FOOD AND PRODUCTION

RUMINANT LIVESTOCK FARMING AND THE PRODUCTION OF FOOD FOR HUMANS

UNDERSTANDING & EXPLAINING THE SERVICES PROVIDED BY LIVESTOCK FARMING

« What is the part of meat and dairy products in the French diet? »
« What role do they play in consumer health? »

1

Animal products from ruminants livestock are part of the diet of most French people.

There are national nutritional recommendations for the consumption of red meat and dairy products.

2

Red meat provides many nutritional benefits when eaten in a reasonable and balanced way.

Red meat helps to cover a large proportion of nutritional requirements in terms of proteins delivering essential amino acids, vitamins (B3, B6, B12, etc.) and minerals (Fe, Zn, Se, etc.).

3

Milk and dairy products are naturally rich in nutrients that are essential to the body (proteins, calcium, vitamins, etc.) and offer a significant contribution to the nutritional quality of our diet.

Thanks to their wide diversity, they play an essential part in a healthy balanced diet at every stage of life.

4

The health safety of animal products is ensured by ongoing and rigorous controls achieved within ruminants farms, generating very satisfactory results.

INSTITUT DE L'ELEVAGE idele
Confédération Nationale de l'Elevage CNE

RUMINANT LIVESTOCK FARMING AND THE PRODUCTION OF FOOD FOR HUMANS

WHAT ARE WE TALKING ABOUT?

The consumption of animal products is at the heart of a balanced diet. Although excesses are not recommended, like for all foodstuffs, consumption according to recommendations is good for health as they are foods with good nutritional density, meaning that they provide the body with many essential nutrients for a moderate calorie intake.

The National Nutrition and Health Programme recommends to eat no more than 500g of red meat a week for people aged 11 and over (50g for children aged between 4 and 6, gradually increasing to 100g and then, from 11 years, as for adults, limiting to 500g a week), and to eat 3 dairy products (milk, yoghurt, cheese) a day for children and teenagers, 2 for adults and 2 to 3 pour the elderly (Ministry of Solidarity and Health, 2019).

MEAT PRODUCTS, WHAT ARE WE TALKING ABOUT?

- **Meat products :** this designation includes meat of all species (red meat, poultry, venison) as well as charcuterie consumed either raw or as ingredients (e.g. bacon bits, quiche lorraine, minced meat for lasagna).
- **Red meat** : also known as **meat excluding poultry**, refers to lamb, pork, beef, veal, kid goat, horse meat, and tripe products. This designation covers meat consumed raw or as ingredients (e.g. minced beef in lasagna). Red meat does not refer to charcuterie. According to the WHO definition, however, the designation include pork and veal.
- **Red meat excluding ingredient :** red meat consumed raw (e.g. beef fillet, veal minced steak), or red meat included in dishes containing more than 50% of weight in red meat (e.g. beef in lasagna containing 10 to 12%, pork in a roast pork sandwich containing 15%).

1 Consumptions of dairy products and red meat by French people

Animal products at the heart of the French diet

A survey conducted in 2019 in France reveals that 99.7% of children (aged 3-17) respondents and 98.5% of adults respondents consumed meat during the week. During the same survey week, 100% of the children and adults consumed at least one dairy product (CREDOC, 2019).
Furthermore, France is the 1st largest consumer of butter and cheese in the world (CNIEL, according to World Dairy Situation).

A slight fall in red meat consumption and changes in consumption patterns

In 2019, adults consumed 6% less red meat than in 2016 (CREDOC, 2019). The decline in red meat consumption in recent years is linked to more nomadic eating ways and to new consumption patterns, towards processed products. In particular, the 2022-2023 inflation period led to an overall reduction in the purchase of consumer goods. This reduction in consumption particularly affected fresh products.
In addition, beyond individual consumption, overall apparent consumption declines very slowly over the long term, i.e. -0.6% on average between 2013 and 2023. This reflects structural changes in consumption, with more meat eaten outside home and more processed products (minced meat in particular).

French people still have a positive image of meat in general

The image of meat remains very positive among the French people: in 2022, an OpinionWay survey made for Interbev showed that the French questioned (meat consumers, a representative sample of the French population) gave meat an average image score of 7.5/10 (1/10 score means having a very poor image and 10/10 means having a very good image), and 56% of those questioned gave meat an image score between 8 and 10. Meat is above all appreciated for its taste and flavours, followed by its texture, its intakes and benefits (OpinionWay, 2022). It should also be noted that, although eating habits tend to evolve towards more processed food, most red meat is still consumed in raw or minimally processed form (CREDOC, 2019). However, beef is increasingly eaten in minced meat. Pieces of meat now account for only 49% of beef consumption (Idele, 2024).

