



The Protein Tracker

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THE PROTEIN TRACKER

AN ASSESSMENT TOOL FOR PROGRESS TOWARDS A BETTER BALANCE IN PLANT-BASED VS ANIMAL PROTEIN SALES

Introduction

In March 2022, the Dutch government set a national target for the shift towards alternative proteins: by 2030, the ratio of plant-based vs animal proteins consumed should equal Dutch protein consumption as it was in 1950: 50% from animal sources and 50% from plant sources¹. This ratio is in line with the Guidelines for Healthy Eating, as laid out in 'Naar een Meer Plantaardig Voedselpatroon', a publication from the Netherlands Nutrition Centre. Looking at the most recent Dutch National Food Consumption Survey carried out by the RIVM (Dutch National Institute for Public Health and the Environment), the protein ratio in the average Dutch diet consists of 58% animal protein and 42% plant-based protein². In order to achieve the 50/50 goal by 2030, a large share of consumers will need to be nudged when it comes to choosing plant-based foods.

Supermarkets have a large role to play in this dietary shift. Of all food consumed in the Netherlands, 70% is bought from supermarkets³. In order to understand how these supermarkets are contributing to the necessary shift, we need to be able to assess the volumes of proteins sold and the balance between plant-based vs animal proteins in the products sold.

This is why The Protein Tracker (Dutch: Eiweet monitor) was developed at the initiative of the Green Protein Alliance (GPA) in collaboration with ProVeg Netherlands and Dutch supermarkets, with input from experts at Natuur&Milieu and Questionmark Foundation.

The Protein Tracker offers two main benefits:

1. A standardised measuring tool for retailers to track the absolute volumes of products sold and the ratio of plant-based vs animal sourced protein in their sales, and monitor their progress over time;
2. A long-term project team in which supermarkets, the Green Protein Alliance and ProVeg come together to share experiences, set shared goals, work on continuous improvement of the methodology and maximise our collective contribution towards the 50/50 goal.

The Protein Tracker aims to create a level playing field for all supermarkets and supermarket chains. The results from their standardised assessments can be used by the government to monitor progress towards the 50/50 goal on a national level. For individual supermarket chains, the methodology helps to more effectively target their efforts: clear data on protein content sold at product category-level can point them towards the most effective ways to increase plant-based protein sales while reducing sales of animal-sourced protein. The Protein Tracker also offers supermarket chains a tool with which to communicate that they value transparency and are demonstrably committed to a more sustainable society. It offers a starting point for conversation among companies and encourages us to work together to accelerate the shift towards a more plant-based diet.

Sources:

¹ <https://zoek.officielebekendmakingen.nl/dossier/kst-31532-271.html>

² <https://www.waeteetnederland.nl/resultaten/richtlijnen/plantaardig-eiwit>

³ <https://www.rabobank.nl/bedrijven/cijfers-en-trends/food/supermarkten/>

Developing a standardised monitoring tool is no easy task. It is thanks to the combined efforts of supermarkets, experts, NGOs and the Dutch Ministry of Agriculture, Nature and Food Quality, that we managed to create a transparent methodology supported by both supermarket retail chains and civil society. In order to make the Protein Tracker accessible to all supermarkets, the methodology describes different action plans for different entry levels.

The guiding principle of this methodology is that it serves to work towards an updated database describing the protein content of every product. If these data are not yet available, the user of the Protein Tracker can refer to the general data on a (sub)categorical level from the NEVO Online dataset for an estimate. This way, even if the protein content of some products is unknown, a supermarket can still start monitoring their progress while receiving guidance on how to improve the quality of their data.

The first phase is a measurement on the level of (sub)categories, wherein we work with both data from specific products and data from the NEVO Online dataset. In the second phase, the protein content of products is established based on the percentages of protein as listed on their nutrition declaration. Product categories and subcategories the products belong to are then placed into a group based on the origins of the proteins they contain. Products containing only plant-based proteins that contribute significantly to the shift towards future proteins are in the group 'plant-based core'. All other products containing exclusively plant-based proteins are in the group 'plant-based non-core'. Those products containing both animal and plant-based proteins are classified as 'composite products', and those containing almost solely animal-sourced proteins will classify as 'animal core'. We calculate protein ratios in sales based on these 4 groupings.

