This category included meat substitutes such as 'Meat Free Sausages’, ‘Super Green Sausages’, ‘Pea Based Smoked Sausage’, and ‘Chorizo Style Bangers’.
6. Fish substitutes $(\mathrm{n}=9)$. This category included meat substitutes such as 'Fish-Style Fillets', 'Vegan Fishless Fingers’, and ‘Vegetarian Fishcake’.
7. Meat substitute ham, bacon \& deli slices ( $n=14$ ). This category included meat substitutes such as ‘Vegan Chicken Free Slices’, 'Meat Free Bacon Slices’, ‘Spinach And Red Pepper Slices’, and 'Vegetarian Pepperoni'.
8. Pastry-based meat substitutes including sausage rolls \& pies ( $n=42$ ). This category ( $n=42$ ) included plant-based meat-substitutes such as 'Vegan Sausage Rolls’, ‘Cheese Leek \& Red Onion Plaits’, 'Mushroom \& Chicken style pies’ and 'Spicy 3 Bean Pasty’.
9. Miscellaneous meat style substitutes e.g. kebab, melts, duck ( $n=20$ ). This category included meat substitutes such as ‘Veggie Greek Kebab’, 'Veggie pudding’, ‘Shredded Hoisin Duck', 'Sweet and Sour Porkless Bites', and 'Pan-Fry Protein Pieces'.
10. Miscellaneous vegetarian substitutes e.g. spinach bites, cheese grills/melts, veg fingers ( $n=34$ ). This category included meat substitutes such as 'Vegetarian \& Vegan Jackfruit Thai

Red Curry’, ‘Vegetable Dippers’, ‘Meat Free Mushroom Risotto Bakes’, ‘Sweet Potato Pakora’, and 'Vegetarian Cheese \& Onion Crisp Bakes'
11. Falafel and other lentil/pulse/nut based meat substitutes ( $n=29$ ). This category included meat substitute products such as 'Mediterianean Falafel', ‘Smokey Mexican Black Bean Chilli', 'Koftas’, and ‘Spicy Bean Bakes’.

## Product names and marketing terms

The labels of the products surveyed contain information on the name of the product and a sample is included to illustrate the range of terms used to describe the products:

- Tempeh Spare Ribz Sticky BBO Sauce
- Ultimate Burgers
- Quarter Pounders - Free of Meat, Full of Taste
- Meat Free Burgers
- Vegetable Protein Balls
- Quorn ${ }^{\text {TM }}$ Fillets - Deliciously Versatile
- Southern Fried Poppers
- Marinated Chicken Style Pieces Kick of Tikka
- Plant Chicken Tenders
- Herby Bangers
- Plant-Based Hot Dogs
- Smoky Fajita Fillet Strips
- Tikka Deli Readybites
- Breaded Fillets Irrestibly tasty
- Vegan Roast Tendership
- Non-Meaty Sausages
- Plant Greek Kebab
- Sticky Smokehouse Oumph
- Vegetarian Shredded Hoisin Duck
- 100\% Plant based Pan-Fry Protein Pieces
- Vegan Fishless Fingers
- Moroccan Vegbabs
- Crunchy Veg Burger
- Minced 100\% Plant Based
- Wicked Spiced Amazeballs

There are a number of instances where the product is described using the name of a meat which is presented along with a descriptor to denote that the product is manufactured with ingredients that do not include meat such as:

- Chicken Style Pieces
- Plant Chicken Tenders
- Vegan Fishless Fingers
- Vegetarian Shredded Hoisin Duck

There are also a number of instances where the product is described using a term that is typically associated with a meat product but again with reference to the product being plant based such as:

- Quarter Pounders - Free of Meat
- Tempeh Spare Ribz
- Non-Meaty Sausages

The product labels also bear marketing terms such as vegan ${ }^{12}$; plant power; and $100 \%$ plant based.

The cost of each product in Euro ( $£$ ) or pound Sterling ( $£$ ) was recorded per pack and per 100 g depending on which jurisdiction (ROI/NI) the supermarket was located. The cost of products per pack ranged from $€ 1.80-6.50$ and $£ 1.00-5.00$. The cost of the products per 100 g ranged from $€ 0.44-2.50$ and £0.34-2.50. It is apparent from the audit that there is a wide range in cost per pack and per 100 g in every product category.

## Ingredients in plant-based meat substitutes

The products surveyed contain a number of ingredients as illustrated in Table 2 which details the list of ingredients for one product in each of the 11 categories. Table 3 provides an overview of the sources of protein, fat and carbohydrate in each of the product categories surveyed. The products include proteins from a number of plant sources including:

- Mycoprotein ${ }^{\text {™-protein }}$ derived from fungi, especially as produced for human consumption
- soya protein (rehydrated/reconstituted/dried/textured/concentrate/isolate/structure)
- pea protein (textured concentrate/rehydrated/ textured/isolate/pea flour)

[^4]- wheat protein (hydrated/rehydrated/textured/gluten)
- beans (black beans, soya beans, edamame soya beans, red kidney beans, haricot beans), peas (chickpeas, yellow split peas), lentils
- mixed nuts
- cheese (goat's milk/cow's milk),
- chestnut mushrooms, mushrooms
- tempeh, quinoa
- tofu

The carbohydrate source was generally not the main source of energy in the products unless in the case of products such as sweet potato pakora, where sweet potato was the main ingredient. The carbohydrate sources were often used as stabilisers, gelling agents and thickeners in the products. A common ingredient present was methyl cellulose which is a thickener and a source of fibre. Other commonly used carbohydrate ingredients that are high in fibre include barley malt and maize.

Table 2 Sample list of ingredients for a product from each of the 11 categories of products surveyed

| Category | Product Name | Ingredient List |
| :--- | :--- | :--- |
| Meat-style meat <br> substitute burgers <br> (category 1) | Linda McCartney <br> Mozzarella Burgers | Rehydrated Textured Soya Protein (64\%), <br> Rapeseed Oil, Onion (8\%), Mozzarella Cheese <br> (Milk) (8\%), Seasoning (Yeast Extract, Malted <br> Barley Extract, Onion Powder, Flavouring, <br> Salt, Garlic Powder), Stabiliser: Methyl <br> Cellulose, Chickpea Flour, Flavouring (Yeast <br> Extract, Salt, Sunflower Oil, Acid: Citric Acid), <br> Garlic Puree, Malted Barley Extract, Onion |
| Powder |  |  |


|  |  | Concentrate, Thickener: Hydroxypropyl Methyl Cellulose, Garlic Powder |
| :---: | :---: | :---: |
| Meat substitute steaks, mince, meatballs \& Bolognese (category 3) | Quorn ${ }^{\text {TM }}$ Meat Free Peppered Steaks 2 Pack | Mycoprotein ${ }^{\text {TM }}$ (76\%), Water, Natural Flavouring, Rehydrated Free Range Egg White, Vegetable Oils (Palm, Rapeseed, Sunflower), Dextrose, Gluten Free Roasted Barley Malt Extract, Firming Agents: Calcium Chloride, Calcium Acetate, Black Pepper, Green Pepper, Red Pepper, Salt |
| Chicken substitutes (category 4) | Vivera Veggie Chicken Pieces | Rehydrated Soya Protein* [93\%], Onion Extract [3\%], Natural Flavourings [Wheat], Pea Fibres, Salt, *This ingredient is not only from the Netherlands, but also from non-EU countries |
| Sausage substitutes (category 5) | Birds Eye Meat Free Sausages | Rehydrated Pea Protein (63\%), Onion, Rapeseed Oil, Apple Fibre, Pea Flour, Stabiliser (Methylcellulose), Sunflower Oil, Pea Fibre, Salt, Potato Starch, Onion Powder, Sugar, Spices, Maltodextrin, Natural Flavouring, Barley Malt Extract, Mushroom Powder, Sage, Mushroom Extract |
| Fish substitutes (category 6) | Tesco Plant Chef Battered Fish Free Fillets | Water, Soya Protein Concentrate ( $13 \%$ ), Wheat Protein, Pea Flour, Cornflour, Rice Flour, Sunflower Oil, Soya Protein Isolate (3\%), Wheat, Tapioca Starch, Salt, Emulsifier (Guar Gum), Dextrose, Flavouring, Thickener (Methyl Cellulose), Sugar Cane, Dried Vegetables, Onion Powder, Vegetable Protein, Lemon Juice, White Pepper, Raising Agent (Sodium Carbonates), Iron, Vitamin B12. |


| Meat substitute ham, bacon \& deli slices (category 7) | Tofurky Hickory Smoke Flavour Deli Slices | Water, Wheat Gluten, Tofu (Water, Soybeans, Firming Agents: [Magnesium Chloride; Calcium Chloride]) ( $15 \%$ ), Soy Sauce (Water, Soybeans, Wheat, Salt), Rapeseed Oil, Flavourings, Sea Salt, Cornflour, Chickpea Flour, Haricot Bean Flour, Flavour Enhancer: (Potassium Chloride), Firming Agent: (Calcium Lactate), Onion, Carrot, Celery, Garlic, Leek, Antioxidant: (Extracts of Rosemary), Concentrated Lemon Juice, Smoke Flavouring |
| :---: | :---: | :---: |
| Pastry-based meat <br> substitutes (category 8) | Quorn ${ }^{\text {TM }}$ Vegetarian <br> Steak Slice | Wheat Flour (contains added Calcium, Iron, <br> Niacin, Thiamin), Water, Quorn ${ }^{\text {TM }}$ Pieces ( $12 \%$ ) <br> (Mycoprotein ${ }^{\text {TM*, }}$, Rehydrated Free Range Egg White, Flavouring, Firming Agents: Calcium <br> Chloride, Calcium Acetate; Roasted Barley Malt Extract), Onion (5\%), Margarine [Vegetable Oils (Palm, Rapeseed), Water, Salt, Emulsifier: Mono- and Diglycerides of Fatty Acids], Peppered Seasoning Mix [Modified Maize Starch, Flavouring, Maltodextrin, Palm Fat, Spices, Barley Malt Extract, Mustard, Lactose (Milk), Salt, Milk Proteins], Double Cream (Milk), Free Range Egg, Salt, *11\% of product |
| Miscellaneous meat <br> style substitutes <br> (category 9) | Oumph! Kebab Spiced | Water, Soya Protein Concentrate (20\%), Sunflower Oil, Grape Sugar, Salt, Paprika, Coriander, Ginger, Cardamom, Oregano, Garlic, Cumin, Caraway, Black Pepper, Parsley, Fenugreek, Red Chilli |
| Miscellaneous <br> vegetarian substitutes <br> (category 10) | Plant Pioneers Mexican <br> Style Jackfruit | Jackfruit (44\%), Green Pepper, Water, Onion, Tomato Paste, Garlic, Sunflower Oil, Spirit Vinegar, Sugar, Coriander, Salt, Chilli Powder, |


|  | Black Pepper, Oregano, Cayenne Pepper, <br> Smoke Flavouring. |  |
| :--- | :--- | :--- |
| Falafel and other <br> lentil/pulse/nut based <br> meat substitutes <br> (category 11) | Cauldron Middle <br> Eastern Falafels | Chickpeas (58\%), Onion (11\%), Seasoning <br> [Wheat Flour (Wheat Flour, Calcium <br> Carbonate, Iron, Niacin \& Thiamine), Salt, |
| Sugar, Cumin (0.3\%), Coriander (0.3\%), |  |  |
| Parsley, Black Pepper, Raising Agent: Sodium |  |  |
| Bicarbonate], Vegetable Oils (Sunflower, |  |  |
| Rapeseed), Breadcrumb [Wheat Flour (Wheat |  |  |
|  |  |  |
| Thiamine), Salt, Yeast], Parsley, Coriander |  |  |
| (0.8\%), Garlic Purée |  |  |

Table 3 Main protein, fat and carbohydrate sources for each of the 11 categories surveyed

| Category | Protein sources | Fat sources | Carbohydrate sources |
| :---: | :---: | :---: | :---: |
| Meat-style meat substitute burgers (category 1) | wheat protein <br> (hydrated/textured), <br> Mycoprotein ${ }^{\text {TM }}$, soya protein <br> (rehydrated textured), soy <br> structure, pea protein (textured) | coconut, sunflower, rapeseed, soybean oil, vegetable oil | methyl cellulose, malted barley, wheat starch, chicory root fibre, wholegrain oat flour |
| Bean/ vegetable-style <br> meat substitute <br> burgers (category 2) | Many products did not list a source of protein. Mushrooms, sweet potato, beans, chickpeas, quinoa and mixed vegetables were commonly listed as main ingredients for these products. | peanut <br> paste; <br> sunflower, <br> rapeseed or palm oil | bulgur, corn starch, rice, sweet potato or breadcrumbs. |
| Meat substitute steaks, mince, | Mycoprotein ${ }^{\text {TM }}$, soya protein (rehydrated/reconstituted/dried textured/ concentrate/isolate), | coconut, sunflower, | barley, wheat starch, flour or chicory root fibre. |


| meatballs \& Bolognese (category 3) | wheat protein (rehydrated textured), pea protein (textured concentrate/rehydrated), mushrooms, yellow split peas | rapeseed, palm oil |  |
| :---: | :---: | :---: | :---: |
| Chicken substitutes (category 4) | tofu, Mycoprotein™, pea protein (isolate), pea flour, soya protein (concentrate/isolate/rehydrated textured), mushrooms, wheat protein (rehydrated textured), potato protein | coconut milk/cream; or sunflower, rapeseed, palm oil | wheat flour, maize <br> starch, breadcrumb |
| Sausage substitutes (category 5) | Mycoprotein ${ }^{\text {TM }}$, pea protein (rehydrated/textured/isolate), pea flour, soya protein (rehydrated textured/isolate), soya, wheat protein (gluten), quinoa, mushrooms, chickpeas, tofu | sunflower, rapeseed, shea, coconut or palm oil | methylcellulose, potato starch, wheat flour, potato flakes, chicory or semolina. |
| Fish substitutes (category 6) | wheat protein (rehydrated/textured/gluten), <br> soya protein (rehydrated textured/concentrate), <br> Mycoprotein ${ }^{\text {TM }}$ | sunflower, rapeseed, soyabean, flaxseed oil | cornflour, potato, wheat flour, rice flakes |
| Meat substitute ham, bacon \& deli slices (category 7) | Mycoprotein ${ }^{\text {TM }}$, soya protein (rehydrated), wheat gluten, tofu. | sunflower, rapeseed or palm oil | cornflour, oat fibre. |
| Pastry-based meat substitutes (category 8) | Mycoprotein ${ }^{\text {TM }}$, soya protein (rehydrated textured/isolate), edamame soya bean, pea protein, cheese (goat/cow), beans (red kidney/haricot), chickpeas, chestnut mushrooms, | sunflower, coconut, rapeseed or palm oil | wheat flour, barley malt, breadcrumbs, maize starch, potato. |


|  | wheat protein (rehydrated <br> textured) |  |  |
| :--- | :--- | :--- | :--- |
| Miscellaneous meat <br> style substitutes <br> (category 9) | Mycoprotein™, pea protein, soya <br> protein (rehydrated <br> textured/isolate/concentrate), <br> wheat protein, beans, tempeh, <br> tofu | sunflower, <br> rapeseed, <br> soya bean or <br> palm oil | rice flour, wheat <br> flour, cornflour, <br> potato starch. |
| Miscellaneous <br> vegetarian substitutes <br> (category 10) | Mushrooms, cheese (cow's milk), <br> chickpeas. | sunflower, <br> rapeseed or <br> palm oil | cornflour, maize, <br> potato, squash, <br> rice, wheat flour |
| Falafel and other <br> lentil/pulse/nut based <br> meat substitutes | chickpeas, lentils, black beans, | mixed nuts, peas. | sunflower, <br> rapeseed or <br> palm oil |
| category 11) | corn starch, wheat <br> flour, breadcrumb, <br> legumes, sweet |  |  |

## Nutritional profile of products surveyed

The average nutritional value of the products per 100 g and the minimum and maximum value for the range of products in the category is presented in Table 4.