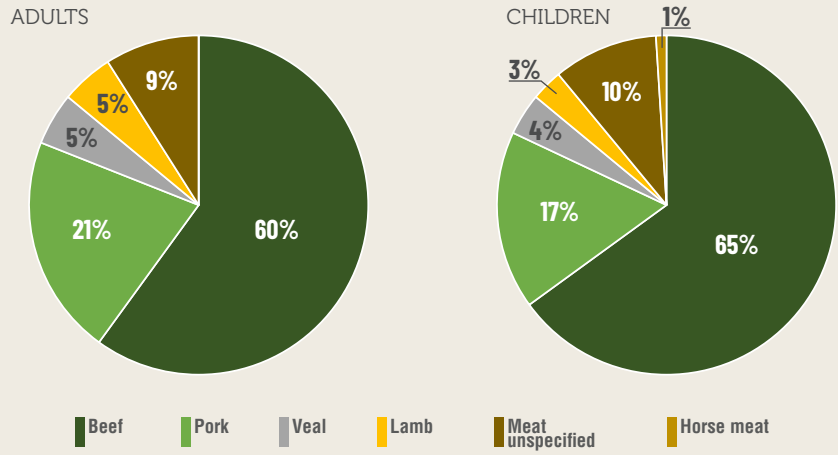
1 Consumption of dairy products and red meat by French people

Dairy products are still popular
Dairy products continue to benefit from a stable good image with French people. They remain among the best rated foods. The French identify them above all as « pleasure sources », « essential » and « good for the health». The French also enjoy increasingly cooking them (CNIEL, 2023a).

Consumption of red meat (poultry not included) is broadly in line with the recommendations of the French National Health and Nutrition Programme
With regard to meat, more than two thirds of the French population comply with the National Nutrition and Health Programme (NNHP) recommendation (CREDOC, 2019). Indeed, 82% of adults eat less than 500g of cooked red meat (excluding meat ingredients) per week (this percentage decreases to 71% if tripe products and meat ingredients are taken into account).

A large proportion of children does not follow the recommended consumption guidelines for dairy products
Only 1/3 of children and teenagers follow the recommendation of 3 dairy products a day and 44% consume less than 3 a day. Non-compliance is most marked among girls aged 6 to 11 (50%) and those aged 12 to 14 (58%). This situation is particularly worrying because childhood and teen-age years are critical periods for skeleton growth and the development of a proper bone mass.

BREAKDOWN OF AVERAGE QUANTITIES OF MEAT (INCLUDING INGREDIENTS) CONSUMED BY ADULTS AND CHILDREN (CREDOC, 2019)



LEARN MORE...

...about Franch gastronomy,

CHECK OUT THE SHEET ➡
« Ruminant livestock farming and Gastronomic heritage ».

KEY FIGURES

In 2022, **97%** of French people ate dairy products during the week (CNIEL, 2023a).

In France in 2022, consumption per habitant of dairy products was **39,2 kg** of milk, **25 kg** of yoghurts and dairy desserts, **22,6 kg** of cheese (all milks) **8 kg** of butter (Idele, 2023).

In France in 2019, consumption per adult of red meat (including tripe products and meat ingredients) was **20,6 kg** (CREDOC, 2019).

In France, **82%** of adults consume red meat (tripe products and ingredients excluded) according to the NNHP recommendations (less than 500g of red meat cooked a week) (CREDOC, 2019).

RUMINANT LIVESTOCK FARMING
AND THE PRODUCTION OF FOOD FOR HUMANS

2 Nutritional intakes of red meat

The nutritional richness of meat

Meat contains many valuable nutrients, such as haem iron (this kind of iron present in meats and fish, particularly in high quantity in red meat is at least twice as well absorbed by the body as the non-haem iron found in other foods), high quality proteins (easily digestible and rich in essential amino acids that cannot be synthetised by the body and must be compulsorily provided by the diet), zinc, selenium and some vitamins (B3, B6, B12, etc.).