Our pilot assessment⁴ showed that all participating supermarkets already have some data available on the protein content of a diverse range of products. The NEVO Online dataset is to be used only in cases where there is no data available on the protein content of a product or product category. To increase the accuracy of the data, the methodology is continuously updated by the users. The Protein Tracker has been designed in such a way that the data obtained through its use over the years are directly comparable to the baseline measurement.

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⁴ This pilot assessment took place between May and July 2023 and included data from supermarket chains Albert Heijn, Aldi, Dirk, Ekoplaza, Jumbo and Lidl. Their findings have been used to further improve the Protein Tracker.

The Methodology

The Protein Tracker measures the volume of animal and plant-based products and uses these volumes to establish only the kgs of protein in these products. The methodology limits itself to the evaluation of food for human consumption. The assessments are carried out based on sales data within a pre-defined period (e.g. 1 calendar year). The Protein Tracker methodology takes the user through a number of steps, which are laid out below.

1. *Linking of groups to products & (sub)categories*
2. *Calculating volume (kgs) of products sold & volume (kgs) of protein*
3. *Calculating protein ratios*
4. *Reporting progress*

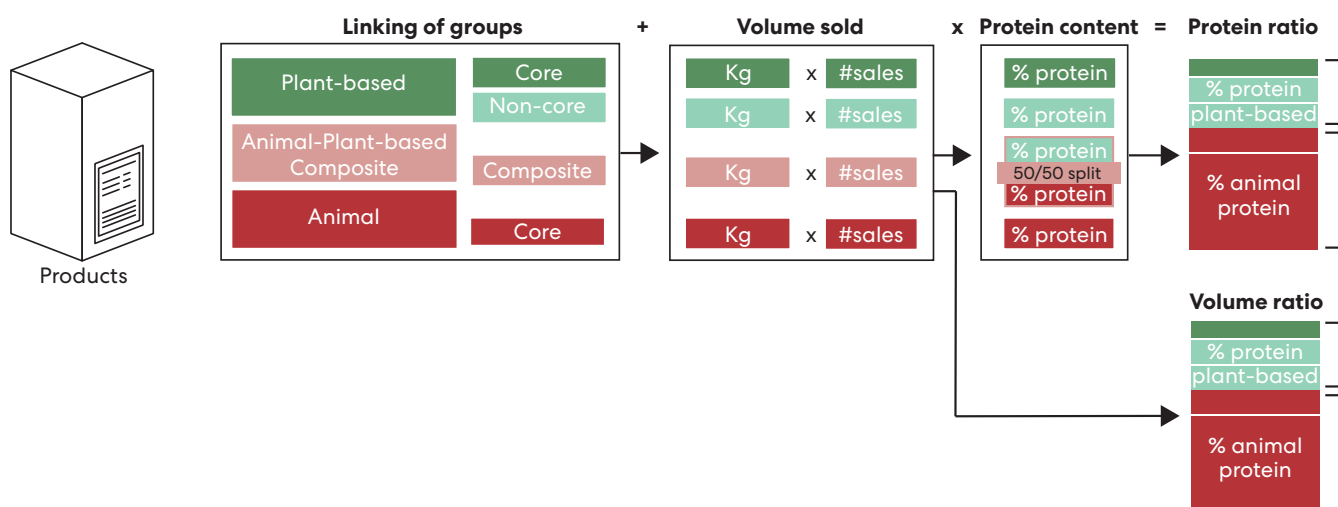


Figure 1 - The Protein Tracker methodology

1. Linking of groups to product category

Groups

The Protein Tracker distinguishes four groups on which to base an assessment of the ratios of proteins sold. These groups are: 'plant-based core', 'plant-based non-core', 'composite products' and 'animal core'. Figure 2 illustrates the structure of the groups and how they relate to protein ratios.

These core groups consist of products that have a high protein content or that contribute significantly towards more proteins in consumers' diets. If a product belongs to the 'animal core' group, that means it is made exclusively from animal ingredients or that the main protein content is almost entirely animal-sourced. The group 'plant-based core' consists of products containing only plant-based proteins AND products that serve as replacements for animal proteins. Examples of these are legumes, nuts, meat substitutes and hummus (since its main ingredient is chickpeas). Meat substitutes containing egg whites or milk do not qualify since their protein content is not exclusively plant-based.