Table 4 Average, minimum and maximum values of nutrients per 100 g for the total sample and for each category of plant-based meat-substitutes

|  | Protein | Energy | Carbohydrate | Sugars | Fibre | Fat | Sat fat | Salt |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Average (min-max) g | Average (min-max) g | Average (min-max) g | $\begin{gathered} \text { Average } \\ (\text { min-max }) \mathrm{g} \end{gathered}$ | $\begin{gathered} \text { Average } \\ (\text { min-max }) \mathrm{g} \end{gathered}$ | Average (min-max) g | Average (min-max) g | Average (min-max) g |
| Total sample | $\begin{gathered} 10.7 \\ (0.9-30.6) \end{gathered}$ | $\begin{gathered} 194.8 \\ (53-347) \end{gathered}$ | $\begin{gathered} 15.5 \\ (0-36) \end{gathered}$ | $\begin{gathered} 2.5 \\ 0.0-18.9 \end{gathered}$ | $\begin{gathered} 4.9 \\ 1.1-16.7 \end{gathered}$ | $\begin{gathered} 8.9 \\ 0.4-22 \end{gathered}$ | $\begin{gathered} 2.1 \\ 0.0-15.8 \end{gathered}$ | $\begin{gathered} 1.1 \\ 0.0-2.9 \end{gathered}$ |
| Meat-style meat substitute burgers ( $\mathrm{n}=28$ ) | $\begin{gathered} 15.6 \\ (7.9-23) \end{gathered}$ | $\begin{gathered} 206.2\left(154^{-}\right. \\ 300) \end{gathered}$ | $\begin{gathered} 10.1 \\ (3.5-20.9) \end{gathered}$ | $\begin{gathered} 1.5 \\ 0.0-4.7 \end{gathered}$ | $\begin{gathered} 4.5 \\ 1.3-7.4 \end{gathered}$ | $\begin{gathered} 10.6 \\ 4.6-20.7 \end{gathered}$ | $\begin{gathered} 2.4 \\ 0.4-5.6 \end{gathered}$ | $\begin{gathered} 1.2 \\ 0.8-1.8 \end{gathered}$ |
| Bean/vegetable-style meat substitute burgers ( $\mathrm{n}=36$ ) | $\begin{gathered} 5.1 \\ (3.4-11.9) \end{gathered}$ | $\begin{gathered} 179.3 \\ (98-289) \end{gathered}$ | $\begin{gathered} 18.5 \\ (5.7-26.5) \end{gathered}$ | $\begin{gathered} 3.2 \\ 0.6-8.8 \end{gathered}$ | $\begin{gathered} 5.6 \\ 1.8-10.2 \end{gathered}$ | $\begin{gathered} 8.3 \\ 1.6-21.1 \end{gathered}$ | $\begin{gathered} 1.1 \\ 1.6-21.1 \end{gathered}$ | $\stackrel{1}{0.4-1.4}$ |
| Meat substitute steaks, mince, meatballs \& Bolognese ( $\mathrm{n}=31$ ) | $\begin{gathered} 14.1 \\ (3.4-30.6) \end{gathered}$ | $\begin{gathered} 158.8 \\ (53-236) \end{gathered}$ | $\begin{gathered} 8.3 \\ (3.2-23) \end{gathered}$ | $\begin{gathered} 1.9 \\ 0.1-4.2 \end{gathered}$ | $\begin{gathered} 5.1 \\ 1.7-8.0 \end{gathered}$ | $\begin{gathered} 6.7 \\ 0.4-15.0 \end{gathered}$ | $\stackrel{2}{0.1-7.9}$ | $\begin{gathered} 1 \\ 0.0-1.7 \end{gathered}$ |
| Chicken substitutes e.g. nuggets, southern fried, goujons, escalopes, chicken-style (excluding burgers) ( $\mathrm{n}=67$ ) | $\begin{gathered} 13.9 \\ (2.2-22) \end{gathered}$ | $\begin{gathered} 199 \\ (84-321) \end{gathered}$ | $\begin{gathered} 13.3 \\ (1-31.8) \end{gathered}$ | $\begin{gathered} 1.7 \\ 0-12.0 \end{gathered}$ | $\begin{gathered} 5.3 \\ 2-16.7 \end{gathered}$ | $\begin{gathered} 8.7 \\ 0.4-22 \end{gathered}$ | $\begin{gathered} 1.2 \\ 0-6.1 \end{gathered}$ | $\begin{gathered} 1.1 \\ 0.2-2.3 \end{gathered}$ |
| Sausage substitutes ( $\mathrm{n}=44$ ) | $\begin{gathered} 11 \\ (3.1-25) \end{gathered}$ | $\begin{gathered} 178.3 \\ (109-267) \end{gathered}$ | $\begin{gathered} 11.3 \\ (0.5-25) \end{gathered}$ | $\begin{gathered} 1.9 \\ 0.0-5.4 \end{gathered}$ | $\begin{gathered} 5.5 \\ 1.8-10.3 \end{gathered}$ | $\begin{gathered} 8.5 \\ 2.5-17.2 \end{gathered}$ | $\begin{gathered} 2.8 \\ 0.5-15.8 \end{gathered}$ | $\begin{gathered} 1.4 \\ 0.8-2.7 \end{gathered}$ |
| Fish substitutes ( $\mathrm{n}=9$ ) | $\begin{gathered} 8.8 \\ (4.5-13.3) \end{gathered}$ | $\begin{gathered} 212.7 \\ (181-256) \end{gathered}$ | $\begin{gathered} 21.8 \\ (10-32) \end{gathered}$ | $\begin{gathered} 0.9 \\ 0-2.1 \end{gathered}$ | $\begin{gathered} 4.1 \\ 2.9-6.0 \end{gathered}$ | $\begin{gathered} 9.4 \\ 2.8-20 \end{gathered}$ | $\begin{gathered} 1 \\ 0.4-3 \end{gathered}$ | $\begin{gathered} 1.2 \\ 0.8-1.7 \end{gathered}$ |
| Meat substitute ham, bacon \& deli slices ( $\mathrm{n}=14$ ) | $\begin{gathered} 17.2 \\ (10.1-27) \end{gathered}$ | $\begin{gathered} 163.5 \\ (94-347) \end{gathered}$ | $\begin{gathered} 6.1 \\ (1.7-12.7) \end{gathered}$ | $\begin{gathered} 1.4 \\ 0.3-3.8 \end{gathered}$ | $\begin{gathered} 4.7 \\ 1.5-8.5 \end{gathered}$ | $\begin{gathered} 6.8 \\ 0.5-21.1 \end{gathered}$ | $\begin{gathered} 1.5 \\ 0.1-6.1 \end{gathered}$ | $\begin{gathered} 1.4 \\ 0.9-2.9 \end{gathered}$ |
| Pastry-based meat substitutes including sausage rolls \& pasty's (n=42) | $\begin{gathered} 7.7 \\ (3-13.4) \end{gathered}$ | $\begin{gathered} 251.7 \\ (128-346) \end{gathered}$ | $\begin{gathered} 25 \\ (15.5-34) \end{gathered}$ | $\begin{gathered} 2.6 \\ 0.6-7 \end{gathered}$ | $\begin{gathered} 3 \\ 1.1-6.2 \end{gathered}$ | $\begin{gathered} 12.8 \\ 4.9-20 \end{gathered}$ | $\begin{gathered} 5.8 \\ 0.7-9.9 \end{gathered}$ | $\begin{gathered} 0.9 \\ 0.3-2.3 \end{gathered}$ |
| Miscellaneous meat style substitutes e.g. kebab, melts, duck ( $\mathrm{n}=20$ ) | $\begin{gathered} 16 \\ (5-30.6) \end{gathered}$ | $\begin{gathered} 167 \\ (82-287) \end{gathered}$ | $\begin{gathered} 10.9 \\ (0-33.4) \end{gathered}$ | $\begin{gathered} 4 \\ 0.0-14 \end{gathered}$ | $\begin{gathered} 4.9 \\ 3.2-8.2 \end{gathered}$ | $\begin{gathered} 5.8 \\ 0.4-12.7 \end{gathered}$ | $\begin{gathered} 0.8 \\ 0-2.1 \end{gathered}$ | $\begin{gathered} 1.3 \\ 0.4-1.8 \end{gathered}$ |
| Miscellaneous vegetarian substitutes e.g. spinach bites, cheese grills/melts, veg fingers ( $\mathrm{n}=34$ ) | $\begin{gathered} 4.6 \\ (0.9-8.3) \end{gathered}$ | $\begin{gathered} 196.6 \text { (56 - } \\ 284) \end{gathered}$ | $\begin{gathered} 21.8 \\ (5.6-32) \end{gathered}$ | $\begin{gathered} 3.7 \\ 0.5-18.9 \end{gathered}$ | $\begin{gathered} 3.6 \\ 2.0-6.8 \end{gathered}$ | $\begin{gathered} 9.3 \\ 0.5-16.0 \end{gathered}$ | $\begin{gathered} 1.9 \\ 0.1-4.9 \end{gathered}$ | $\begin{gathered} 0.8 \\ 0.4-1.3 \end{gathered}$ |
| Falafel and other lentil/pulse/nut based meat substitutes ( $\mathrm{n}=29$ ) | $\begin{gathered} 7.3 \\ (3-13.1) \end{gathered}$ | $\begin{gathered} 201.2(54- \\ 336) \end{gathered}$ | $\begin{array}{r} 20.4 \\ (1-36) \end{array}$ | $\begin{gathered} 4.1 \\ 0.7-11.0 \end{gathered}$ | $\begin{gathered} 6.9 \\ 2.7-12.6 \end{gathered}$ | $\begin{gathered} 8.5 \\ 0.4-22 \end{gathered}$ | $\begin{gathered} 0.9 \\ 0.1-2.9 \end{gathered}$ | $\begin{gathered} 0.9 \\ 0.4-2.2 \end{gathered}$ |

## Nutritional information presented according to Front of Pack Traffic Light Labelling

Figure 1 shows how the products were categorised when traffic light labelling criteria were applied and Figures 3 to 13 show the profile of products in each of the 11 categories. It is clear that the products as a total sample are diverse and that this diversity is apparent in each category.

Figure 2 Percentage of total meat substitute products ( $\mathrm{n}=354$ ) low, medium and high in total fat, saturated fat, sugar and salt per 100 g - total sample


Figure 3 Percentage of meat-style substitute burgers $(\mathrm{n}=28)$ low, medium and high in total fat, saturated fat, sugar and salt per 100 g category 1


Figure 4 Percentage of bean/vegetable-style meat substitute burgers ( $n=36$ ) low, medium and high in total fat, saturated fat, sugar and salt per 100 g category 2


Figure 5 Percentage of meat substitute steaks, mince, meatballs \& Bolognese ( $n=31$ ) low, medium and high in total fat, saturated fat, sugar and salt per 100 g category 3


Figure 6 Percentage of chicken substitutes ( $\mathrm{n}=67$ ) low, medium and high in total fat, saturated fat, sugar and salt per 100 g (Category 4)


Figure 7 Percentage of sausage substitutes $(n=44)$ low, medium and high in total fat, saturated fat, sugar and salt per 100 g category 5


Figure 8 Percentage of fish substitutes $(n=9)$ low, medium and high in total fat, saturated fat, sugar and salt per 100 g category 6


Figure 9 Percentage of meat substitute ham, bacon \& deli slices ( $n=14$ ) low, medium and high in total fat, saturated fat, sugar and salt per 100 g - Category 7


Figure 10 Percentage of pastry-based meat substitutes including sausage rolls \& pies ( $n=42$ ) low, medium and high in total fat, saturated fat, sugar and salt per 100 g - Category 8


Figure 11 Percentage of miscellaneous meat style substitutes $(n=20)$ low, medium and high in total fat, saturated fat, sugar and salt per 100 g - Category 9


Figure 12 Percentage of miscellaneous vegetarian substitutes ( $n=34$ ) low, medium and high in total fat, saturated fat, sugar and salt per 100 g - Category 10


Figure 13 Percentage of falafel and other lentil/pulse/nut based meat substitutes $(\mathrm{n}=29)$ low, medium and high in total fat, saturated fat, sugar and salt per 100g - Category 11


## Protein content

The protein content of the products surveyed ranged from 0.9 to 30.6 g per 100 g (average 10.7 g per 100 g ). It is clear that the protein content varied both within each category and across the categories sampled (Table 1). Figure 14 illustrates the percentage energy from protein for each of the categories based on the categories used for making protein claims:

- If the percentage of energy that comes from protein is between 12 and $19.9 \%$ the product can claim to be a source of protein
- If the percentage of energy that comes from protein is $20 \%$ or greater the product can claim to be high in protein

In total, there were 84 products ( $23 \%$ ) where the percentage of energy from protein ranged from 12$19.9 \%$ and 173 products ( $49 \%$ ) where the percentage of energy from protein was $20 \%$ or more (Figure 14). This means that more than one quarter ( $28 \%$ ) of the products surveyed are not a source of or high in protein and consumers need to be aware of this if relying on these foods as a protein source.

The categories where more than $50 \%$ of the products were high in protein (where energy that comes from protein is $20 \%$ or greater) included:

- Category 9 ( $95 \%$ ) Miscellaneous meat style substitutes e.g. kebab, melts, duck
- Category 7 ( $93 \%$ ) Meat substitute ham, bacon \& deli slices
- Category 1 (93\%) Meat-style meat substitute burgers
- Category 3 ( $87 \%$ ) Meat substitute steaks, mince, meatballs and Bolognese
- Category 4 (73\%) Chicken substitutes e.g. nuggets, southern fried, goujons, escalopes, chicken-style (excluding burgers)
- Category 5 (61\%) Sausage substitutes

When reviewing the products for protein claims, half of the products $(50 \%, n=178)$ made a proteinrelated claim:

- 39 products ( $11 \%$ ) made a claim that they are a source of protein
- 139 products ( $39 \%$ ) bear a claim that they are high in protein.

Figure 14 Percentage of energy from protein for each of the categories surveyed


## Carbohydrate and fibre content

The products surveyed are also usually a source of fibre ( $80.2 \%, \mathrm{n}=284$ ) having at least 3 g of fibre per 100 g or 1.5 g per 100 kcal while $37.9 \% ~(\mathrm{n}=134)$ were high in fibre (contains at least 6 g of fibre per 100 g ). This is because these foods have added carbohydrates unlike their equivalent meat products, which do not contain fibre in their natural form.

## Comparison with equivalent meat products

A comparison of meat style meat-substitute burgers (Category 1) and bean/vegetable-style meat substitute burgers (Category 2) with their meat equivalents (Table 5) shows that:

- Meat-style meat-substitute burgers (Category 1) had an average protein content similar to a chicken burger, but less protein than a beef burger. This reflects the fact that the products in this category contain a source of protein such as wheat protein (hydrated/textured), Mycoprotein ${ }^{\text {™ }}$, soya protein (rehydrated textured), soy structure or pea protein.
- Bean/vegetable-style meat-substitute burgers (Category 2) had a lower protein content then the beef, chicken and other meat substitute burgers, which reflects the fact that ingredients not rich in protein (mushrooms, sweet potato, beans, chickpeas, quinoa, and mixed vegetables) were commonly listed as main ingredients for these products.
- Both meat-substitute burgers (Category 1) and bean/vegetable-style meat substitute burgers (Category 2) were lower in energy than beef or chicken burgers.
- Both meat-substitute burgers (Category 1) and bean/vegetable-style meat-substitute burgers (Category 2) were lower in total fat than beef and chicken burgers, lower in saturated fat than beef burgers but equivalent in saturated fat to chicken/turkey burgers
- Both meat-substitute burgers (Category 1) and bean/vegetable-style meat-substitute burgers (Category 2) have added carbohydrate and thus are a source of fibre, unlike beef burgers which contain no carbohydrates or fibres. Chicken/turkey burgers do contain carbohydrates as they are typically coated in a breadcrumbs.
- Salt levels were similar for both burger types in comparison to beef and chicken/turkey burgers, which also contain added salt.