Red meat is one of the main dietary sources of B12 vitamin along with offal, fish, eggs, milk and dairy products. In its 2016 report, the Anses stated that « plant food sources are naturally devoid of bioavailable B12 vitamin » (Anses, 2016). In adults, meat products, fish and eggs are the leading food groups providing iron and zinc (Anses, 2017). In terms on intakes of both those nutrients, one notes that a greater proportion of moderate consumers (between 100 and 500g of red meat per week) are in line with nutritional references, compared with low consumers (≤ 100 g per week) (CREDOC, 2019).

BIOLOGICAL VALUES OF DIFFERENT TYPES OF PROTEINS (HOFFMAN AND FALVO, 2004)

Type of protein	Biological value*
Egg	100
Beef	80
Casein	77
Milk	91
Soya protein	74
Wheat gluten	64
Whey proteins	104

** Biological value measures protein quality by dividing the nitrogen used for tissue formation by the nitrogen absorbed in foods. This product is multiplied by 100 and expressed as a percentage of nitrogen used. The biological value enables to measure the efficiency of the body in using proteins consumed in the diet. Food with high value corresponds to a large intake of essential amino acids (Hoffman and Falvo, 2004).*

The nutritional complementarity of meat and vegetables contributes to the nutritional intakes of human beings

The effects of excess meat consumption on health are still the subject of scientific disagreements. However, no international organisation recommends to stop eating red meat.

In the diet, proteins can be of both animal and plant origins. It is not a question of pitting one type of protein against another, but rather of diversifying them.

According to the Anses, « animal proteins are relatively rich in essential amino acids and generally richer than plant proteins. Digestibility is most of the time slightly higher in animal proteins than in plant proteins » (www.anses.fr). Indeed, plant proteins also provide essential amino acids but in lower quantity for some of them (lysine for cereals and sulfur amino acids for beans). Moreover, meat is one of the largest providers of zinc, haem Iron and B12 vitamins, whereas plants are rich in vitamins, antioxidants, fibers and some minerals. Varied diet is essential as each food group complements the others by providing basic nutrients for the body.

Diets poor in meat make it harder to meet nutritional requirements

At certain life stages, meat enables to meet nutritional requirements more easily. For example, in non-menopausal women, high iron requirements (during periods and teenagers' growth) require huge intakes and meat is part of the first food group bringing iron (Anses, 2017). Children and pregnant women are particularly at risk when experiencing lacks in iron, zinc and B12 vitamin. For the elderly, animal proteins increase muscle strength and thus help fight sarcopenia (or muscle wasting). Prevention of this risk is all the more efficient if proper protein diet is combined with regular physical activity (Pikosky *et al.*, 2022).

Researchers also point the link between meat-free diets and the risk of bone fracture. Which is thought to be due to lower intakes of three nutrients that are essential to bone health i.e. proteins, D and B12 vitamins (Webster *et al.*, 2022).

KEY FIGURES

The group « meats, fishes, eggs » contributes **26%** of iron intakes in adults (Anses, 2017).

All red meats (beef, veal, lamb, horse meat and tripe products) have a high protein content: **20%** in average (Information center for meat (CIV), 2010).

Red meat is mainly consumed in its raw form

The 2019 study « Food behaviour and consumption in France » shows that numerous changes occurred in French diets since the 2000s: consumption of raw products declines, in favour of a rising consumption of processed products (CREDOC, 2019). Meat consumption follows this trend, although red meat is still widely consumed in its raw form, unprocessed (two thirds of both children and adults).

3 The nutritional intakes of dairy products

Dairy products: nutritional richness

Milk and dairy products are a natural source of many nutrients. They are generally rich in calcium and proteins. Calcium is essential for the formation and the strength of bones and teeth. Proteins are involved in the renewal of muscle tissue, bones, skin and many other physiological processes. These proteins are considered to be high quality ones thanks to their particularly well-balanced contents of essential amino-acids and their high digestibility.

Moreover, milk is rich in water (87%) and thus helps us to remain hydrated. Thanks to their nutritional density, dairy products (yoghurts, milk, cheese) are identified as being part of a healthy and balanced diet which is why the NNHP recommends a daily consumption.

The benefits of animal fats

Fresh cream and butter, although also derived from milk, are part of the fat family and provide fat-soluble vitamins (A, D).

Mainly made up of fat, water, nutrients and vitamins, with possible addition of salt, butter is 100% natural. Unsalted, semi-salted (between 0.8% and 3% of salt) or salted (3% of salt), and contrary to popular belief, it contains less fat and calories than all oils (olive, peanut, sunflower, etc.) which contain 100% fat.