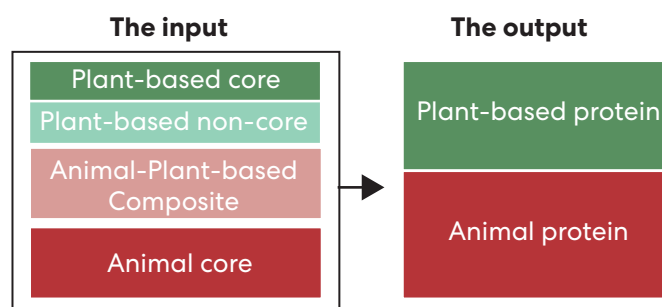


Figure 2 - Buildup of Groups

Figure 3 provides an indication of the product categories that classify as ‘core’. For a detailed description of the groupings, see Appendix 1.

The group ‘plant-based non-core’ contains products that consist of only plant proteins, but which don’t directly contribute to a shift in protein diets. This list includes fruit, rice, bread and vegetables such as carrots.

‘Composite products’ contain proteins of both plant and animal origin. These are products such as a ‘chicken and lentil salad’, an apple pie containing eggs, or ready-made lasagna bolognese with minced meat and dairy cheese. The aforementioned vegetarian meat substitutes also belong to this group. In most of the current supermarket databases, it is not possible as yet to split the protein content of a composite product into ‘plant-sourced’ and ‘animal-sourced’. We therefore classify these as ‘composite products’ for the time being. Until we have full disclosure of these data, we work based on the assumption that these proteins are 50% animal-sourced and 50% plant-sourced.

Product categories

The groups ‘animal core’, ‘plant-based core’, ‘plant-based non-core’ and ‘composite products’ are linked to product categories. This categorisation of products is based on that of the Dutch National Institute for Public Health and the Environment as stated in the NEVO Online dataset (Dutch Food Composition Database), the preferences of supermarkets and input from experts. Our grouping of the various product categories was thoroughly reviewed by Wageningen University & Research. In Appendix 2, you will find an explanation of the groups, the definitions used and an overview of product categories.

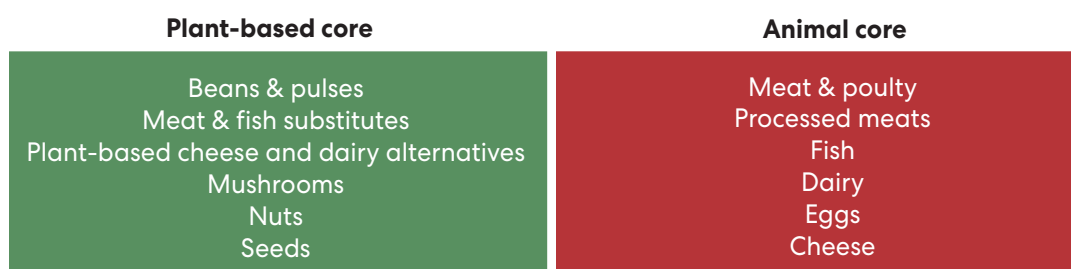


Figure 3 - Outline distribution of product categories

To complete the first step in the implementation of the The Protein Tracker methodology, a supermarket will need to link these groups up to the products or product categories in their own database. E.g.: Meat substitutes will be tagged as 'plant-based core' and rice will be tagged as 'plant-based non-core'. Chicken breast will be tagged as 'animal-core' and pizza with meat or cheese will be listed under 'composite products'.

2. Calculating volume of products sold & volume of protein

The next step is to calculate the total volume of products sold for each group. You do this by multiplying the weight of a product with the number of products sold. Next, calculate the protein content in kg of the total sales per product and add them up for each group. This is the protein content (in %) per product multiplied by the previously calculated sales volume. Figure 4 illustrates how the formula works. Supermarkets can apply two methods here:

1. Calculate protein content using a product's nutrition declaration: Nutrition declarations state the grams of protein contained per 100 grams of product. These data can be used to establish the protein content of each product.
2. Calculate protein content using the NEVO Online dataset: If no nutrition declaration is available, the protein content per product or per product category can be estimated using the NEVO Online Dataset⁵. See Appendix 3 for instructions on using NEVO Online to find an estimate of the protein content of a product.

Phases 1 and 2

In Phase 1 of the implementation of the Protein Tracker methodology, a supermarket's database will probably not have a digitised nutrition declaration stating protein content available for every product. If these data are indeed lacking, the NEVO Online dataset can be used instead to arrive at an estimate. In Phase 2, the protein content of each product in a supermarket's database should be known (thanks to data collection during implementation of the Protein Tracker) and the NEVO Online dataset no longer needs to be used.