Table 5 Nutrition value of meat-style (category 1) \& bean/vegetable-style burger substitutes (category 2) vs meat equivalents per 100 g

|  | Meat-style <br> burger <br> substitutes <br> $(\mathrm{n}=28)$ | Bean/vegetable- <br> style burger <br> substitutes (n=36) | Beef <br> burgers, <br> grilled | Chicken/Turkey <br> burgers, coated |
| :--- | :---: | :---: | :---: | :---: |
| Protein (g) per 100g | 15.6 | 5.1 | 27 | 14 |
| Energy (kcal) per 100g | 206.2 | 179.3 | 327 | 266 |
| Carbohydrates (g) per <br> 100g | 10.1 | 18.5 | 0 | 17 |
| -of which sugars (g) per | 1.5 | 3.2 | 0 | 0.9 |
| 100g |  |  |  |  |
| Fibre (g) per 100g | 4.5 | 5.6 | 0.7 | 0.8 |
| Fat (g) per 100g | 10.6 | 8.3 | 24 | 16 |
| -of which saturates (g) | 2.4 | 2.4 | 11 | 2.6 |
| per 100g |  |  |  |  |



A comparison of products from the meat-substitute steaks, mince, meatballs and Bolognese category with their meat equivalents (Table 6) shows that meat-substitute steaks, mince, meatballs and Bolognese:

- had less protein than their meat equivalents
- had less energy, total and saturated fat than beef mince or lean fillet beefsteak
- had more energy, more fat and less saturated fat than extra lean beef mince
- are a source of fibre and carbohydrates, unlike their meat equivalent (this is due to added carbohydrate in the plant-based meat substitutes)
- had higher salt levels

Table 6 Nutrition value of meat substitute steaks, mince, meatballs \& Bolognese (category 3) vs meat equivalents per 100 g

|  | Meat substitute steaks, mince, meatballs \& Bolognese ( $\mathrm{n}=31$ ) | Beef mince, raw | Beef mince, raw, extra lean | Beef steak, fillet, lean |
| :---: | :---: | :---: | :---: | :---: |
| Protein (g) per 100g | 14.1 | 20 | 22 | 29 |
| Energy (kcal) per 100g | 158.8 | 225 | 125 | 189 |
| Carbohydrates (g) per 100g | 8.3 | 0 | 0 | 0 |
| -of which sugars (g) per 100 g | 1.9 | 0 | 0 | 0 |
| Fibre (g) per 100g | 5.1 | 0 | 0 | 0 |
| Fat (g) per 100g | 6.7 | 16 | 4.2 | 8 |
| -of which saturates (g) per 100 g | 2.0 | 6.9 | 2.1 | 3.6 |
| Salt (g) per 100 g | 1.0 | 0.2 | 0.23 | 0.18 |

A comparison of chicken substitutes e.g. southern fried, goujons, escalopes, chicken-style (excluding burgers) (Category 4) with their meat equivalents (Table 7) found that these products:

- had more energy, total fat and saturated fat than a plain chicken breast but less than coated chicken pieces
- were a source of fibre, unlike their meat equivalents
- had a similar amount of carbohydrates as coated chicken pieces but more than a plain chicken breast
- had higher salt levels than plain chicken breasts but lower levels than coated chicken pieces
- had less protein than their meat equivalents

Table 7 Nutrition value of chicken substitutes (category 4) vs meat equivalents per 100g

|  | Chicken substitutes e.g. nuggets and fillets ( $n=67$ ) | Chicken breast, grilled without skin | Chicken pieces, coated, takeaway |
| :---: | :---: | :---: | :---: |
| Protein (g) per 100g | 13.9 | 32 | 19 |
| Energy (kcal) per 100g | 199.0 | 145 | 268 |
| CHO (g) per 100g | 13.3 | 0 | 16 |
| -of which sugars (g) per 100 g | 1.7 | 0 | 0 |
| Fibre (g) per 100g | 5.3 | 0 | 1.3 |
| Fat (g) per 100g | 8.7 | 1.9 | 14 |
| -of which saturates (g) per 100 g | 1.2 | 0.6 | 2.3 |
| Salt (g) per 100g | 1.1 | 0.14 | 1.3 |

A comparison of sausage substitutes (Category 5) with their meat equivalents (Table 8) showed that they:

- had less energy, total and saturated fat than a regular sausage
- were a source of fibre, unlike regular sausages
- had more carbohydrates than a regular sausage
- had similar salt levels to a regular sausage
- had less protein than their meat equivalents

Table 8 Nutrition value of sausages substitutes (category 5) vs meat equivalent per 100 g

|  | Sausage substitutes (n=44) | Sausages, pork |
| :--- | :---: | :---: |
| Protein (g) per 100g | 11.0 | 15 |
| Energy (kcal) per 100 g | 178.3 | 298 |
| CHO (g) per 100g | 11.3 | 9 |
| -of which sugars (g) per 100g | 1.9 | 1.5 |
| Fibre (g) per 100g | 5.5 | 2.3 |
| Fat (g) per 100g | 8.5 | 22 |
| -of which saturates $(\mathrm{g})$ per | 2.8 | 8 |
| 100 g |  | 1.6 |
| Salt $(\mathrm{g})$ per 100 g |  |  |

When comparing fish substitutes (category $6, n=9$ ) with cod in breadcrumbs (Table 9) it was found that they:

- had similar energy, total and saturated fat than cod in breadcrumbs
- had slightly more carbohydrates than cod in breadcrumbs
- had higher salt levels to cod in breadcrumbs
- had less protein than cod in breadcrumbs

Table 9 Nutrition value of fish substitutes (category 6) vs fish equivalent per 100 g

|  | Fish substitutes $(\mathrm{n}=9)$ | Cod in breadcrumbs |
| :--- | :---: | :---: |
| Protein $(\mathrm{g})$ per 100 g | 8.8 | 14 |
| Energy (kcal) per 100 g | 212.7 | 206 |
| CHO $(\mathrm{g})$ per 100 g | 21.8 | 18 |
| -of which sugars $(\mathrm{g})$ per 100g | 0.9 | 0.9 |
| CHO $(\mathrm{g})$ per 100 g | 21.8 | 18 |
| Fat $(\mathrm{g})$ per 100 g | 9.4 | 8.3 |
| -of which saturates $(\mathrm{g})$ per | 1.0 | 1.3 |
| 100 g |  |  |
| Salt $(\mathrm{g})$ per 100 g | 1.2 | 0.83 |

A comparison of ham, bacon \& deli substitutes (Category 7) with their meat equivalents (Table 10) showed that they:

- had more energy, total and saturated fat than ham and chicken slices but less than bacon rashers
- had more carbohydrates than their meat equivalents
- were a source of fibre, unlike their meat equivalents
- had lower salt levels than their meat equivalents
- had the same protein content as ham but less than rashers or chicken slices.

Table 10 Nutrition value of meat substitute ham, bacon \& deli slices (category 7) vs meat equivalents per 100 g

|  | Meat substitute <br>  <br> deli slices (n=14) | Bacon rashers, <br> back, grilled | Ham slices | Chicken slices |
| :--- | :---: | :---: | :---: | :---: |
| Protein (g) per 100g | 17.2 | 23 | 18 | 23 |
| Energy (kcal) per 100g | 163.5 | 287 | 107 | 114 |
| Carbohydrates (g) per 100g | 6.1 | 0 | 1 | 1.9 |
| -of which sugars (g) per | 1.4 | 0 | 1 | 0 |
| 100 g |  | 0 | 0 | 0.5 |
| Fibre (g) per 100g | 4.7 | 22 | 3.3 | 1.5 |
| Fat (g) per 100g | 6.8 | 8.1 | 1.1 | 0.4 |
| -of which saturates (g) per | 1.5 |  | 2 |  |
| 100 g |  | 3.5 | 2 | 1.5 |
| Salt (g) per 100g | 1.4 |  |  |  |

When comparing pastry-based meat-substitutes including sausage rolls and pies (Category 8) with their meat equivalents (Table 11) it was found that they:

- had less energy, total and saturated fat than their meat equivalents
- were a source of fibre, as were their meat equivalents
- had similar amounts of carbohydrates as their meat equivalents
- had lower salt levels than their meat equivalents
- had similar amounts of protein as their meat equivalents

Table 11 Nutritional value of pastry-based meat substitutes (category 8) vs meat equivalents per 100 g

|  | Pastry-based meat substitutes including sausage rolls, pies, etc. $(n=42)$ | Cornish pasties, retail | Sausage rolls, retail |
| :---: | :---: | :---: | :---: |
| Protein (g) per 100g | 7.7 | 7 | 8.4 |
| Energy (kcal) per 100g | 251.7 | 282 | 356 |
| Carbohydrates (g) per 100g | 25.0 | 22 | 25 |
| -of which sugars (g) per 100 g | 2.6 | 2 | 1.2 |
| Fibre (g) per 100g | 3.0 | 2.9 | 3.4 |
| Fat (g) per 100g | 12.8 | 18 | 24 |
| -of which saturates (g) per 100 g | 5.8 | 8.5 | 10 |
| Salt (g) per 100g | 0.9 | 1.2 | 1.4 |

The final four categories of plant-based meat substitutes were not compared with any meat equivalent as there is no meat equivalent for these categories (Category 9: Miscellaneous meat style substitutes; Category 10: Miscellaneous vegetarian substitute; Category 11: Tofu, soy \& tempeh; and Category 12: Falafel and other lentil/pulse/nut-based meat-substitutes).

## Micronutrient data

Only 27 out of 354 products ( $7.6 \%$ ) had data provided on the level of micronutrients. The only micronutrients that over $1 \%$ of the products gave data on were iron ( $6 \%$ ) and B 12 ( $4 \%$ ). Other products provided data on the level of folic acid, vitamin A, zinc, vitamin B1, B2, B6, and niacin, omega-3 and magnesium.

## Consumer survey

One third of consumers reported eating meat substitutes such as vegan or vegetarian versions of burgers, sausages, chicken or fish (Table 12). The profile of respondents who reported eating these products is detailed in Figure 15.

Table 12 Consumer's responses to question 'Do you ever eat meat substitutes such as vegan or vegetarian versions of burgers, sausages, chicken or fish?

|  | ROI \% (n) | NI \% (n) | IOI \% (n) |
| :--- | :--- | :--- | :--- |
| Yes | $32(166)$ | $36(112)$ | $34(278)$ |
| No | $68(334)$ | $64(190)$ | $66(524)$ |

Base ROI n=500; NI n=302; IOI n=802.

Figure 15 Profile of respondents who reported eating plant-based meat-substitutes, gender, age and social class


The most popular meat substitutes that participants reported eating were meat-substitute burgers; mince, meatballs \& Bolognese; and sausage substitutes including sausage rolls (Table 13).

Table 13 Consumer's responses to question 'What types of meat substitutes do you eat?

|  | ROI \% | NI \% | IOI \% |
| :--- | :--- | :--- | :--- |
| Base | $\mathrm{N}=166$ | $\mathrm{~N}=112$ | $\mathrm{~N}=278$ |
| Meat substitute burgers | 48 | 31 | 41 |
| Meat substitute steaks | 6 | 7 | 6 |
| Meat substitute mince, meatballs \& Bolognese | 25 | 41 | 31 |
| Meat substitute ham, bacon \& deli slices | 7 | 7 | 7 |


| Chicken substitutes e.g. nuggets and goujons | 20 | 31 | 25 |
| :--- | :--- | :--- | :--- |
| Sausage substitutes including sausage rolls | 30 | 9 | 29 |
| Fish substitutes | 21 | 29 |  |
| Falafels, vegetable bites etc. | 8 | 6 |  |
| Other includes casseroles and stews, cereals, cheese, <br> lactose free, Linda McCartney pies, "not pre-prepared | 32 | 22 | 28 |
| but things to make from scratch", pizza, ham <br> substitutes, lentil-based dishes |  | 16 |  |

For those consumers who report eating plant-based meat substitutes, $48 \%$ of consumer on the island of Ireland report eating them once a week or more i.e. a combination of once a week, twice a week, three times a week and everyday (Table 14). It is important to note however that that base number of respondents is small.

Table 14 Consumer's responses to question "How often do you eat meat substitutes?"

|  | ROI \% | NI \% | IOI \% |
| :--- | :--- | :--- | :--- |
| Base | $\mathrm{N}=166$ | $\mathrm{~N}=112$ | $\mathrm{~N}=278$ |
| Everyday | 6 | 8 | 7 |
| Three times per week | 10 | 75 | 9 |
| Twice a week | 15 | 8 | 12 |
| Once a week | 27 | 9 | 20 |
| Fortnightly | 9 | 20 | 13 |
| Once a month | 14 | 23 | 17 |
| Less often than once a month | 19 | 25 | 21 |

Consumers reported a number of reasons for eating plant-based meat substitutes; one third reported that they select these products because of health/better for you, $21 \%$ because of taste and $15 \%$ because of environment/climate change (Table 15).

Table 15 Consumer's responses to question "Why do you eat meat substitutes?"

|  | ROI \% | NI \% | IOI \% |
| :---: | :---: | :---: | :---: |
| Base | $N=166$ | $N=112$ | $N=278$ |
| I like the taste | 18 | 25 | 21 |
| Environment/climate change | 18 | 12 | 15 |
| Animal welfare | 12 | 5 | 9 |
| Cost/it's cheaper | 0 | 5 | 2 |
| Health/better for you | 35 | 32 | 33 |
| Other reasons reported include availability; to bulkup meals; disagreement with animal slaughtering practices; product development for work; religious reasons; and that these are food as well | 45 | 47 | 46 |

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## Appendix - List of products surveyed

| Brand | Name | Description | Weight <br> (g) | Energy (kcal) per 100g | Fat <br> (g) <br> per <br> 100g | Sat <br> fat <br> (g) <br> per <br> 100 g | Sugars <br> (g) per <br> 100g | Protein (g) per 100g | Salt <br> (g) <br> per <br> 100g |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Category 1 - Meat-style meat substitute burgers ( $\mathrm{n}=28$ ) |  |  |  |  |  |  |  |  |  |
| Linda McCartney | Mozarella Burgers | Seasoned vegetarian $1 / 4$ LB burgers made with rehydrated textured soya protein, onion and mozerella cheese | 227 | 243 | 13.8 | 1.9 | 1.4 | 18.2 | 1.1 |
| Quorn | Burgers | Meat free savoury flavour burgers, made with mycoprotein. | 200 | 174 | 8.1 | 3.4 | 0.7 | 16.0 | 1.2 |
| Quorn | Meat Free Classic Burgers | Meat free savoury flavour burgers, made with mycoprotein. | 180 | 182 | 8.2 | 3.2 | 1.9 | 18.0 | 1.5 |
| Quorn | Ultimate Burgers | Meat free savoury flavour burgers, made with mycoprotein. | 227 | 255 | 14.0 | 3.0 | 3.0 | 21.0 | 1.2 |
| Naked Glory | Quarter Pounders [Fresh] | Seasoned Meat-Free Burgers made with Rehydrated Textured Soya and Wheat Protein | 227 | 186 | 8.5 | 3.5 | 0.7 | 15.0 | 1.2 |
| Birds Eye | Meat Free Burgers | Burgers formed from a blend of pea protein and herbs. | 200 | 238 | 17.0 | 1.3 | 1.1 | 14.0 | 1.5 |
| Naked Glory | Quarter Pounders [Frozen] | Seasoned Frozen Meat-Free Burgers made with Rehydrated Textured Soya and Wheat Protein | 227 | 190 | 8.7 | 3.7 | 0.8 | 18.0 | 1.3 |
| Vivera | Plant Veggie Burgers | Plant-based seasoned burger made from rehydrated soya and wheat protein. This product contains added iron and vitamin B12. | 200 | 161 | 5.1 | 0.6 | 1.8 | 17.0 | 1.3 |