Fresh cream is rich in water and is indeed the least fatty and the least calorific of all fats: 2 to 3 times less fat than oil or butter. The NNHP states that added fats – oil, butter and margarine – can be eaten every day in small quantities.

Dairy products: diverse foods

Dairy products represent a wide range of foods (milk, yoghurt, fromage, cream cheese, etc.) matching with all tastes over the ages (particularly thanks to diversity of textures) and all consumption kinds (cooking, deserts, meals taken outside). In cooking, they add a gourmet touch to dishes especially those based on vegetables and/or beans, while going on to avoid food waste by making the most of leftovers.

Furthermore, diversity helps to adapt to all kinds of diets. For example, lactose intolerant people can continue to eat some dairy products, choosing mature cheese, yoghurts and lactose-free milks. Mature cheese indeed are easier tolerated because they naturally contain less lactose thanks to draining and maturing while yoghurt contains lactic ferments that predigest lactose.

Live microorganisms in fermented dairy products

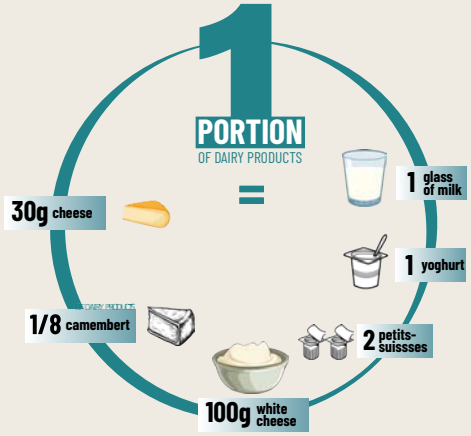
Within this dairy products' diversity, there are fermented dairy products such as fermented milks, yoghurts, some fresh creams and cheese. These products are unique in that they contain live micro-organisms produced by the transformation of milk through the action of ferments (bacteria, yeasts, moulds) either naturally presents or added by people. Some of these products develop interesting flavours over time. In addition to profiting by a diversified diet, consuming fermented dairy products means ingesting live micro-organisms that help to maintain a rich intestinal microbiota (INRAE 2023).

A good nutritional value for money

The cost of dairy products, in particular milk and dairy products, remain relatively low, compared to their nutritional quality. More precisely, they are by far the least expensive sources of calcium. Indeed, other foods include calcium but to obtain the proper intake necessary to the body, one would have to increase quantities considerably every day, at each meal, which appears to be difficult and may be expensive. This is the same for proteins: along with eggs, beans and pulses, dairy products represent one of the best ratios between cost and quantity of proteins (Drewnowski *et al.*, 2015 ; Drewnowski, 2010).

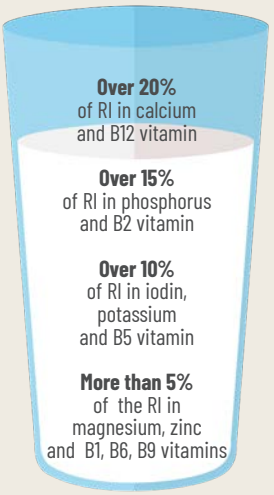
DAILY DIETARY RECOMMENDATIONS FOR DAIRY PRODUCTS (NNHP DATA)

Adults **2** portions | **Children, Teenagers** **3** portions | **Elderly** **2 to 3** portions



CONTRIBUTION OF A 150 ML GLASS OF SEMI-SKIMMED MILK TO THE RÉFÉRENCE INTAKES (RI) FOR ATYPICAL ADULT (2000 KCAL). (SUSTAINABLE DAIRY PRODUCTS, 2021; BASED ON CIQUAL DATA)

A 150 ml glass of semi-skimmed milk contributes to **10%** of the reference intakes (IR) of **proteins** and covers:



DAIRY PRODUCTS, FIRST CONTRIBUTORS IN MICRONUTRIENTS (CNIEL, 2023B ; DBASED ON INCA 3 – ANSES 2017)

	1st	2nd	3rd
Children Aged 4–10	Calcium Magnesium Phosphorus Iodine Vitamins A, B1, B2, B5, D Selenium	Potasium Vitamins B9, B12 and K2 Zinc	
Teenagers Aged 11–17	Calcium Magnesium Phosphorus Iodine Vitamins A, B2, B5, D	Potasium Vitamins B12, K2 Zinc Selenium	Vitamins B1, B9
Adults Aged 18–79	Calcium Vitamin B2	Phosphorus Vitamins A, B12, D, K2 Zinc Iodine	Vitamin B9