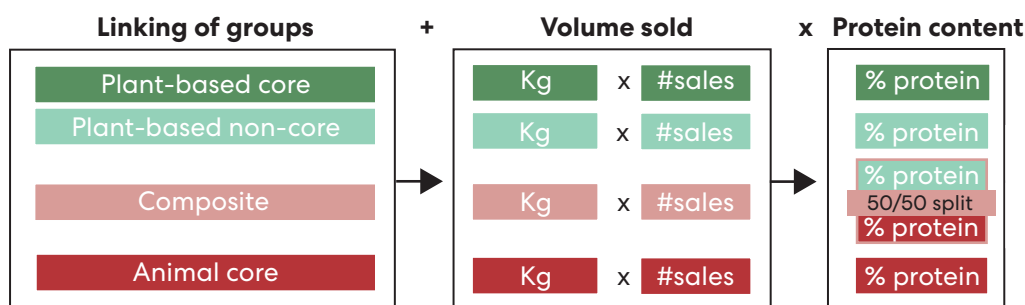


Figure 4 - Calculation of protein ratios

⁵ The protein content listed in the NEVO Online dataset is not entirely accurate because the dataset works with average percentages per product type. We recommend that supermarkets invest in creating a database holding information on protein content as listed in nutrition declarations of all their products.

3. Calculating protein ratios

Once the volume of proteins sold per group has been established, it is time to look into protein ratios. The ratios of protein volumes based on total volumes for the groups are calculated separately. To establish the final ratio between animal and plant-based proteins, the groups are finally compiled. 'Plant-based core', 'plant-based non-core' and 50% of the 'composite products' all count towards plant-based proteins. 'Animal core' and the remaining 50% of 'composite products' together count towards animal-sourced proteins. This eventually yields a balance of the total sales volumes and the ratios between plant-based (green) and animal (red) protein sold.

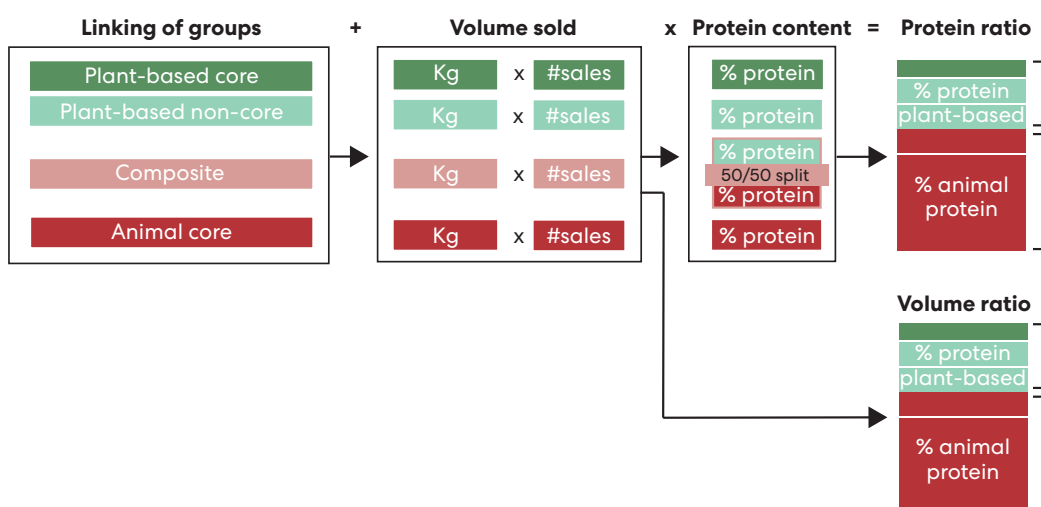


Figure 5 - Calculating protein ratios

4. Reporting progress

The final step in the process of using The Protein Tracker is to report one's progress. The participating supermarkets will receive a Protein Tracker reporting sheet to share their data on the total volumes sold and protein volumes sold per group with the Green Protein Alliance and ProVeg. The latter two will merge the reports into a national progress report encompassing all Dutch supermarkets.

Publications

In 2024, the Green Protein Alliance and ProVeg will publish a nationwide baseline assessment: this will reflect the balance between the total volume of animal/plant-based products and the volume of animal/plant-based proteins sold in Dutch supermarkets. These ratios will be shared with the Dutch Ministry of Agriculture, Nature and Food Quality. From 2024, the publication of these national figures will be repeated annually. The Green Protein Alliance and ProVeg will not make public any data from individual supermarkets obtained through use of The Protein Tracker. The decision of whether or not to publish these results lies with the supermarkets.