| Denny | Meat Free Burgers | Made with soya protein, coconut oil and our Henry Denny seasoning | 227 | 186 | 8.5 | 3.5 | 0.7 | 15.0 | 1.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vegafit | Burger | Vegafit 2 Burger 150g | 150 | 300 | 20.7 | 2.3 | 3.0 | 17.0 | 1.8 |
| Tesco | Meat Free Meat Style Burgers | Burgers made from a blend of seasoned rehydrated soya protein. | 454 | 168 | 5.0 | 0.8 | 2.8 | 20.6 | 1.1 |
| Asda | Vegan Beef Style Burgers | Seasoned vegan beef style burgers made with rehydrated textured soya protein and onion | 454 | 184 | 8.4 | 0.7 | 0.8 | 18.0 | 1.0 |
| Oumph | Vegan Burger | Soya burgers flavoured with vegetable seasoning. | 226 | 172 | 6.6 | 0.7 | 1.9 | 14.0 | 0.8 |
| The Meatless Farm Co. | Meat Free Burgers | 2 meat free burgers made with pea protein | 227 | 230 | 14.8 | 4.7 | 0.3 | 17.1 | 1.5 |
| Quorn | Vegan Hot and Spicy Burger | Meat free savoury flavour burgers, made with mycoprotein, in a hot \& spicy breadcrumb. | 264 | 245 | 11.1 | 0.8 | 1.4 | 12.3 | 1.2 |
| Quorn | Chicken Style Burgers | Meat free chicken flavour burgers, made with Mycoprotein, coated in breadcrumbs. | 252 | 205 | 8.6 | 1.0 | 1.1 | 12.1 | 1.5 |
| Linda McCartney | Vegetarian SouthernStyle Chicken Fillet Burgers | Seasoned Vegetarian Chicken-Style Burgers made with Rehydrated Textured Soya and Wheat Protein; in a Crispy Southern Fried Coating. | 270 | 230 | 11.7 | 1.1 | 0.2 | 17.5 | 1.3 |
| Linda McCartney | Vegetarian $1 / 4$ Pounder Burger | Amazingly indulgent, High protein, Vegetarian Society approved | 227 | 220 | 11.9 | 0.9 | 1.7 | 17.3 | 1.0 |
| Linda McCartney | Vegetarian Pulled Pork 1/4 LB Burgers | Vegetarian Pulled Pork-Style $1 / 4 \mathrm{lb}$ Burgers Made with Rehydrated Textured Soya and Wheat Protein Coated with a Smoky Flavour Barbecue Sauce. | 227 | 154 | 4.6 | 0.4 | 4.7 | 16.1 | 1.8 |
| Plant Pioneers | Ultimate Plant Burgers | Seasoned vegetarian burgers made with rehydrated textured soya protein | 210 | 213 | 11.6 | 1.9 | 2.2 | 16.2 | 1.2 |
| The Vegetarian Butcher | Chickened Out Burger | Chickened Out Burger source of protein soy-based burger | 160 | 175 | 12.3 | 3.6 | 0.4 | 7.9 | 1.2 |


| Fry's | Meat Free ChickenStyle Burgers | Chicken-Style burgers coated with a crispy golden crumb. | 320 | 197 | 12.3 | 1.5 | 0.5 | 8.9 | 1.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Beyond Meat | Beyond Burger Plant Based Burger | Plant based patties made with pea protein | 226 | 252 | 19.0 | 5.6 | 0.0 | 17.0 | 0.8 |
| Tesco | Plant Chef 2 Meat Free Burgers | Vegetable suet, pea protein, onion and seasoning formed into patties. | 226 | 192 | 6.6 | 3.2 | 2.5 | 11.8 | 1.2 |
| Wicked Kitchen | Jalapeno Griller Patties | Jalapeños, red pepper, pea protein, rice flour and maize flour blended with spices and seasoning and formed into patties. | 226 | 188 | 6.9 | 4.4 | 3.2 | 9.7 | 1.6 |
| Asda | Vegan Quarter Pounders with Cheddar Alternative \& Red Onion | Seasoned vegan quarter pounder beef style burgers made with rehydrated textured soya protein, coconut oil based alternative to Cheddar and red onion | 227 | 174 | 7.9 | 4.9 | 0.8 | 16.0 | 0.9 |
| No bull | Vegan Steak-Style Burgers | Flavoured rehydrated wheat protein mix, frozen. | 226 | 266 | 15.0 | 1.7 | 0.6 | 23.0 | 0.8 |
| Quorn | Southern Style Burgers (re screenshot) | Meat Burgers, made with Mycoprotein ${ }^{\text {™ }}$, coated in a southern style crumb | 252 | 194 | 8.8 | 2.1 | 3.1 | 10.9 | 0.9 |

Category 2 - Bean/vegetable-style meat substitute burgers ( $\mathrm{n}=36$ )

| Vivera | Pumpkin Sweet Potato Burgers | Plant-based burger made from pumpkin, sweet potato and soya protein and seasoned with spices. | 200 | 132 | 6.6 | 0.7 | 3.5 | 5.0 | 1.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GoodLife | Supergreen Pesto Burger with Edamame Beans, Kale \& Spinach | Burger made from peas, edamame soya beans, onions, kale and spinach with pesto. | 226 | 155 | 7.2 | 2.0 | 0.6 | 8.5 | 0.6 |
| Asda | Plant Based Meat-Free Burgers | Gluten free burgers with white mushrooms and oyster mushrooms | 260 | 149 | 9.6 | 2.8 | 1.4 | 5.9 | 0.9 |
| Plant Pioneers | Smoky 'Jack' Quarter Pounders | Mushroom \& jackfruit vegan burgers with natural flavourings. | 227 | 141 | 4.2 | 1.9 | 1.9 | 6.2 | 1.2 |


| Goodlife | Katsu Curry Burger | Burger made from sweet potato, edamame soya beans, rice, carrot puree, coconut cream with katsu curry paste. | 214 | 156 | 7.4 | 3.2 | 0.8 | 7.0 | 0.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sainsbury's | Vegan Mix Burger | Mixed vegetable burger with mushroom, fried onion, sweetcorn, peas and red kidney beans | 225 | 132 | 1.8 | 0.2 | 2.1 | 6.0 | 1.1 |
| The Happy Pear | Quarter Pounder | The Happy Pear Quarter Pounders 227 g | 227 | 144 | 5.4 | 0.1 | 4.0 | 4.4 | 1.0 |
| Heck | Ultimate Vegan Burgers | Burgers made from Beetroot, Mushroom, Sunflower Seeds and Carrot | 228 | 174 | 10.2 | 1.1 | 3.5 | 4.6 | 1.4 |
| Tesco | Sweet Potatoes \& Blackbean Burgers | Black turtle beans, green lentils, cooked long grain rice, mushroom, roasted sweet potato, breadcrumb and roasted red pepper sauce burgers. | 215 | 150 | 1.6 | 0.3 | 5.2 | 5.3 | 0.9 |
| Tesco | Peanut Burgers | 2 peanut, brown rice, edamame soya bean, red pepper, avocado, sweet potato and curry seasoning burgers. | 227 | 289 | 21.1 | 1.7 | 6.0 | 11.9 | 0.4 |
| Strong Roots | Bulgarwheat Bean Beetroot Burger | Kidney beans, beetroot and bulgar wheat. Perfectly seasoned and full of flavour. | 450 | 234 | 13.5 | 1.2 | 1.4 | 4.0 | 1.4 |
| Gosh! | Beetroot Kale Burgers | Beetroot burgers made with kale, chickpea, quinoa, carrot, courgette and a hint of mint. | 250 | 151 | 5.0 | 0.6 | 0.8 | 5.5 | 0.8 |
| Strong Roots | Beetroot \& Bean Burger | Kidney Beans, Beetroot and Bulgur Wheat, Perfectly Seasoned and Full of Flavour. | 450 | 234 | 13.5 | 1.2 | 1.4 | 4.0 | 1.4 |
| Strong Roots | Pumpkin Burger | Pumpkin, mixed vegetables and a puffed quinoa coating combined in a delicious vegetable patty. | 450 | 202 | 9.3 | 0.8 | 2.5 | 3.9 | 0.7 |
| Strong Roots | Kale and Quinoa Burgers | A healthy blend of quinoa, kale and mixed vegetables with a crispy coat and full of taste. | 450 | 201 | 11.3 | 1.4 | 1.9 | 4.2 | 0.8 |
| Birds Eye | Crunchy Vegetable Quarter Pounders | Prefried vegetable quarter pounder coated in a light breadcrumb. | 454 | 186 | 8.1 | 1.0 | 2.6 | 4.3 | 0.9 |


| Tesco | Plant Chef Spicy Bean Burgers | Burgers made with vegetables and spicy beans coated in herby breadcrumbs. | 454 | 201 | 9.1 | 0.9 | 2.2 | 4.8 | 0.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tesco | Plant Chef Veg Burgers | Seasoned vegetables in a crispy breadcrumb coating. | 454 | 216 | 10.0 | 0.9 | 3.9 | 3.7 | 0.6 |
| Eden | Curried Cauliflower Burger | 2 curried cauliflower burgers | 240 | 98 | 2.7 | 0.4 | 2.5 | 3.4 | 1.2 |
| Clover \& Greene | Crunchy Veg Burger | A delicious burger made with a mix of carrots, spinach and onions, coated in a cornflake crumb. | 320 | 242 | 11.8 | 1.9 | 4.2 | 5.8 | 1.1 |
| Clover \& Greene | Avocado \& Quinoa Burger | A delicious burger made from avocado and quinoa | 320 | 236 | 15.0 | 1.6 | 1.8 | 6.2 | 1.0 |
| Glas | Vegetable Burger | Succulently sweet, 1 of your 5 a day, Steamed, Suitable for vegetarians and vegans | 240 | 111 | 3.2 | 0.6 | 2.8 | 3.5 | 1.0 |
| Glas | Beetroot \& Kale Burger | With kidney beans, 1 of your 5 a day, Steamed, Suitable for vegetarians and vegans | 240 | 107 | 3.0 | 0.5 | 3.7 | 3.9 | 1.1 |
| Strong Roots | Pea and Wakame Seaweed Burger | A blend of pea, Edamame bean and Wakame seaweed with a crispy coating speckled with black and white sesame seeds. | 375 | 208 | 9.4 | 0.9 | 8.8 | 5.4 | 1.0 |
| The Happy Pear | Falafel Burger | The Happy Pear Falafel Burgers 227g | 227 | 177 | 8.9 | 1.0 | 4.0 | 5.5 | 1.2 |
| Amy's Kitchen | Manhattan Veggie Burgers | Made with vegetables, walnuts and quinoa (an ancient protein-rich grain), this burger is free from dairy, gluten and soy, but full of flavour. | 270 | 125 | 4.2 | 0.0 | 2.8 | 3.8 | 1.4 |
| Asda | Vegan Spicy Bean Burgers | Blended with haricot and red kidney beans, carrots and green peppers, wrapped in a crisp crumb | 454 | 228 | 11.0 | 1.3 | 3.8 | 4.8 | 0.9 |
| Asda | Plant Based 4 Vegan Vegetable Burgers | Vegan burgers made with carrot, peas, sweetcorn, onion, red pepper, green beans, leek, cauliflower and potatoes, seasoned and coated in breadcrumbs | 454 | 192 | 7.9 | 0.8 | 3.1 | 3.9 | 0.9 |


| Asda | Vegan Sweet Potato Falafel Burgers | Gluten free burgers with chickpeas, roasted sweet potato, red onions \& spinach | 227 | 169 | 6.2 | 0.7 | 5.8 | 4.2 | 0.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Asda | Vegan Butternut Squash, Sweet Potato \& Red Pepper Burgers | Vegetarian burgers made with butternut squash, sweet potato, red peppers, chickpeas, tomatoes, quinoa and red chillies | 230 | 142 | 5.5 | 0.6 | 8.8 | 3.7 | 0.8 |
| Birds Eye | Veggie Burgers | Vegetable burger coated in light breadcrumbs, lightly fried. | 250 | 177 | 7.5 | 1.0 | 2.1 | 4.4 | 0.8 |
| Sainsbury's | Sweet Potato, Quinoa \& Lentil Burger | burger made from Sweet Potato, Quinoa and green lentils with Bulgur Wheat, Onion, Red Pepper, Edamame Beans, Courgette and Seasoned with fragrant spices | 350 | 192 | 9.4 | 1.0 | 1.6 | 4.7 | 0.8 |
| Sainsbury's | Vegetable Quarter Pounders | Vegetarian burgers made with mixed vegetables, seasoned and coated in breadcrumbs | 454 | 221 | 9.9 | 1.1 | 3.0 | 4.8 | 0.8 |
| Sainsbury's | Indian Lentil Quarter Pounder | Vegetarian quarter pounder made with mixed vegetables, lentils and rice seasoned with herbs and spices | 454 | 148 | 4.2 | 0.5 | 5.1 | 4.5 | 1.0 |
| Sainsbury's | Spicy Bean Quarter Pounders | 4 Spicy bean quarter pounders with black turtle beans and haricot beans in a parsley breacrumb coating | 454 | 197 | 9.9 | 1.0 | 1.0 | 4.5 | 0.8 |
| Tesco | Vegetarian Monterey Jack BBQ Bean Burgers | A mix of haricot and black turtle beans, with pockets of Monterey Jack cheese encased in a Kentucky inspired batter and crispy crumb | 280 | 238 | 12.5 | 2.1 | 6.3 | 6.1 | 0.9 |

Category 3 - Meat substitute steaks, mince, meatballs \& Bolognese ( $n=31$ )

| Quorn | Quorn Meat Free Peppered Steaks 2 Pack | Vegetarian grill steak made with mycoprotein with a pepper coating | 196 | 112 | 4.9 | 2.2 | 2.8 | 11.7 | 1.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quorn | Meat Free Mince | Meat free mince, made with mycoprotein | 350 | 105 | 2.0 | 0.5 | 0.6 | 14.5 | 0.3 |
| Dolmio | Plant Based Bolognese | Tomato sauce with plant protein (from soya), basil \& carrots | 150 | 71 | 1.7 | 0.2 | 4.2 | 5.7 | 0.7 |


| Naked Glory | Mince | Seasoned Meat-Free Mince made with Rehydrated Textured Soya and Wheat Protein | 260 | 180 | 6.0 | 4.4 | 0.3 | 20.0 | 1.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Vivera | Veggie Mince | lant-based mince made from rehydrated soya protein. | 220 | 126 | 0.6 | 0.1 | 0.7 | 20.0 | 1.0 |
| Vivera | Veggie Steak | Plant-based steak made from rehydrated soya and wheat protein | 200 | 195 | 10.0 | 4.7 | 1.1 | 18.0 | 1.3 |
| Denny | Meat Free Mince | Made with soya protein, coconut oil and our Henry Denny seasoning | 260 | 180 | 6.0 | 4.4 | 0.3 | 20.0 | 1.5 |
| Dolmio | Plant Based Bolognese Firey Chilli | With delicious meat free mince, Naturally high in plant protein, Suitable for vegans | 150 | 77 | 1.7 | 0.2 | 3.9 | 6.1 | 0.7 |
| Tesco | Meat Free Vegetarian Mince | A blend of lightly seasoned, rehydrated soya protein pieces | 454 | 99 | 0.8 | 0.3 | 3.0 | 15.1 | 0.2 |
| Asda | Plant Based Vegan Meat Free Mince | Seasoned vegan mince made from rehydrated textured soya protein pieces | 454 | 179 | 5.3 | 1.1 | 2.6 | 22.0 | 0.6 |
| Granose | Soya Mince | Dried Soya Mince | 100 | 74 | 0.4 | 0.1 | 1.7 | 12.1 | 0.0 |
| Beanit | Pan-Fry Protein Mince | Cooked pea protein and fava bean mince | 175 | 229 | 9.6 | 0.9 | 0.7 | 30.6 | 1.1 |
| Plant Pioneers | Meat Free Mince | Seasoned vegetarian mince made from rehydrated textured soya protein pieces | 500 | 141 | 2.6 | 1.0 | 1.6 | 20.1 | 0.5 |
| The Meatless Farm Co. | Meat Free Mince | Meat free mince made with soya, pea and rice proteins | 400 | 199 | 10.2 | 3.9 | 0.1 | 19.1 | 0.6 |
| The Meatless Farm Co. | Meat Free Ground Mince | Meat free ground mince made with soya, pea and rice proteins | 400 | 199 | 10.2 | 3.4 | 0.7 | 21.1 | 0.8 |
| Goodlife | Vegetable Prtn Balls With Spinach And Kale | Savoury vegetable balls with pea protein and chickpeas. | 300 | 212 | 11.1 | 1.7 | 3.0 | 15.2 | 0.9 |
| Tesco | Plant Chef Meat Free Balls | Vegetable suet, pea protein, flavouring and seasoning, formed into balls. | 336 | 194 | 7.6 | 3.7 | 1.6 | 13.1 | 1.6 |