RUMINANT LIVESTOCK FARMING AND THE PRODUCTION OF FOOD FOR HUMANS

4 The safety of animal products coming from ruminant livestock

The health safety of animal products is ensured by ongoing controls

The health safety of animal products is guaranteed by efficient standard identification, traceability and control systems. The Direction Générale de la Concurrence, de la Consommation et de la Répression des Fraudes (DGCCRF - Directorate General for Competition, Consumer Affairs and Fraud Control) ensures that food products (foodstuffs and animal feed) placed on the market do not harm the physical integrity and health of both consumers and animals. As part of the food chain health safety system, monitoring and control plans are steered and coordinated each year by the Directorate-General for Food - Direction Générale de l'Alimentation (DGAl) which monitors the contamination of primary animal and plant productions, foodstuffs of animal origin and animal feed.

At the same time, ruminants' farmers and their sectors carry out regular controls on farms to ensure compliance with health requirements. Milk must meet strict hygiene criteria, as well as precise fat and protein composition criteria. It has also to contain no traces of antibiotics.

KEY FIGURES

258 independent audits a year carried out in the meat chain in 2021, according to the international repository of Health safety.

100% of milk collected is tested.

About **250 analyses** each year and per farm (sustainable dairy products, 2021).

RUMINANT LIVESTOCK FARMING
AND THE PRODUCTION OF FOOD FOR HUMANS

ACTIONS AND TOOLS IMPLEMENTED BY THE SECTORS

Guide part for meat to suit everyone

This guide part, co constructed by Interbev and dieticians, is tailored to individual needs. Using it, consumers can better estimate and therefore control their meat consumption. Thus it is easier for large meat consumers to reduce their portions and for small consumers not to reduce theirs too much.

Availability of data regarding nutritional composition of meat

Since 2017, the conclusions of several studies conducted by the Institut technique agro-industriel (Adiv) or Institut de l'élevage (Idele), analysing the macro- and micronutrient contents of cuts of meat and tripe products, whether raw or cooked, have been made available to industry professionals for nutritional labelling, including the Nutri-Score. These results are also made public in the Ciqual Table of the Anses (French National Agency for Food, Environment and Work Health Safety).

Information available for health and nutrition professionals

INTERBEV participates in various nutrition conferences, such as those organised by the Association française des diététiciens nutritionnistes (AFDN) or the Journées françaises de nutrition (JFN). Since 2020, several documents aimed at these specialised audiences have been produced, dealing with various topics such as recommended portions, meat consumption trends, the part of meat in a sustainable diet and the micronutrients contributions of meats. Another document, currently in preparation, deals with the importance of iron in children diet, in collaboration with paediatricians.

Collective communication campaign « Aimez la viande, mangez-en mieux » (« Love meat, eat it better »)

Launched in 2019 by the Livestock and Meat industry, this collective communication campaign, signed « Naturally Flexitarian », highlights the numerous advantages of the sector in terms of environment, animal protection and sustainable food. It is aimed at individuals who question their meat consumption but nevertheless wish to include meat in their diet in a more considered way. They are informed and independent flexitarians, convinced that meat can completely be part of a balanced diet if eaten in moderation. In this spirit « Eat better », promoted in this campaign, the entire industry has been committed for several years to provide consumers with high-quality, environment friendly and sustainable meat.

Promoting high quality meat in catering

The Climate & Resilience Act stipulates that by January the 1st, 2024, a rate of 60% of sustainable and quality meat must be reached. For state-run collective restaurants, public establishments and domestic national companies, this rate will be 100%. INTERBEV works with Restau'Co and the Syndicat national de la restauration collective (SNRC - National Union of Collective Catering) to promote this supply by focusing on two priorities: supply under official quality labels (Label Rouge beef, PDO, organic, etc.) and direct, environment friendly supply.

Developing label rouge, PDO and organic

The official signs of quality and origin constitute an answer to French consumers' demand for high-quality meat. Following the « États généraux de l'alimentation » (National Food Conference), the beef, milk, veal and sheep chains placed a strong emphasis on the development of organic and Label Rouge meats in their strategies. These labels, well known to consumers, officially guarantee high, rigorously controlled standards, in terms of both organoleptic and societal qualities, in accordance with specifications certified by independent agencies.