New opportunities for supermarkets

The detailed data that the Protein Tracker provides on groups and product categories across the entire range of food for human consumption gives supermarkets some perspectives on next steps to take. With updated knowledge of which product categories make the most significant contributions to the ratios of animal and plant-based proteins sold, supermarkets may implement and better monitor interventions such as product innovation, sales promotions, pricing and shop layout. Using the data obtained through the Protein Tracker, supermarkets can determine whether their interventions have been successful in contributing to the shift towards more plant-based protein sales.

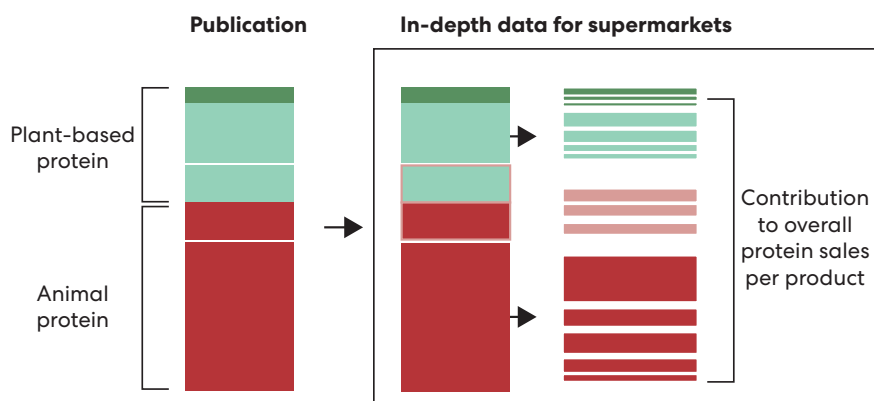


Figure 6 - Publications & benefits for supermarkets

Continuous improvement

The ultimate aim of the Protein Tracker is to provide a comprehensive and accurate assessment of Dutch supermarkets' progress in the movement towards future proteins. The most significant benefit of the methodology is its ongoing improvement, helping supermarkets move towards a situation in which they have up-to-date and accurate data available on the plant-based and animal proteins in every single product.

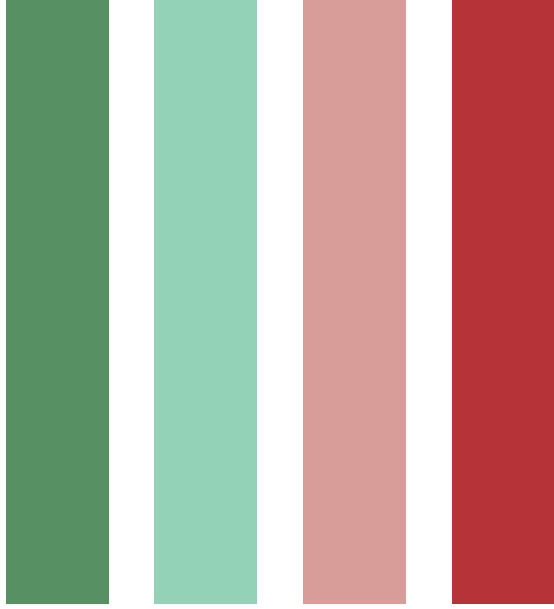
The Protein Tracker project team, which includes the Green Protein Alliance, ProVeg and all participating supermarkets, hold regular meetings for evaluation and improvement of the methodology. Companies interested in participating can apply by email to Jessie van Hattum (GreenProteinAlliance, jessie@greenproteinalliance.nl).

Expanding our range

Of course not all protein consumed in the Netherlands is bought from supermarkets. In order to create a more comprehensive overview of our progress towards more plant-based proteins, the Green Protein Alliance and ProVeg strive to implement The Protein Tracker also for the Out-of-Home (OOH) food sector.

Last but not least, we consider it important to broaden our scope of interest towards best practices abroad. Several other European countries have developed their own methodologies for measuring progress towards alternative proteins. The Green Protein Alliance and ProVeg are looking to collaborate with these initiatives and collectively work towards a European standard.