| Birds Eye | Meat Free Swedish Style Balls | Balls formed from a blend of pea protein, herbs and spices, lightly fried. | 280 | 236 | 15.0 | 1.3 | 1.4 | 16.0 | 1.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| GoodLife | Vegetable Protein Balls | Savoury vegetable balls with pea protein and chickpeas. | 300 | 212 | 11.1 | 1.7 | 3.0 | 15.2 | 0.9 |
| Linda McCartney | Vegetarian Tomato \& Basil Meatballs | Vegetarian meatballs made with rehydrated textured pea protein, tomato purée and basil. | 292 | 219 | 13.4 | 1.0 | 2.3 | 12.8 | 1.0 |
| Asda | Plant Based Vegan Meat Free Meatballs | Prepared with soya and onion and delicately seasoned with a pinch of black pepper | 400 | 157 | 6.7 | 0.5 | 1.2 | 16.0 | 0.8 |
| Linda McCartney | Vegetarian Meatballs | Seasoned Vegetarian Meatballs Made with Rehydrated Textured Soya Protein, Onion Purée and Basil. | 240 | 185 | 8.6 | 0.7 | 0.6 | 17.5 | 1.7 |
| Plant Pioneers | Shroomballs | Jackfruit and mushroom vegan balls |  | 121 | 3.1 | 1.2 | 1.9 | 7.3 | 1.1 |
| Asda | Meat-Free Mince | Gluten free mince with oyster mushrooms | 275 | 141 | 9.0 | 2.8 | 1.4 | 6.4 | 0.8 |
| Asda | Meat-Free Meatballs | Gluten free meat-free balls with white mushrooms and oyster mushrooms | 276 | 149 | 9.6 | 2.8 | 1.4 | 5.9 | 0.9 |
| Asda | Vegetarian Bolognese | Soya mince in a rich tomato sauce with onion and herbs | 392 | 53 | 1.2 | 0.1 | 4.2 | 3.4 | 0.5 |
| No bull | Vegan Mushrooms Steaks | Mushrooms with tomato, onion and herbs, shaped as a steak. | 160 | 136 | 9.0 | 1.0 | 1.4 | 4.1 | 0.9 |
| Naturli | Minced | Pea Based Mince | 400 | 210 | 11.0 | 7.9 | 1.6 | 18.0 | 1.3 |
| Plant Pioneers | Vegan Steaks | 2 vegan steaks made from mushrooms, wheat gluten, coconut milk and natural flavourings | 227 | 170 | 5.8 | 2.3 | 2.0 | 13.8 | 1.1 |
| Wicked Kitchen | Spiced Amazeballs | vegetable suet, pea protein, spices and seasoning, formed into balls. | 336 | 197 | 8.7 | 3.6 | 2.4 | 13.1 | 1.6 |
| Asda | Plant Based 12 Vegan Tomato \& Halloumi Alternative Balls | Gluten free stuffing with yellow split peas, red onions, brown rice, smoked tomatoes and non-dairy alternative to Halloumi | 240 | 164 | 5.0 | 1.7 | 3.8 | 3.4 | 0.9 |

Category 4 - Chicken substitutes e.g. nuggets, southern fried, goujons, escalope's, chicken-style (excluding burgers) (n=67)

| Quorn | Southern Fried Bites | Meat free bites, made with mycoprotein, coated in southern style crumb. | 300 | 199 | 8.1 | 1.3 | 1.9 | 10.3 | 1.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quorn | Chicken Style Pieces | Meat free savoury pieces made with mycoprotein. | 500 | 99 | 2.6 | 0.8 | 0.6 | 13.8 | 0.8 |
| Quorn | Meat Free Roast Style Sliced Fillets | Vegetarian roast chicken flavour sliced Fillets, made with mycoprotein. | 140 | 140 | 7.1 | 1.2 | 0.4 | 13.7 | 0.7 |
| Linda McCartney | Vegetarian Chicken Bucket | A selection of 8 vegetarian chicken-style pieces made from rehydrated textured soya and wheat protein; with a crispy southern fried coating and 10 smaller vegetarian chicken-style bites made from rehydrated textured soya protein; with a chilli breadcrumb coating. | 390 | 261 | 15.0 | 1.0 | 1.0 | 14.6 | 1.0 |
| Quorn | Sweet Chipotle Goujons | Meat free savoury flavour goujons, made with mycoprotein, in a sweet chipotle chilli coating | 180 | 188 | 4.3 | 0.5 | 0.6 | 12.2 | 0.8 |
| Vivera | Veggie Chicken Pieces | Plant-based pieces made from rehydrated soya protein and seasoned with onion extract. | 175 | 118 | 0.5 | 0.1 | 0.6 | 19.0 | 1.7 |
| Quorn | Family Roast | Meat free savoury flavour roast made with mycoprotein. | 454 | 114 | 2.7 | 1.0 | 0.8 | 16.7 | 1.1 |
| Quorn | Vegan Pieces | Meat free savoury pieces, made with mycoprotein | 280 | 113 | 2.8 | 1.0 | 0.4 | 15.3 | 0.4 |
| Quorn | Thai Bites | Meat free savoury flavour bites, made with mycoprotein, seasoned with ginger, coriander, red chilli and lemon grass. | 180 | 205 | 8.9 | 2.2 | 3.1 | 19.7 | 1.2 |
| Cauldron | Tofu Pieces | Marinated soybean curd | 160 | 232 | 17.0 | 2.5 | 1.0 | 18.0 | 1.5 |
| Fry's | Meat Free Chicken Style Strips | Succulent strips made from proteins which comes from grains and legumes, lightly seasoned with a blend of herbs and spices | 380 | 218 | 11.8 | 1.4 | 0.2 | 18.3 | 1.3 |
| Naked Glory | Tikka Tender Strips | Marinated Frozen Meat-Free Rehydrated Textured Soya Protein Pieces | 280 | 130 | 2.7 | 0.3 | 0.8 | 20.0 | 1.4 |


| Quorn | Smoky Fajita Fillet Strips | These delicious strips are seasoned with Mexican spices | 180 | 108 | 2.8 | 0.3 | 1.4 | 14.0 | 0.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quorn | Spicy Tikka Fillet Strips | Tasty Quorn Strips are seasoned with Indian spices. | 180 | 101 | 2.3 | 0.4 | 0.5 | 15.0 | 0.4 |
| Quorn | Vegan Nuggets | Proudly meat free, Crunchy, dippable delights, High in protein and fibre, Suitable for vegans | 280 | 204 | 3.1 | 0.3 | 2.2 | 12.0 | 1.5 |
| Vegafit | Nuggets | Vegafit Nuggets 200 g | 200 | 305 | 14.1 | 1.5 | 2.3 | 2.7 | 2.2 |
| Linda McCartney | Vegetarian SouthernStyle Chicken Pieces | Vegetarian Chicken - Style Pieces made from Rehydrated textured soya and wheat protein; with a crispy southern fried coating. | 230 | 265 | 15.8 | 1.0 | 0.2 | 16.9 | 1.3 |
| Tesco | Meat Free Chicken Style Nuggets | Chicken style nuggets made from soya and wheat protein coated in a crumb. | 320 | 209 | 7.9 | 0.8 | 2.0 | 12.4 | 1.0 |
| Tesco | Meat Free Chicken Style Pieces | Chicken style pieces made from wheat and soya protein. | 300 | 166 | 6.3 | 0.7 | 1.3 | 18.3 | 0.9 |
| Naked Glory | Smoky BBQ Deli Readybites | Meat-Free Rehydrated Textured Soya Protein Pieces with BBQ Flavoured Marinade | 165 | 115 | 0.4 | 0.1 | 5.2 | 18.0 | 1.5 |
| Naked Glory | Tikka Deli Readybites | Meat-Free Rehydrated Textured Soya Protein Pieces with Tikka Flavoured Marinade | 165 | 130 | 2.7 | 0.3 | 0.8 | 20.0 | 1.4 |
| Quorn | Vegan Fillets | Meat free savoury flavour fillets, made with mycoprotein | 252 | 92 | 0.6 | 0.2 | 0.5 | 14.2 | 0.5 |
| Quorn | Breaded Fillets | Meat free savoury flavour mini fillets, made with Mycoprotein ${ }^{\text {TM }}$, coated in breadcrumbs | 300 | 196 | 9.6 | 2.0 | 1.9 | 10.2 | 1.3 |
| Fry's | Artisan Lightly Seasoned Vegan Chicken-Style Strips | Lightly Seasoned Chicken-Style Strips | 250 | 188 | 5.4 | 1.3 | 0.1 | 18.8 | 1.3 |


| Fry's | Vegan Artisan Southern-Style Tenders | Southern-Style Tenders | 235 | 186 | 11.0 | 5.3 | 0.1 | 11.3 | 1.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Naked Glory | Roast Tenderstrips | Seasoned Meat-Free Rehydrated Textured Soya Protein Pieces | 240 | 143 | 4.6 | 0.4 | 0.5 | 20.0 | 1.5 |
| Plant Pioneers | Meat Free ChickenStyle Pieces | Seasoned vegetarian chicken-style pieces made with rehydrated textured soya protein | 300 | 254 | 16.6 | 1.2 | 0.5 | 17.1 | 0.8 |
| Quorn | Fillets | Meat free savoury fillets, made with Mycoprotein ${ }^{\text {TM }}$ | 312 | 84 | 1.6 | 0.7 | 0.7 | 12.5 | 0.8 |
| Quorn | Southern Fried Poppers | Meat free savoury flavour bites, made with mycoprotein, coated in pepper breadcrumb | 60 | 298 | 16.0 | 1.2 | 0.2 | 16.0 | 1.3 |
| Squeaky Bean | Marinated Chicken Style Pieces Kick of Tikka | Ready to Eat Tikka Marinated Pieces Made from Wheat \& Pea Protein. | 160 | 192 | 7.0 | 0.9 | 4.0 | 22.0 | 1.5 |
| Squeaky Bean | Marinated Chicken Style Pieces BBQ | Ready to Eat Barbecue Marinated Pieces Made from Wheat \& Pea Protein. | 160 | 194 | 7.3 | 0.9 | 5.0 | 21.0 | 1.4 |
| Squeaky Bean | Satay Kiev | Vegan satay kiev made from rehydrated soya and wheat protein with a peanut-free satay sauce, with added iron and vitamin B12. | 200 | 207 | 7.8 | 0.9 | 6.1 | 14.0 | 1.6 |
| Squeaky Bean | Crispy Nuggets | Vegan nuggets made from rehydrated soya and wheat protein with added iron and vitamin B12. | 200 | 232 | 9.3 | 1.0 | 2.6 | 13.0 | 1.5 |
| Vivera | Plant Chicken Tenders | Plant-based tenders made from rehydrated soya and wheat protein. This product contains added iron and vitamin B12. | 210 | 161 | 8.0 | 0.9 | 0.5 | 17.0 | 1.3 |
| Vivera | Plant Chicken Goujons BBQ | Plant-based goujons made from rehydrated soya and wheat protein seasoned with BBQ herbs. This product contains added iron and vitamin B12. | 200 | 192 | 7.5 | 0.9 | 3.1 | 14.0 | 1.4 |


| Quorn | Meat Free Cheese Escalopes | Meat free savoury flavour escalopes, made with Mycoprotein ${ }^{\top M}$, topped with Emmental cheese and coated in breadcrumbs | 220 | 227 | 11.4 | 6.1 | 1.6 | 11.9 | 1.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quorn | Mozzarella \& Pesto Escalope | Meat free savoury flavour escalopes, made with Mycoprotein ${ }^{\text {TM }}$, topped with mozzarella, soft cheese \& pesto sauce and coated in breadcrumbs. | 240 | 226 | 12.9 | 3.3 | 2.0 | 10.0 | 1.5 |
| Quorn | Cheese And Broccoli Escalopes | Meat free savoury flavour escalope, made with mycoprotein, topped with a cheese and broccilo sauce and coated in breadcrumb. | 240 | 203 | 8.7 | 1.6 | 1.1 | 9.6 | 1.4 |
| Vegafit | Schnitzel | Vegafit 2 Schnitzel 200 g | 200 | 294 | 14.4 | 1.5 | 2.3 | 15.7 | 2.1 |
| Fry's | Golden Crumbed Schnitzels | Meat Free 4 Golden Crumbed Schnitzels | 320 | 247 | 13.7 | 1.9 | 0.6 | 11.7 | 1.4 |
| Quorn | Garlic \& Mushroom Escalopes | Meat free savoury flavour escalope, made with Mycoprotein ${ }^{\text {TM }}$, topped with a cheese, mushroom and garlic sauce and coated in breadcrumbs | 240 | 216 | 10.3 | 3.3 | 1.7 | 10.4 | 1.1 |
| Quorn | Fillets Crispy | Quorn Crispy Fillets are succulent vegetarian chicken coated in a light, crispy golden batter. | 200 | 192 | 8.5 | 1.5 | 2.0 | 12.5 | 0.5 |
| Quorn | Crispy Nuggets | Meat free savoury flavour nuggets made with mycoprotein coated in a crispy batter. | 476 | 190 | 8.3 | 0.8 | 1.9 | 9.4 | 1.2 |
| Quorn | Vegan Crunchy Tex Mex Nuggets | Meat free savoury flavour nuggets made with mycoprotein in a spiced breadcrumb with quinoa, oats, barley \& linseed. | 200 | 239 | 11.0 | 0.9 | 1.1 | 11.0 | 0.8 |
| The Vegetarian Butcher | Little Peckers | Little Peckers soy-based chicken-style nuggets | 180 | 237 | 12.7 | 0.9 | 0.7 | 9.6 | 1.5 |


| Fry's | Meat Free ChickenStyle Nuggets | A Blend of Vegetable Protein and Sunflower Oil, with a Golden Crumb. | 380 | 321 | 22.0 | 3.0 | 3.0 | 13.9 | 1.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Plant Pioneers | Meat Free ChickenStyle Nuggets | Seasoned vegetarian chicken-style nuggets made from rehydrated textured soya protein, coated in crispy breadcrumbs | 320 | 253 | 12.5 | 0.9 | 1.2 | 12.2 | 0.4 |
| Plant Pioneers | Hotnspicy Goujons | 6 Vegan strips coated and fried with mushrooms, jackfruit, wheat gluten, coconut milk and natural flavourings | 210 | 220 | 10.2 | 0.9 | 2.3 | 9.6 | 1.0 |
| Plant Pioneers | Southern Fried Bites | Vegan coated and flash fried pieces made with mushroom, wheat gluten, coconut milk and natural flavourings | 200 | 224 | 10.1 | 0.9 | 1.4 | 10.0 | 1.0 |
| Quorn | Vegan Spicy Tortilla Escalopes | Meat free savoury flavour escalope, made coated in a spicy tortilla breadcrumb. | 220 | 242 | 13.0 | 1.5 | 3.0 | 11.0 | 0.9 |
| The Tofoo Co. | Crispy Wholemeal Chunkies | Organic handmade tofu Chunkies in a crispy crumb | 225 | 238 | 12.6 | 0.9 | 3.4 | 12.7 | 0.5 |
| Like Meat | Pea Based Curry Chicken | Pea based chunks with curry marinade | 160 | 157 | 5.1 | 0.8 | 0.4 | 18.0 | 2.3 |
| Like Meat | Soya Based Organic Chicken Bites | Soya based chunks with chicken taste | 180 | 114 | 2.2 | 0.3 | 0.3 | 18.0 | 1.3 |
| Like Meat | Soya Based Nuggets | Soya based nuggets, breaded and pre-fried | 180 | 215 | 9.7 | 1.2 | 0.5 | 12.0 | 1.2 |
| Tesco | Plant Chef Breaded Goujons | Soy protein coated in breadcrumbs. | 190 | 239 | 8.6 | 1.0 | 0.9 | 13.7 | 1.0 |
| Tesco | Plant Chef Southern Fried Fillets | Soy protein coated in spiced breadcrumbs. | 250 | 218 | 10.4 | 1.1 | 0.5 | 17.4 | 1.2 |
| The Vegetarian Butcher | What The Cluck | high protein soy-based chicken-style chunks | 160 | 154 | 4.4 | 0.5 | 0.5 | 19.9 | 1.9 |