Contacts: juliette.ferial@idele.fr ; delphine.neumeister@idele.fr ; theo.gning@cne.asso.fr
Writing: Juliette FÉRIAL (Idele). Based on Latifa NAJAR (Idele)
Photo credits: Interbev (photographe: Laurent ROUVRAIS), Marine GELÉ, Adobe Stock, V. RIBAUD, AC. HERAUD, A. ROCHE, A. BRETIN (CNIEL)
Design: beta pictoris - **Layout:** Isabelle GUIGUE, Idele - **Reference:** 0024 601 022 - **May 2024**

BIBLIOGRAPHY

- Anses (2016). Actualisation des repères du PNNS - élaboration des références nutritionnelles.
- Anses (2017). Etude individuelle nationale des consommations alimentaires 3 (Inca 3, 2016-2017). www.anses.fr/fr/ system/files/NUT2014SA0234Ra.pdf
- Centre d'Information des viandes (2010). Valeurs nutritionnelles des viandes - Aller directement à l'essentiel.
- CNIEL (2016). Enquête CCAF 2016. Rapport sur « La place des produits laitiers dans l'alimentation des Français ».
- CNIEL (2021). Baromètre de la consommation des produits laitiers. Zoom comportement des consommateurs.
- CNIEL (2023a). Baromètre produits laitiers - Étude n° 2201025
- CNIEL (2023b). L'effet matrice des produits laitiers. Alimentation et santé.
- CREDOC (2019). Enquête Comportements et Consommations Alimentaires en France en 2019 (CCAF 2019).
- Drewnowski, A. (2010). The Nutrient Rich Foods Index helps to identify healthy, affordable foods. Am J Clin Nutr. 2010 Apr;91(4):1095S-1101S. doi: 10.3945/ajcn.2010.28450D. Epub 2010 Feb 24.
- Drewnowski *et al.* (2015). Calcium requirements from dairy foods in France can be met at low energy and monetary cost. R. Br J Nutr 2015; 114(11):1920-8.
- Hoffman, J.R. and Falvo M.J (2004). Protein – Which is the best ? Journal of Sports Science and Medicine (2004) 3, 118-130
- Idele (2023). Les chiffres clés du GEB – bovins 2023, productions lait et viande.
- Idele (2024). Où va le bœuf ? Quel produit pour quel marché ?
- INRAe (2023). Les 4 atouts des aliments fermentés. Dossier revue – Alimentation, santé globale. www.inrae.fr/dossiers/potentiel-insoupconne-aliments-fermentes/4-atouts-aliments-fermentes
- Ministère des solidarités et de la santé. (2019). Programme National Nutrition Santé 2019–2023. https:// solidarites-sante. gouv.fr/IMG/pdf/pnns4_2019-2023.pdf
- OpinionWay (2022). OpinionWay pour Interbev. U&A des consommateurs de viande. Présentation du 6 juillet 2022.
- Pikosky, M.A., Cifelli, C.J., Agarwal, S., & Fulgoni, V.L. (2022). Association of Dietary Protein Intake and Grip Strength Among Adults Aged 19+ Years: NHANES 2011–2014 Analysis. Frontiers in Nutrition, 9.
- Produits laitiers durables (2021). Les produits laitiers au sein d'une alimentation durable en Europe.
- Santé publique France (2019). Recommandations relatives à l'alimentation, à l'activité physique et à la sédentarité pour les adultes.
- Tavoularis et Sauvage (2018). Les nouvelles générations transforment la consommation de viande. CREDOC – consommation et mode de vie - N° 300, ISSN 0295-9976, Septembre 2018.
- Thorning, T.K. *et al.* (2017). Whole dairy matrix or single nutrients in assessment of health effects: current evidence and knowledge gaps. Am J Clin Nutr. 2017 May; 105(5):1033-1045.
- Vieux, F., Rémond, D., Peyraud, J.L., Darmon, N. (2022). Approximately half of Total Protein intake by adults must be animal-based recommendations, with variation due to age and sex. www.ncbi.nlm.nih.gov/pmc/articles/ PMC9644177/pdf/nxac150.pdf
- Webster, J., Greenwood, D.C., Cade, J.E. (2022). Risk of hip fracture in meat-eaters, pescatarians, and vegetarians: results from the UK Women's Cohort Study. BMC Med. 11;20(1):275.