APPENDICES

APPENDIX 1 - Grouping of categories

**APPENDIX 2 - Definitions and delineation
of product categories**

**APPENDIX 3 - Step-by-step guide to using
NEVO Online**

APPENDIX 1 - Grouping of categories

Productgroup	Productcategory	Subcategory	Protein group
Fruit & vegetables	Canned pulses	Pulses	Plant-based core
Fruit & vegetables	Vegetables	Frozen pulses	Plant-based core
Fruit & vegetables	Sprouts	Sprouts	Plant-based core
Fruit & vegetables	Nuts	Nuts, peanuts	Plant-based core
Fruit & vegetables	Mushrooms	Unprocessed, ready-to-eat	Plant-based core
Baking products	Noten	Baknoten	Plant-based core
Baking products	Baking products ingredients	Vegan ei vervanger	Plant-based core
Spreads	Sandwich spreads	Peanut butter, nut butter	Plant-based core
Spreads	Hummus	Hummus	Plant-based core
Frozen ice	Frozen plant-based alternative to dairy ice	Frozen plant-based alternative to dairy ice	Plant-based core
Beverages	Chocolate drinks	Plant-based chocolate drinks	Plant-based core
Grains	Pasta	Pulse pasta	Plant-based core
Cheese	Plant-based alternative to international cheese	Plant-based alternative to international cheese	Plant-based core
Cheese	Alternatives to other	For baking, cooking & other	Plant-based core
Cheese	Alternatives to cheese slices and blocks	Dutch Cheese / Goat Cheese	Plant-based core
Cheese	Alternatives to grated cheese	Alternatives to grated cheese	Plant-based core
Cheese	Alternatives to cheese spreads	Cream cheese, dairy spreads	Plant-based core
Meal components	Sauces	Peanut sauce	Plant-based core
Nuts	Nuts	Unprocessed, roasted	Plant-based core
Nuts	Nuts	Salted, seasoned nuts	Plant-based core
Nuts	Nuts	Seeds	Plant-based core
Nuts	Nuts	Unsalted	Plant-based core
Fats, Oils and vinegar	Butters	Margarine	Plant-based core
Fats, Oils and vinegar	Butters	Plant-based butter (solid)	Plant-based core
Fats, Oils and vinegar	Butters	Plant-based butter (liquid)	Plant-based core
Pulses	Pulses	Dried	Plant-based core
Pulses	Pulses	Canned, bagged or jarred	Plant-based core
Tapas	Tapas hummus	Hummus	Plant-based core
Meat/fish/poultry	Vegan canned meat, fish	Vegan canned meat, fish	Plant-based core
Meat/fish/poultry	Fish & fishery products	Wakame, seaweed	Plant-based core
Meat/fish/poultry	Meat substitutes	Burgers, sausages, mince	Plant-based core
Meat/fish/poultry	Meat substitutes	Falafel, vegan meatballs	Plant-based core
Meat/fish/poultry	Meat substitutes	Other	Plant-based core
Meat/fish/poultry	Meat substitutes	Schnitzel	Plant-based core
Meat/fish/poultry	Meat substitutes	Tofu, tempeh, seitan	Plant-based core
Meat/fish/poultry	Plant-based processed meats	Spreads	Plant-based core
Meat/fish/poultry	Plant-based processed meats	Sliced	Plant-based core
Meat/fish/poultry	Plant-based processed meats	Other	Plant-based core
Meat/fish/poultry	Plant-based processed meats	International	Plant-based core
Meat/fish/poultry	Plant-based processed meats	Grill	Plant-based core
World foods	Other continents	Pulses	Plant-based core