| The Tofoo Co. | Organic Sweet Chilli Bites | Organic handmade tofu bites in a surprisingly cheeky chilli crispy crumb. | 225 | 316 | 14.7 | 1.5 | 6.7 | 12.9 | 1.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| The Tofoo Co. | Crispy Southern Fried Bites | Crispy southern fried bites | 225 | 241 | 14.2 | 0.9 | 3.0 | 12.4 | 0.7 |
| Little Roots | Sweet Potato and Pumpkin Nugget | Little bites for family, $100 \%$ natural ingredients, No added sugar, GMO free, Suitable for vegans | 200 | 185 | 9.4 | 1.0 | 5.1 | 3.0 | 0.6 |
| Asda | Vegan Cauliflower Popcorn | Cauliflower florets coated in crisp batter, subtly spiced with chilli, cumin and fragrant coriander | 300 | 150 | 6.1 | 0.7 | 1.3 | 2.2 | 0.2 |
| Asda | Plant Based Vegan Meat Free Chicken Bites | Vegan chicken-style pieces made with rehydrated textured soya protein, with a crispy southern fried style coating | 250 | 253 | 15.0 | 1.0 | 0.6 | 13.0 | 0.6 |
| Asda | Plant Based Vegan Meat-Free Chicken Nuggets | Chicken-style nuggets made from rehydrated textured soya protein, coated in a crispy breadcrumb | 320 | 256 | 14.0 | 0.9 | 0.8 | 13.0 | 0.5 |
| No Chick | Meat Free Strips | Seasoned and flavoured soya protein. | 320 | 124 | 2.8 | 0.4 | 0.0 | 19.7 | 1.3 |
| Gardein | Seven Grain Crispy Tenders | Juicy chick'n breaded with wholesome grains including oats, quinoa, and millet. | 255 | 201 | 8.8 | 0.0 | 0.0 | 16.0 | 1.1 |
| Gardein | Mandarin Orange Crispy Chick'n | Vegan bites based on soy and wheat protein with sauce. | 225 | 257 | 5.0 | 0.4 | 12.0 | 9.1 | 1.2 |
| Like Meat | Soya Based Schnitzel | Soya based Schnitzel, breaded and pre-fried | 180 | 242 | 12.0 | 1.5 | 0.3 | 11.0 | 1.3 |
| Category 5 - Sausage substitutes ( $\mathrm{n}=44$ ) |  |  |  |  |  |  |  |  |  |
| Quorn | Sausages | Meat free savoury flavour sausage, made with mycoprotein, with a herb seasoning. | 336 | 155 | 5.2 | 0.8 | 1.0 | 8.9 | 1.1 |
| Birds Eye | Meat Free Sausages | Sausages formed from a blend of pea protein, herbs and spices, lightly fried. | 300 | 210 | 12.0 | 1.1 | 2.2 | 16.0 | 1.5 |


| Linda Mccartney | Vegetarian Sausages (Frozen) | seasoned vegetarian sausages made with rehydrated textured soya protein | 270 | 153 | 6.2 | 0.9 | 0.7 | 18.6 | 1.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quorn | Meat Free Cocktail Sausages | Meat free savoury flavour mini sausages, made with mycoprotein. | 180 | 209 | 12.0 | 0.9 | 0.9 | 13.0 | 1.3 |
| Denny | Meat Free Sausages | Seasoned Meat-Free Sausages Made with Rehydrated Textured Soya and Wheat Protein | 336 | 145 | 5.4 | 4.0 | 0.7 | 8.8 | 1.8 |
| Naked Glory | Sausages | Seasoned Meat-Free Sausages made with Rehydrated Textured Soya and Wheat Protein | 240 | 152 | 5.6 | 4.1 | 0.7 | 9.9 | 1.3 |
| Richmond | Meat Free Sausages | Seasoned Meat-Free Sausages made with Rehydrated Textured Soya and Wheat Protein | 336 | 145 | 5.4 | 4.0 | 0.7 | 8.8 | 1.8 |
| Fry's | Meat Free Original Hot Dogs | Original Hot Dogs Infused with an Authentic Hickory Smoke Flavour. | 360 | 241 | 17.2 | 15.8 | 0.5 | 16.9 | 2.0 |
| GoodLife | Mighty Non Meaty Sausages | Vegan sausage made from mushroom, red onion, lentils seasoned with herbs and spices. | 252 | 147 | 4.0 | 1.1 | 1.9 | 11.7 | 0.9 |
| Linda McCartney | Red Onion \& Rosemary Sausages | Amazingly Indulgent Vegetarian Red Onion \& Rosemary Sausages | 270 | 123 | 3.2 | 1.1 | 1.8 | 16.5 | 1.3 |
| Linda McCartney | Vegetarian Chorizo \& Red Pepper Sausages | Vegetarian Chorizo Sausages Made with Rehydrated Textured Soya Protein, Red Pepper, Tomato Purée and Smoked Paprika. | 270 | 158 | 6.4 | 0.9 | 2.9 | 14.1 | 1.1 |
| Naked Glory | Vegan Sausages | Seasoned Frozen Meat-Free Sausages made with Rehydrated Textured Soya and Wheat Protein | 320 | 150 | 4.0 | 3.5 | 0.7 | 10.0 | 1.3 |
| Tesco | Plant Chef Herby Bangers | Seasoned meat free sausages made with rehydrated textured soya protein. | 300 | 171 | 8.5 | 0.9 | 2.0 | 16.9 | 1.3 |
| Fry's | Artisan Smoked Hot Dogs | Smoked Hot Dogs | 230 | 190 | 12.2 | 4.0 | 0.1 | 17.2 | 1.6 |
| Linda McCartney | Vegetarian Sausages (fresh) | Seasoned Vegetarian Sausages made with Rehydrated Textured Soya Protein. | 300 | 155 | 5.9 | 1.0 | 0.6 | 20.0 | 1.4 |


| Moving Mountains | Plant-Based Hot Dogs | Plant-Based Hot Dogs | 240 | 128 | 9.0 | 7.7 | 2.5 | 7.0 | 1.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Moving Mountains | Plant-Based Sausages | Plant-Based Sausages | 228 | 250 | 13.6 | 9.6 | 0.7 | 14.0 | 1.5 |
| Quorn | Cumberland Sausages | Meat free vegan sausage with a Cumberland seasoning made with mycoprotein | 300 | 222 | 9.9 | 3.7 | 2.0 | 17.9 | 1.5 |
| The Meatless Farm Co. | Meat Free Sausages | 6 meat free sausages made with pea protein | 300 | 234 | 15.9 | 5.0 | 0.3 | 14.4 | 1.3 |
| Eden | Vegan Sausages | Lightly seasoned vegan sausages | 270 | 172 | 6.7 | 0.7 | 2.7 | 7.8 | 1.7 |
| Heck | Vegan Breakfast Sausages | Sausages made from Mushroom, Carrot and Tomato with Parsley and Sage | 255 | 146 | 7.8 | 1.0 | 5.1 | 5.5 | 1.8 |
| Moving Mountains | Plant-Based Sausage Burgers | Plant-Based Sausage Burgers | 227 | 250 | 14.0 | 10.0 | 0.7 | 11.0 | 1.6 |
| Plant Pioneers | Chorizo Shroomdogs | vegan chorizo style mushroom sausages | 280 | 158 | 6.6 | 3.1 | 1.2 | 6.0 | 1.0 |
| Plant Pioneers | Cumberland Shroomdogs | Vegan sausages made from mushroom, fried onions, seasoned with herbs. | 500 | 137 | 4.0 | 2.3 | 1.7 | 6.6 | 1.0 |
| Plant Pioneers | Caramelised Onion Shroomdogs | Mushroom and red onion chutney sausage | 300 | 142 | 3.7 | 1.9 | 3.7 | 7.0 | 1.1 |
| Sainsbury's | Roasted Red Pepper Shroomdogs Sausages | Vegan Sausages made from mushrooms, roasted red pepper, chickpeas, onions, seasoned with herbs, roast garlic \& fennel | 500 | 109 | 2.5 | 1.3 | 2.7 | 4.7 | 1.0 |
| Tofurky | Italian Sausage with Sun-Dried Tomatoes and Basil | Tofu \& Wheat Gluten Sausages with Sun-Dried Tomato and Basil | 250 | 267 | 15.0 | 1.4 | 2.4 | 25.0 | 1.2 |


| Cauldron | Lincolnshire Sausages | Lincolnshire sausages made from rehydrated vegetable protein with a sage \& pepper seasoning. | 276 | 182 | 9.8 | 0.8 | 1.3 | 16.1 | 1.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cauldron | Cumberland Sausages | Cumberland sausages made from rehydrated vegetable protein with a herb \& pepper seasoning. | 276 | 163 | 8.6 | 0.8 | 1.0 | 14.0 | 1.3 |
| Heck | Super Green Sausages | Sausages made from Quinoa and Spinach with Ginger, Chilli and Mint | 255 | 157 | 6.8 | 0.6 | 3.0 | 4.7 | 1.3 |
| Heck | The Beet Goes On Sausages | Sausages made with Beetroot, Carrot and Horseradish | 255 | 166 | 8.3 | 0.7 | 5.0 | 4.1 | 1.5 |
| Like Meat | Pea Based Smoked Sausage | Pea based sausage with smoky taste | 180 | 218 | 12.0 | 6.7 | 0.7 | 13.0 | 1.6 |
| Tesco | Plant Chef 6 Cumberland Style Bangers | Pea protein, vegetable suet, mushroom, roasted onion and seasoning filled into plant based casing. | 350 | 174 | 5.3 | 2.7 | 1.4 | 9.4 | 1.3 |
| Beyond Meat | Beyond Sausage | Plant-Based Sausage Made with Pea Protein. | 200 | 250 | 15.8 | 6.6 | 0.0 | 21.0 | 1.6 |
| Wicked Kitchen | Chorizo Style Bangers | Pea protein, mushroom, rice flour and red pepper blended with seasoning and filled into a starch casing | 350 | 154 | 4.0 | 1.7 | 3.3 | 11.5 | 2.7 |
| Gosh! | Smokey Sweet Potato Red Pepper Sausages | A smokey sweet potato and red pepper sausage with chickpea and lentil. Blended and baked with a distinct smokey paprika and cayenne flavour. | 270 | 232 | 10.0 | 0.8 | 5.4 | 7.1 | 1.3 |
| Gosh! | Veggie Sausages | A veggie cumberland style sausage with chickpea, butter bean and green lentil. Expertly blended and baked with sage and black pepper. | 270 | 249 | 12.0 | 0.8 | 1.8 | 7.4 | 1.2 |
| Linda McCartney | Vegetarian Lincolnshire Sausages | Vegetarian sausages made with rehydrated textured pea protein, onion and sage. | 300 | 209 | 11.5 | 1.0 | 1.1 | 13.5 | 1.3 |
| Heck | Beet Goes On 20 Cocktail | Cocktail Sausages made from Beetroot, Carrot, Sunflower Seeds and Horseradish | 340 | 166 | 8.3 | 0.7 | 5.0 | 4.1 | 1.5 |


| Asda | Meat Free Sausages | Gluten free sausages with white mushrooms and oyster mushrooms | 270 | 145 | 9.9 | 2.8 | 1.0 | 5.6 | 0.8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gosh! | Veggie Cocktail Sausages with Sage \& Black Pepper | Mini veggie sausages made from chickpea, cauliflower \& butterbean, simply blended with a Cumberland style seasoning of sage and pepper. | 240 | 241 | 12.9 | 1.0 | 1.3 | 6.4 | 1.3 |
| Heck | Thai Style Sausages | Sausages made from Thai Pesto, Sweet Potato and Rice | 255 | 144 | 4.6 | 0.5 | 3.8 | 3.1 | 1.1 |
| Heck | Vegfurter | Sausages made from Mushroom, Carrot and Beetroot with Natural Beech Smoked Water | 320 | 160 | 9.2 | 0.8 | 2.6 | 4.2 | 1.8 |
| Sainsbury's | Green Supreme Shroomdogs Sausages | Vegan sausages made from spinach, peas \& avocado with brown rice, kidney beans, vegan Cheddar style cheese simply seasoned with herbs. | 500 | 116 | 2.5 | 1.7 | 1.2 | 5.4 | 1.1 |
| Category 6-Fish substitutes ( $\mathrm{n}=9$ ) |  |  |  |  |  |  |  |  |  |
| Linda McCartney | Vegetarian Fishcake | Vegetarian Fish - Style Cakes made with Rehydrated Textured Soya and Wheat Protein, Lemongrass and Chilli; in a Crispy Lemon and Parsley Breadcrumb Coating. | 208 | 195 | 9.0 | 0.7 | 0.4 | 12.6 | 0.8 |
| Squeaky Bean | Fishless Fingers | Flavoured vegan sticks made from wheat protein with added iron and vitamin B12. | 216 | 245 | 9.3 | 1.1 | 1.4 | 13.0 | 1.6 |
| Plant Pioneers | Fishless Fingers | 6 vegan fingers coated and fried made with mushrooms, wheat gluten, coconut milk and natural flavourings | 210 | 203 | 9.4 | 0.8 | 2.1 | 8.9 | 0.9 |
| Tesco | Plant Chef Battered Fish Free Fillets | Soy protein formed fillets coated in tempura batter | 250 | 223 | 7.1 | 0.8 | 0.9 | 13.3 | 1.3 |
| Fry's | Fish-Style Fillets | Vegan tempura battered vegetable protein pieces with fish-style flavour. | 240 | 256 | 20.0 | 3.0 | 0.3 | 8.2 | 1.7 |
| Quorn | Vegan Fishless Fingers | A real family favourite. Quorn vegan fishless fingers are coated in a crispy crumb. | 200 | 214 | 7.8 | 0.6 | 1.6 | 4.5 | 1.3 |


| Quorn | Fishless Fillets Salt And Vinegar | Quorn fishless fillets are coated in a delicious crisp batter. | 200 | 209 | 8.6 | 1.2 | 1.5 | 4.5 | 1.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quorn | Breaded Fishless Fillets | Fish free savoury flavour fillets, made with mycoprotein, coated in a lemon batter and pepper breadcrumb | 200 | 181 | 2.8 | 0.4 | 0.0 | 4.5 | 1.1 |
| Gardein | Golden Fishless Fillets | Golden Fishless Fillets | 288 | 188 | 11.0 | 0.5 | 0.0 | 9.4 | 0.9 |
| Category 7 - Meat substitute ham, bacon and deli slices ( $\mathrm{n}=14$ ) |  |  |  |  |  |  |  |  |  |
| Quorn | Vegan Chicken Free Slices | Meat free chicken flavour deli slices, made with mycoprotein. | 100 | 94 | 2.3 | 0.6 | 0.5 | 11.0 | 1.3 |
| Quorn | Meat Free Bacon Style Rashers | Meat free bacon flavour deli slices, made with mycoprotein | 120 | 128 | 5.2 | 0.5 | 0.3 | 13.9 | 1.2 |
| Quorn | Vegetarian Chicken Slices | Meat free savoury deli slices made with mycoprotein. | 170 | 115 | 2.6 | 1.3 | 0.5 | 16.0 | 0.9 |
| Quorn | Meat Free Bacon Slices | Meat free bacon flavour slices, made with mycoprotein. | 150 | 214 | 15.7 | 1.1 | 2.6 | 10.1 | 1.6 |
| Quorn | Vegetarian Ham Slices | Meat free ham flavour deli slices made with mycoprotein | 170 | 123 | 2.7 | 1.2 | 0.8 | 17.0 | 0.9 |
| Quorn | Meat Free Deli Turkey | Meat free turkey and sage flavour deli slices, made with mycoprotein | 170 | 128 | 2.3 | 0.6 | 0.6 | 16.0 | 1.3 |
| Vivera | Veggie Bacon Pieces | Plant-based pieces made from rehydrated soya protein. | 175 | 95 | 0.5 | 0.1 | 0.4 | 15.0 | 2.9 |
| Quorn | Spinach And Red Pepper Slices | Meat free savoury flavour slices, made with mycoprotein, with spinach and red peppers pieces | 100 | 141 | 5.9 | 1.4 | 2.3 | 15.0 | 1.1 |
| Tofurky | Hickory Smoke Flavour Deli Slices | Hickory Smoked Flavour Turkey Style Tofu \& Wheat Gluten Slice | 156 | 206 | 6.7 | 0.7 | 1.4 | 27.0 | 1.7 |
| Tofurky | Plant-Based Deli Slices Smoked Ham Style | Smoked Ham Style Tofu \& Wheat Gluten Slices | 156 | 193 | 6.9 | 0.7 | 1.8 | 25.0 | 1.5 |