World foods	Oriental	Indonesian peanut sauce	Plant-based core
Dairy	Plant-based drinks	Chilled	Plant-based core
Dairy	Plant-based drinks	Long-life	Plant-based core
Dairy	Plant-based dairy alternatives	Yogurt, cooking creams, desserts	Plant-based core
Fruit & vegetables	Potatoes	Potatoes	Plant-based non-core
Fruit & vegetables	Canned fruit	Canned fruit	Plant-based non-core
Fruit & vegetables	Canned vegetables	Vegetables (no pulses)	Plant-based non-core
Fruit & vegetables	Fruit	Citrus, bananas	Plant-based non-core
Fruit & vegetables	Fruit	Fruit	Plant-based non-core
Fruit & vegetables	Fruit	Frozen fruit	Plant-based non-core
Fruit & vegetables	Fruit	Hard fruit	Plant-based non-core
Fruit & vegetables	Fruit	Soft fruit, exotic fruit	Plant-based non-core
Fruit & vegetables	Vegetables	Ready-to-cook	Plant-based non-core
Fruit & vegetables	Vegetables	Entire fresh raw vegetables	Plant-based non-core
Fruit & vegetables	Vegetables	Fresh vegetables for cooking	Plant-based non-core
Fruit & vegetables	Vegetables	Peeled cut and shredded fruit and vegetables	Plant-based non-core
Fruit & vegetables	Nuts and dried fruits	Dried fruit	Plant-based non-core
Fruit & vegetables	Allium vegetables & peppers	Onion, garlic, pepper, etc.	Plant-based non-core
Fruit & vegetables	Soup kit	Vegetable soup kit	Plant-based non-core
Bakery wares	Bake at home rolls	Bake at home wholemeal or white bread	Plant-based non-core
Bakery wares	Bake at home snacks	Vegan alternatives (cake, donuts)	Plant-based non-core
Bakery wares	Bread loaf	Bake at home bread rolls, bread or baguette	Plant-based non-core
Bakery wares	Fruit loaf or cake	Fruit loaf	Plant-based non-core
Bakery wares	Bread or baguette in modified atmosphere packag	Bake at home bread rolls, bread or baguette	Plant-based non-core
Bakery wares	Pastry	Vegan pastries	Plant-based non-core
Bakery wares	Bake at home baguette	Bake at home baguette	Plant-based non-core
Bakery wares	Bread varieties	Plant-based bread varieties	Plant-based non-core
Baking products	Baking mix	Bread	Plant-based non-core
Baking products	Baking mix	Fried dough snacks	Plant-based non-core
Baking products	Baking products ingredients	Flour	Plant-based non-core
Baking products	Baking products ingredients	Potato starch	Plant-based non-core
Baking products	Baking products ingredients	Sugar, sweeteners, sugar decorations	Plant-based non-core
Baking products	Baking products ingredients	Canned fruits	Plant-based non-core
Baking products	Baking products ingredients	Souther fruits	Plant-based non-core
Spreads	Sweet spreads	Fruit spreads, jam, marmelade	Plant-based non-core
Spreads	Sweet spreads	Sprinkles for bread	Plant-based non-core
Spreads	Plant-based sandwich spreads	Plant-based sandwich spreads (hummus excluded)	Plant-based non-core
Spreads	Sweet spreads	Dutch coconut bread	Plant-based non-core
Convenience	Meals	Plant-based meals	Plant-based non-core
Convenience	Meals	Vegetable sushi	Plant-based non-core
Convenience	Meals	Plant-based pasta, lasagna sheets, gnocchi	Plant-based non-core