| Tofurky | Oven Roasted Deli Slices | Oven Roasted Turkey Style Tofu \& Wheat Gluten Slices | 156 | 193 | 6.3 | 0.6 | 1.3 | 25.0 | 1.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Quorn | Vegan Smoky Ham Free Slice | Meat free smoked ham flavour deli slices made with mycoprotein. | 100 | 101 | 2.5 | 0.6 | 0.5 | 14.0 | 1.7 |
| Plant Pioneers | Smoky Vacon Rashers | vegan rashers made with wheat gluten, coconut milk and natural flavourings in a smoked paprika coating | 88 | 347 | 21.1 | 6.1 | 3.8 | 24.5 | 1.1 |
| Quorn | Vegetarian Pepperoni | Meat free pepperoni flavour deli slices, made with mycoprotein | 100 | 211 | 14.0 | 4.8 | 3.1 | 11.0 | 1.0 |
| Category 8 - Pastry-based meat-substitutes including sausage rolls and pies ( $\mathrm{n}=42$ ) |  |  |  |  |  |  |  |  |  |
| Quorn | Meat Free Sausage Roll | Meat free sausage roll made with mycoprotein wrapped in flakey pastry | 130 | 225 | 9.3 | 3.7 | 2.4 | 12.3 | 1.0 |
| Quorn | Sausage Rolls | Meat free savoury filling, made with mycoprotein and onion, wrapped in puff pastry | 210 | 259 | 12.5 | 5.3 | 2.7 | 10.1 | 0.9 |
| Quorn | Vegetarian Steak Slice | Vegetarian Steak Slices made with Mycoprotein ${ }^{\text {TM }}$, in puff pastry | 167 | 268 | 14.0 | 6.7 | 2.0 | 6.1 | 0.8 |
| Quorn | Pasties | Meat free Pasties made with Mycoprotein ${ }^{\text {TM }}$, potato, onion \& swede in puff pastry | 300 | 213 | 10.0 | 5.0 | 5.5 | 6.9 | 0.6 |
| Quorn | Vegetarian Steak \& gravy Pies | Meat free Steak \& Gravy Pies made with Mycoprotein ${ }^{\text {TM }}$ | 400 | 216 | 9.1 | 4.8 | 7.0 | 6.1 | 0.7 |
| Quorn | Chicken \& Bacon Lattice | Meat free chicken flavour pieces and meat free bacon flavour lardons, made with Mycoprotein ${ }^{\text {TM }}$, in a creamy cheese and white wine sauce, wrapped in puff pastry topped with a parsley cheese crumb. | 300 | 257 | 12.8 | 7.1 | 2.1 | 8.0 | 0.7 |
| Green Isle | Vegan Sausage Rolls | Seasoned rehydrated soya protein and rehydrated wheat protein wrapped in puff pastry. | 600 | 341 | 20.0 | 9.4 | 2.4 | 11.0 | 0.9 |
| Fry's | Sausage Roll | Sausage roll | 80 | 346 | 18.5 | 7.5 | 1.3 | 13.4 | 2.3 |


| Fry's | Mini Sausage Rolls | A sausage filling made from vegetable proteins encased in a puff pastry. | 180 | 325 | 16.3 | 7.6 | 3.0 | 12.0 | 1.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fry's | Steak Style \& Ale Pie | A warm, hearty pie filled with steak-style meat free pieces, mouthwatering gravy, vegan tribute ale and fragrant herbs and spice. | 245 | 233 | 12.4 | 5.2 | 2.4 | 4.8 | 0.6 |
| Fry's | Sausage Rolls | Sausage Rolls | 160 | 275 | 12.9 | 5.9 | 2.8 | 11.5 | 1.8 |
| Fry's | Meat Free Pepper Steak Style Pie | Pepper Steak-Style Pie, Meat free, Nature's plant proteins | 160 | 217 | 9.2 | 4.5 | 3.2 | 7.1 | 1.5 |
| Birds Eye | Meat Free Sausage Rolls | All natural plant power. We pick selected pears from fields. Take all the protein from the peas. | 360 | 237 | 13.0 | 6.4 | 0.9 | 8.0 | 1.1 |
| Linda McCartney | Vegetable Sausage Rolls | Deliciously comforting, Vegetarian Society approved | 342 | 287 | 16.2 | 7.3 | 2.1 | 10.9 | 0.9 |
| Linda McCartney | Cheese Leek \& Red Onion Plaits | Deliciously comforting, Vegetarian Society approved | 340 | 290 | 17.7 | 9.5 | 2.2 | 6.5 | 1.1 |
| Asda | Meat Free Sausage Rolls | Seasoned to perfection and wrapped in our flaky puff pastry. | 440 | 293 | 15.0 | 6.7 | 2.3 | 12.0 | 0.8 |
| Asda | Meat Free Jumbo Sausage Roll | Seasoned pea protein and vegetable oil in puff pastry | 120 | 297 | 16.0 | 5.9 | 1.5 | 8.8 | 0.9 |
| Asda | Meat Free 50 Mini Sausage Rolls | Seasoned rehydrated textured soya protein and rehydrated textured wheat protein pieces wrapped in puff pastry | 800 | 317 | 14.0 | 7.9 | 2.1 | 12.0 | 0.8 |
| Asda | Mushroom \& Chicken Style Pies | Mushroom and rehydrated wheat protein in a cauliflower, coconut cream and white wine sauce, with a puff pastry lid and a shortcrust pastry base | 360 | 219 | 10.0 | 5.1 | 2.2 | 7.3 | 0.6 |
| Asda | Vegan Pasty | Potato, swede and onion in puff pastry | 135 | 260 | 14.0 | 7.0 | 2.6 | 6.9 | 0.8 |
| Ginsters | Vegan Quorn Roll | Vegan Quorn® blended with herbs and spices, wrapped in a light puff pastry. | 100 | 299 | 18.8 | 9.9 | 1.2 | 8.2 | 1.1 |


| Wall's | Tasty Vegan Jumbo Roll | Puff pastry filled with seasoned Hooba ${ }^{\text {TM }}$ meat free mince. | 120 | 242 | 11.0 | 5.0 | 1.8 | 6.1 | 1.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fry's | Spicy 3 Bean Pasty | Spicy 3 Bean Pasty | 200 | 267 | 13.0 | 6.2 | 1.9 | 6.0 | 0.3 |
| Fry's | Mixed Mushroom Country-Style Pie | A hearty pie packed full of Chestnut, Granulatus, Oyster, Shitake and Porcini mushrooms, in a rich and creamy mushroom sauce | 266 | 190 | 8.7 | 3.6 | 2.3 | 4.6 | 1.0 |
| Pieminister Kevin | Chesnut Mushroom, Tomato \& Quinoa Pie with Baby Onions | Chesnut Mushroom, Tomato \& Quinoa Pie with Baby Onions | 270 | 201 | 9.5 | 3.2 | 2.8 | 4.8 | 0.7 |
| Plant Pioneers | Meat Free Mini Sausage Rolls | Vegan Cumberland sausage-style filling made with rehydrated textured soya protein; wrapped in puff pastry | 494 | 307 | 16.2 | 6.5 | 1.7 | 12.1 | 1.0 |
| Plant Pioneers | Vegan Snack Rolls | 4 puff pastry rolls filled with seasoned mushroom mince | 120 | 279 | 13.4 | 6.2 | 2.1 | 6.3 | 1.2 |
| Sainsburys | Vegetarian Goat Cheese and Caramelised Onion Pies | Creamy goats' cheese with sweet caramelised onion and chunks of butternut squash in flaky puff pastry | 370 | 251 | 13.0 | 7.0 | 3.9 | 6.4 | 0.7 |
| Birds Eye | Meat Free Chicken Pies | Shortcrust pastry filled with pea protein and vegetables in gravy. | 620 | 258 | 13.0 | 4.7 | 1.3 | 7.3 | 0.7 |
| Fray Bentos | Vegan Steak \& Kidney Bean | Vegan steak pieces (8\%) and kidney beans (3.5\%) in gravy, topped with pastry | 425 | 148 | 7.2 | 3.9 | 0.6 | 4.6 | 0.8 |
| Fry's | Vegan Vegetable Curry Pie | Vegetable Curry Pie | 160 | 225 | 10.5 | 4.9 | 3.0 | 5.6 | 1.5 |


| Fry's | Meat Free 2 Country Mushroom Pies | These delicious pies are filled with fresh mushrooms and chicken-style pieces encased in a crisp golden pastry. | 350 | 213 | 9.9 | 5.7 | 3.4 | 5.4 | 0.8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Fry's | Meat Free Chicken Style Mushroom Pie | Chicken-Style Country Mushroom Pie | 160 | 208 | 9.7 | 3.9 | 2.8 | 4.7 | 1.1 |
| Ginsters | Vegan Quorn Pasty | Marinated Quorn® pieces with potato, onion and swede, distinctly seasoned with pepper, wrapped in light puff pastry. | 180 | 242 | 13.2 | 6.4 | 2.0 | 6.4 | 0.7 |
| Ginsters | Vegan Moroccan Vegetable Pasty | Butternut squash, chickpeas, apricot, dates, red piquanté pepper in a red Harissa and Moroccan Chermoula sauce with potato, onion, tomato and spring onion, wrapped in light puff pastry. | 180 | 227 | 12.5 | 6.1 | 4.7 | 3.8 | 0.9 |
| Linda McCartney | Vegetarian Deep Dish Country Pies | Vegetarian Pie Made from a Shortcrust Pastry Base, Filled with Rehydrated Textured Soya Protein in a Rich Onion and Beef - Style Gravy; Topped with a Puff Pastry Lid. | 380 | 245 | 13.5 | 5.9 | 2.3 | 5.6 | 1.0 |
| Tesco | Vegetarian Mushroom \& Camembert Pies | Shortcrust pastry filled with mushrooms and Camembert full fat soft cheese in a cream sauce, topped with a puff pastry lid. | 360 | 268 | 16.2 | 7.9 | 1.4 | 5.6 | 0.4 |
| Tesco | Vegetable \& Haricot Bean Cobbler | Carrot, parsnip, haricot beans, pea and spinach stew topped with a herby suet dumpling. | 200 | 128 | 4.9 | 2.3 | 4.5 | 3.0 | 0.7 |
| Wicked Kitchen | Curried Cauliflower Pasty | Cauliflower florets roasted with turmeric with spicy root vegetables in a flaky puff pastry pasty topped with a crunchy onion seed and parsley crumb. | 150 | 241 | 13.0 | 6.5 | 3.4 | 4.1 | 0.7 |


| Wicked Kitchen | All The Rage Rolls | Seasoned Soya protein with Kale and white mushrooms in puff pastry, topped with black onion seeds | 120 | 311 | 17.6 | 6.0 | 1.8 | 13.3 | 0.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Asda | Duckless Spring Rolls | Crisp pastry rolls filled with vegan duck style pieces with carrot and water chestnut in a hoisin style sauce. | 200 | 267 | 14.0 | 2.1 | 5.1 | 7.2 | 0.7 |
| Aunt Bessie's | Meat Free Toad in the Hole | Meat Free Lincolnshire Style Sausages in a Yorkshire Pudding Batter. | 190 | 178 | 7.6 | 0.7 | 1.5 | 9.4 | 0.7 |
| Category 9-Miscellaneous meat-style substitutes e.g. kebab, melts, duck ( $\mathrm{n}=20$ ) |  |  |  |  |  |  |  |  |  |
| Plant Power | Tempeh Spare Ribz Sticky BBQ Sauce | BBQ friendly | 280 | 159 | 5.8 | 1.4 | 11.0 | 10.5 | 1.4 |
| Vivera | Veggie Greek Kebab | Plant-based slices made from rehydrated soya protein seasoned with kebab herb. | 175 | 167 | 8.8 | 1.0 | 1.0 | 14.0 | 1.1 |
| Quorn | Meat Free Picnic Egg | Meat free picnic eggs made with mycoprotein with a herb and savoury flavour chopped free range egg filling and breadcrumb coating. | 180 | 250 | 12.6 | 1.4 | 1.8 | 13.6 | 1.1 |
| Oumph! | Pulled Oumph! | Chunks of extruded soya protein in BBQ sauce, deep frozen | 280 | 120 | 0.7 | 0.1 | 11.0 | 14.0 | 1.6 |
| Oumph! | The Chunk | Chunks of extruded soya protein, plain, deep frozen. | 280 | 82 | 0.4 | 0.0 | 0.0 | 17.0 | 0.6 |
| Oumph! | Sticky Smokehouse Oumph | Fillets from soyaprotein with BBQ glaze. | 280 | 123 | 1.4 | 0.4 | 9.0 | 15.0 | 1.0 |
| Linda McCartney | Shredded Hoisin Duck | Seasoned, shredded vegetarian hoisin duck made with rehydrated textured soya and wheat protein. | 300 | 190 | 7.7 | 0.7 | 2.4 | 22.1 | 1.7 |
| Oumph! | Kebab Spiced | Strips of extruded soya protein with kebab spice, deep frozen. | 280 | 129 | 5.3 | 0.5 | 1.7 | 15.0 | 1.7 |
| Beanit | Pan-Fry Protein Pieces | Cooked Pea Protein and Fava Bean Pieces | 175 | 229 | 9.6 | 0.9 | 0.7 | 30.6 | 1.1 |
| Linda McCartney | Vegetarian Beef Roast with Red Wine \& Shallot Glaze | Succulent Vegetarian Beef-Flavour Roast Made with Rehydrated Textured Soya Protein and Onion; Finished with a Red Wine and Shallot Glaze. | 500 | 126 | 3.3 | 2.0 | 1.9 | 15.0 | 1.4 |


| Linda McCartney | Vegetarian Pulled Pork | Seasoned vegetarian pulled pork made with rehydrated textured soya and wheat protein, with a subtle barbecue flavour. | 300 | 189 | 8.6 | 0.9 | 0.3 | 19.5 | 1.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Linda McCartney | Vegetarian Hoisin Duck Kit | A meal kit of seasoned, shredded vegetarian hoisin duck made with rehydrated textured soya and wheat protein with a sachet of hoisin sauce and 10 Chinesestyle pancakes. | 350 | 240 | 7.6 | 2.1 | 5.5 | 14.8 | 1.8 |
| Vivera | Plant Shawarma Kebab | Plant-based slices made from rehydrated soya protein and seasoned with shawarma herbs. | 175 | 150 | 6.9 | 0.8 | 0.4 | 15.0 | 1.1 |
| Cauldron | Teriyaki Tofu | Cauldron vegan smoked tofu is also organic. It is fussfree and ready to go for those quick and easy meals. Ready to eat or enjoy hot. | 160 | 186 | 8.8 | 1.1 | 0.7 | 18.0 | 0.4 |
| Linda McCartney | Vegetarian Pork Bao Bun Meal Kit | A Meal Kit of Seasoned Vegetarian Pulled Pork made with Rehydrated Textured Soya and Wheat Protein with 4 Bao Buns and a Sachet of Vegan Sriracha Mayonnaise. | 270 | 287 | 12.7 | 1.5 | 4.9 | 15.6 | 1.4 |
| Clonakilty | Veggie pudding | Clonakility vegetable pudding is a delicious combination of oats, vegetables and spices. | 200 | 162 | 2.2 | 0.5 | 2.4 | 5.0 | 0.8 |
| Like Meat | Soya Based Organic Kebab | Soya based chunks with kebab-style marinade | 180 | 130 | 4.5 | 0.5 | 0.3 | 18.0 | 1.6 |
| The Vegetable Butcher | Vegan Good Karma Shawarma | high protein soy-based strips | 160 | 148 | 4.2 | 0.5 | 0.7 | 21.3 | 1.8 |
| Oumph | Vegan Pulled Kebab | Chunks of extruded soya protein in BBQ sauce, deep frozen. | 280 | 120 | 0.7 | 0.1 | 11.0 | 14.0 | 1.6 |
| Gardein | Sweet and Sour Porkless Bites | Meatless pieces in an authentic Asian sauce. Add veggies, rice and chopsticks! | 300 | 160 | 3.5 | 0.0 | 14.0 | 12.0 | 1.4 |

Category 10 - Miscellaneous vegetarian substitutes e.g. spinach bites, cheese grills/melts, veg fingers ( $\mathrm{n}=34$ )

| Asda | Vegetarian \& Vegan Jackfruit Thai Red Curry | Jackfruit in a Thai red curry sauce made with coconut milk, lemongrass, lime and red chillies with red peppers and water chestnuts | 392 | 56 | 2.9 | 0.9 | 3.0 | 0.9 | 0.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Plant Pioneers | Sweet \& Smoky BBQ Jackfruit | Sweet \& Smoky BBQ Jackfruit | 150 | 84 | 0.5 | 0.1 | 13.4 | 1.3 | 0.6 |
| Plant Pioneers | Peking No Duck Jackfruit | Peking Style Jackfruit | 150 | 126 | 3.0 | 0.5 | 18.9 | 1.6 | 0.6 |
| Plant Pioneers | Spicy No Lamb Shawarma Jackfruit | Spiced Jackfruit | 150 | 87 | 3.1 | 0.3 | 7.0 | 1.8 | 0.5 |
| Plant Pioneers | Mexican Style Jackfruit | Mexican Jackfruit | 150 | 70 | 2.4 | 0.2 | 6.6 | 1.9 | 0.8 |
| Tesco | Vegetarian Bacon Mac \& Cheese Melts | Vegetarian bacon made with wheat gluten and soya protein with macaroni and cheese coated in breadcrumbs. | 280 | 257 | 12.7 | 4.7 | 3.1 | 8.0 | 0.8 |
| Asda | Vegetable Dippers | A blend of sweetcorn, peas, carrots, potatoes and onions, wrapped in our golden crumb | 300 | 226 | 11.0 | 1.8 | 2.4 | 3.4 | 0.4 |
| Tesco | Meat Free Mushroom Risotto Bakes | A blend of mushrooms, white rice, cheddar cheese and soft cheese coated in a crispy crumb. | 280 | 198 | 8.5 | 2.3 | 2.1 | 5.4 | 1.1 |
| Strong Roots | Spinach Bites | A crisp spinach bite coated in a carrot and vegetable crumb. | 450 | 218 | 12.1 | 1.1 | 7.4 | 3.4 | 0.8 |
| Tesco | Plant Chef Corn Fritters | Courgette and butternut squash with sweetcorn, peppers and spring onions. | 280 | 173 | 8.2 | 0.7 | 1.1 | 3.0 | 0.5 |
| Tesco | Vegetarian Cauliflower Cheese Grills | Frozen grills made with cauliflower, mature cheddar \& soft cheese, leeks and spring onion in crunchy breadcrumbs. | 397 | 246 | 14.3 | 3.3 | 1.7 | 5.6 | 1.0 |


| Strong Roots | Broccoli Bites | Broccoli \& Purple Carrot Bites | 450 | 173 | 6.9 | 0.7 | 1.4 | 2.3 | 0.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Tesco | Vegetarian Mozzerella Roast Vegetable and Pesto Melts | Chargrilled peppers and rice with a melting middle in a golden crumb. | 280 | 255 | 15.6 | 3.8 | 4.5 | 7.1 | 0.8 |
| Birds Eye | Vegetable Fingers | All natural plant power our veggie fingers are bursting with veggies that are picked and frozen within hours to naturally retain nature's goodness. | 284 | 188 | 8.1 | 0.6 | 2.5 | 3.4 | 1.0 |
| Gosh! | Sweet Potato Pakora | Chilli rating - Medium Spiced - 2, Free from egg, dairy, nut \& soya, Vegetarian Society Approved | 200 | 198 | 10.0 | 0.8 | 6.8 | 6.0 | 0.9 |
| Tesco | Vegetarian Mushroom Rice Bakes | A blend of mushrooms, white rice, Cheddar cheese and soft cheese coated in a crispy crumb. | 280 | 198 | 8.5 | 2.3 | 2.1 | 5.4 | 1.1 |
| Tesco | Plant Chef Veg Fingers | Seasoned garden vegetables in a crispy golden crumb. | 448 | 206 | 8.6 | 0.9 | 0.5 | 4.1 | 0.8 |
| Little Roots | Crunchy Corn And Carrot Chunks | Little bites for family, $100 \%$ natural ingredients, 3 veggies in every bite, GMO free, Suitable for vegans | 200 | 215 | 10.0 | 1.1 | 3.1 | 3.3 | 0.5 |
| Tesco | Vegetarian Cheese \& Onion Crisp Bakes | Frozen cheese \& onion crispbakes - onion, cheddar \& mozzarella cheese, spring onion and potato in breadcrumbs. | 240 | 201 | 10.9 | 2.9 | 1.2 | 5.4 | 1.1 |
| Asda | Mushroom \& Spinach Cheese Melts | Mushroom, spinach and rice, topped with mature Cheddar cheese and coated in breadcrumbs | 260 | 217 | 11.0 | 1.9 | 1.5 | 8.3 | 0.4 |
| Asda | Pesto \& Mozzarella Melts | Peppers, tomatoes, courgettes, mozzarella and full fat soft cheese with basil pesto coated in breadcrumbs | 280 | 284 | 16.0 | 3.9 | 2.7 | 7.2 | 0.9 |
| Asda | Cauliflower Cheese Crispy Grills | Seasoned cauliflower, potato, onions and leeks with mature Cheddar and medium fat soft cheeses coated in breadcrumbs | 397 | 208 | 11.0 | 2.3 | 2.7 | 4.8 | 0.9 |


| Asda | Katsu Curry Melts | A blend of rice, red peppers, coconut and a deliciously spiced curry sauce, wrapped in our golden crumb | 280 | 180 | 9.5 | 1.8 | 5.3 | 3.6 | 0.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Asda | Cheese \& Spring Onion Bakes | Potato mixed with mature Cheddar cheese, onion and spring onion wrapped in a gluten free crumb | 230 | 238 | 14.0 | 4.9 | 1.3 | 6.3 | 0.7 |
| Asda | Plant Based 16 Vegan Vegetable Fingers | Carrots, sweetcorn, peas, onions and potatoes with seasoning coated in breadcrumbs | 452 | 234 | 8.8 | 1.0 | 3.9 | 4.4 | 0.8 |
| Asda | Cheese \& Spring Onion Crispbakes | Potato, spring onion and onion with mozzarella, mature Cheddar and medium fat soft cheeses coated in breadcrumbs | 280 | 178 | 8.5 | 3.0 | 2.5 | 5.2 | 0.8 |
| Gosh! | Sweet Pumpkin \& Chilli Bites | Chunky chickpea, pumpkin and chilli bites - simply blended with herbs, spices and baked | 200 | 239 | 12.2 | 0.9 | 4.4 | 7.2 | 1.3 |
| Gosh! | Tuscan Vegetable Bites | Butternut, spinach and carrot bites - simply blended with Italian herbs and baked | 200 | 126 | 2.3 | 1.0 | 1.0 | 3.0 | 1.1 |
| GoodLife | Mushroom \& Spinach Kiev with a Creamy Garlic \& Cheese Sauce | Formed mushroom and spinach, coated in a seeded breadcrumb. | 250 | 248 | 12.4 | 2.8 | 1.9 | 6.9 | 1.2 |
| Sainsbury's | Cheese \& Spring Onion Crispbakes | Potato, spring onions \& cheese coated in breadcrumbs with potato, mature Cheddar \& mozzarella cheese | 454 | 216 | 9.5 | 2.7 | 1.5 | 6.4 | 0.8 |
| Sainsbury's | Cauliflower Cheese Grills | Cauliflower, cheese and leeks coated in crisp breadcrumbs with mature Cheddar cheese and leeks | 397 | 231 | 11.9 | 2.6 | 1.4 | 4.7 | 0.6 |
| Sainsbury's | Mushroom \& Spinach Crispbakes | Mushrooms, spinach, mature Cheddar cheese and soft cheese mixed with rice, coated in breadcrumbs | 454 | 215 | 8.3 | 2.2 | 2.3 | 5.3 | 0.8 |
| Sainsbury's | Green Veg \& Risotto Balls | Vegetables and Arborio rice encasing a mozzarella cheese centre, coated in crispy lemon and basil breadcrumb | 300 | 252 | 12.7 | 3.9 | 1.0 | 6.8 | 1.0 |


| Sainsbury's | Vegetable Fingers | 16 Vegetable fingers made with mixed vegetables, seasoned and coated in breadcrumbs | 452 | 243 | 10.7 | 1.2 | 2.7 | 4.6 | 0.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Category 11 - Falafel and other lentil/pulse/nut based meat substitutes ( $\mathrm{n}=\mathbf{2 9}$ ) |  |  |  |  |  |  |  |  |  |
| Fiid | Italian Sundried Tomato Lentil Ragu | Italian Sundried Tomato Lentil Ragu | 400 | 54 | 0.4 | 0.2 | 2.7 | 3.0 | 0.5 |
| Fiid | Smokey Mexican Black Bean Chilli | Smoky mexican black bean chilli | 400 | 89 | 0.5 | 0.2 | 2.6 | 4.7 | 0.5 |
| Fiid | Hearty Morocan Chickpea Tagine | Hearty moroccan chickpea tagine | 400 | 60 | 0.5 | 0.1 | 3.7 | 3.0 | 0.5 |
| Branston | Baked Beans with Vegetarian Sausages in Tomato Sauce | Baked Beans and Vegetarian Sausages in Tomato Sauce | 405 | 109 | 2.5 | 0.3 | 4.1 | 7.2 | 0.5 |
| Me Too | Original Falafel | Falafels made from ground chickpeas, herbs \& spices | 500 | 232 | 9.8 | 0.8 | 4.0 | 9.4 | 1.5 |
| Vegafit | Falafel | Vegafit 10 Falafel 200 g | 200 | 206 | 10.0 | 1.2 | 1.5 | 7.5 | 1.6 |
| Sainsbury's | Moroccan Vegbab | Vegan kebabs made from a blend of chickpeas, apricots and raisins with Moroccan Spices | 264 | 172 | 7.6 | 1.9 | 5.5 | 5.4 | 1.0 |
| Cauldron | Middle Eastern Falafels | Falafels made with chickpeas, onion and coriander. | 200 | 268 | 14.0 | 1.7 | 4.0 | 7.5 | 0.4 |
| Tesco | Sweet potato falafel | A spiced blend of sweet potato, carrot, chickpeas and dried apricots. | 264 | 148 | 4.9 | 0.5 | 6.9 | 3.6 | 0.9 |
| Gosh! | Mediterianean Falafel | Falafel made with chunky chickpeas and onion simply blended with mediterranean spices and baked . | 200 | 239 | 11.0 | 0.8 | 0.7 | 9.7 | 1.4 |
| Gosh! | Moroccan Falafel | Falafel made with chickpeas, red pepper, apricots and dates - simply blended with moroccan spices and baked. | 200 | 225 | 9.5 | 0.7 | 6.2 | 7.1 | 1.2 |
| Gosh! | Moroccan Spiced Bakes | Moroccan spiced bakes made with chickpea, peppers, broad beans, apricot and harissa - blended and baked. | 250 | 171 | 5.0 | 0.6 | 3.2 | 5.3 | 1.1 |


| Gosh! | Spinach and pine nut bites | Chunky chickpea, carrot, spinach and pine nut bites simply blended with herbs and spices and baked. | 200 | 244 | 13.0 | 1.0 | 1.8 | 8.9 | 1.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cauldron | Koftas | Koftas made with lentils, spinach, carrots and a mango chutney with mild indian spices. | 200 | 126 | 4.2 | 0.7 | 4.5 | 3.7 | 0.6 |
| Tesco | Plant Chef Nut Cutlets | Peanut, hazelnut and almond mixed with vegetables, seasoning and breadcrumbs. | 350 | 225 | 13.0 | 1.4 | 8.2 | 5.2 | 0.5 |
| GoodLife | Falafel Lemon, Cumin \& Coriander | Chickpea and onion balls with cumin, coriander, chilli and lemon juice. | 280 | 207 | 10.4 | 0.7 | 3.0 | 7.9 | 1.1 |
| Little Roots | Pea And Lemon Mini's | 100\% natural ingredients, Suitable for vegans | 200 | 226 | 9.4 | 1.0 | 2.5 | 6.1 | 0.7 |
| Me Too | Spinach \& Kale Falafel | Falafels made from ground chickpeas Now with added Spinach \& Kale | 500 | 212 | 11.7 | 0.9 | 1.9 | 8.0 | 2.2 |
| Asda | Plant Based 4 Vegan Nut Cutlets | Peanuts, hazelnuts and almonds mixed with vegetables, seasoning and breadcrumbs | 350 | 336 | 22.0 | 2.9 | 5.9 | 9.1 | 0.7 |
| Asda | Vegan Beetroot \& Quinoa Falafels | Gluten free falafels with beetroot, red onions, yellow split peas, green lentils, brown rice, quinoa and caramelised red onions | 240 | 150 | 2.0 | 0.3 | 6.2 | 4.2 | 0.9 |
| Asda | Spicy Bean Bakes | Spicy mixed beans, peppers and sweet potato wrapped in a crispy gluten and milk free crumb | 230 | 189 | 8.3 | 0.8 | 2.3 | 4.5 | 0.6 |
| Asda | Sweet potato falafels | Sweet potato, chickpea and onion falafels with spices | 220 | 247 | 9.1 | 0.7 | 11.0 | 10.0 | 0.4 |
| Asda | Moroccan style falafels | Falafel with chickpea, red pepper, onion and spices | 220 | 265 | 13.0 | 1.1 | 2.7 | 12.0 | 0.8 |
| Gosh! | original falafel | Falafel made with chunky chickpeas and garlic simply blended with Mediterranean spices and baked | 300 | 257 | 13.0 | 0.9 | 2.2 | 9.6 | 1.2 |
| Gosh! | Broad Bean \& Quinoa Bites | Chunky chickpea, broad bean and quinoa bites simply blended with parsley and mint and baked | 200 | 231 | 11.0 | 0.8 | 2.2 | 9.2 | 1.3 |
| Cauldron | Moroccan Falafels | Falafels made from chickpeas \& onion with paprika, cinnamon \& ginger | 180 | 239 | 6.5 | 0.8 | 6.5 | 6.0 | 0.8 |


| Sainsbury's | Beetroot, Quinoa \& Kale Falafels | Beetroot, quinoa and kale chickpea falafels with spices | 160 | 231 | 8.4 | 0.7 | 4.0 | 9.2 | 0.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sainsbury's | Falafels with Chickpeas, Coriander \& Cumin | Falafels made with chickpeas and onion, flavoured with coriander and spices | 180 | 258 | 9.1 | 0.7 | 5.9 | 13.1 | 0.6 |
| Sainsbury's | Red Pepper \& Chipotle Falafels | Red pepper, chickpea and onion falafels with spices | 160 | 219 | 7.1 | 0.8 | 3.7 | 10.5 | 0.8 |

## safefood

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ROI 1850404567 NI 08000851683


[^0]:    ' https://www.gov.ie/en/publication/70a2e4-the-food-pyramid/
    ${ }^{2}$ https://assets.gov.ie/7579/b44458be78574701a5e674cdbid826ff.pdf 3
    https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file /742750/Eatwell_Guide_booklet_2018v4.pdf

[^1]:    ${ }^{4}$ The daily Reference Intake for protein is 50 g for an adult (see Annex XIII of https://www.fsai.ie/uploadedFiles/Consol_Reg1169_2011.pdf)
    ${ }^{5}$ https://www.gov.ie/en/publication/70a2e4-the-food-pyramid/
    ${ }^{6}$ https://assets.gov.ie/7579/b44458be78574701a5e674cdb1d826ff.pdf ${ }^{7}$ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/fil e/742750/Eatwell_Guide_booklet_2018v4.pdf

[^2]:    ${ }^{8}$ www.wcrf.org/dietandcancer/recommendations/limit-red-processed-meat
    ${ }^{9}$ www.bordbia.ie/industry/news/food-alerts/lunch-insights-from-the-2019-contemporary-food--to--go-show/
    ${ }^{10}$ www.fsai.ie/news_centre/press_releases/allergen_warning_vegan_28092020.html

[^3]:    ${ }^{11}$ www.mintel.com/press-centre/food-and-drink/plant-based-push-uk-sales-of-meat-free-foods-shoot-up-40-between-2014-19

[^4]:    ${ }^{12}$ There is no legal definition of the term "vegan", "plant power" or " $100 \%$ plant-based" in EU law.