Convenience	Meals	Plant-based meals, pizzas	Plant-based non-core
Frozen ice	Frozen ice cubes	Frozen ice cubes	Plant-based non-core
Frozen ice	Frozen water ice, sorbet	Frozen water ice, sorbet	Plant-based non-core
Frozen meals	Frozen plant-based meals, pizzas	Frozen plant-based meals, pizzas	Plant-based non-core
Frozen meals	Frozen meals	Plant-based meals, pizzas, bread	Plant-based non-core
Frozen meal components	Frozen potatoes	Frozen potatoes	Plant-based non-core
Frozen meal components	Frozen fruit	Frozen fruit	Plant-based non-core
Frozen meal components	Frozen vegetables	Frozen vegetables	Plant-based non-core
Frozen meal components	Frozen plant-based bread & pastry	Frozen plant-based bread & pastry	Plant-based non-core
Frozen snacks	Vegan	Vegan	Plant-based non-core
Beverages	Alcoholic beverages	Alcoholic beverages	Plant-based non-core
Beverages	Soft drinks	Soft drinks	Plant-based non-core
Beverages	Coffee	Coffee and cocoa	Plant-based non-core
Beverages	Coffee	Coffee beans (whole, grounded)	Plant-based non-core
Beverages	Coffee	Coffee cups, pads, instant coffee with no milk or plant-based milk	Plant-based non-core
Beverages	Coffee add-ins	Sugar	Plant-based non-core
Beverages	Juices	Fresh juices	Plant-based non-core
Beverages	Juices	Shots	Plant-based non-core
Beverages	Tea	Tea	Plant-based non-core
Beverages	Water	Water	Plant-based non-core
Grains	Bread substitutes	Crackers	Plant-based non-core
Grains	Bread substitutes	Fruit cake	Plant-based non-core
Grains	Bread substitutes	Rice crackers	Plant-based non-core
Grains	Breakfast cereals	Oats & other cereals	Plant-based non-core
Grains	Pasta	Plant-based pasta, lasagna sheets, gnocchi	Plant-based non-core
Grains	Rice	Rice	Plant-based non-core
Grains	World grains	Bulgur, couscous, Israeli couscous, risotto	Plant-based non-core
Grains	World grains	Quinoa	Plant-based non-core
Grains	World grains	Granola, processed cereals	Plant-based non-core
Long shelf-life snacks	Chips	Dips	Plant-based non-core
Long shelf-life snacks	Chips	Plant-based chips	Plant-based non-core
Long shelf-life snacks	Chips	Popcorn	Plant-based non-core
Long shelf-life snacks	Chocolate	Plant-based chocolates, confectionary	Plant-based non-core
Biscuits	Biscuits and cookies	Plant-based biscuits, fresh cookies, etc.	Plant-based non-core
Herbs and spices	Herbs	Dried herbs & spices	Plant-based non-core
Herbs and spices	Herbs	Fresh herbs	Plant-based non-core
Meals	Plant-based salades, meals and pizzas	Plant-based salades, meals and pizzas	Plant-based non-core
Meals	Pre-made sandwiches	Vegan pre-made sandwiches	Plant-based non-core
Meal components	Other	Other	Plant-based non-core
Meal components	Puff pastry shells	Puff pastry shells	Plant-based non-core
Meal components	Condiments	Ketchup , curry sauce, mustard, naturally plant-based sauces	Plant-based non-core
Meal components	Condiments	Plant-based sauces	Plant-based non-core
Meal components	Condiments	Plant-based mayonnaise	Plant-based non-core
Meal components	Condiments	Condiments	Plant-based non-core
Meal components	Salad add-ins	Plant-based vinegars, croutons, herbs, nuts	Plant-based non-core
Fats, Oils and vinegar	Vinegar	Vinegar	Plant-based non-core
Fats, Oils and vinegar	Oils	Oils	Plant-based non-core
Other categories	Gluten-free	Plant-based products mix	Plant-based non-core
Savouries	Savoury snacks	Plant-based nut mix, popcorn, crackers	Plant-based non-core
Savouries	Savoury snacks	Plant-based nut mix, salty snacks, rice crackers	Plant-based non-core
Snacks sweet	Sweets	Plant-based sweets, liquorice	Plant-based non-core
Snacks sweet	Sweet snacks	Plant-based muesli and energy bars	Plant-based non-core
Snacks sweet	Sweet snacks	Plant-based bars	Plant-based non-core
Soup	Bouillon and stock	Vegetable, mushroom	Plant-based non-core
Soup	Noodle soup	Vegetable, mushroom flavour	Plant-based non-core
Soup	Canned or bagged soup	Plant-based soup	Plant-based non-core
Tapas	Tapas plant-based spreads	Tapas plant-based spreads (hummus excluded)	Plant-based non-core
Tapas	Olives, dried fruits, sundried tomatoes	Olives, dried fruits, sundried tomatoes	Plant-based non-core
World foods	Italian	Sundried tomatoes, peppers in oil, olives, capers	Plant-based non-core
World foods	Italian	Canned tomatoes, passata, tomato puree, diced tomatoes	Plant-based non-core
World foods	Central America	Wraps, tortillas, tacos	Plant-based non-core
World foods	Oriental	Rice noodles, rice sheets	Plant-based non-core
World foods	Italian	Plant-based toast	Plant-based non-core
World foods	Meal kit	Meal kit	Plant-based non-core
World foods	Central America	Canned vegetables (jalapeños)	Plant-based non-core
World foods	Central America	Guacemole, salsa	Plant-based non-core
World foods	Central America	Coconut milk, coconut flakes	Plant-based non-core
World foods	Oriental	Condiments (kimchi, onion, spice mixes)	Plant-based non-core
World foods	Oriental	Soy sauce, hot sauce	Plant-based non-core
World foods	Oriental	Vegan prawn crackers	Plant-based non-core
World foods	Oriental	Dried spice mixes	Plant-based non-core
Bakery wares	Bake at home croissants	Croissants	Composite products
Bakery wares	Bake at home snacks	Snack rolls, scones, etc.	Composite products
Bakery wares	Bake at home sweets	Pies, cookies, etc.	Composite products
Bakery wares	Bread varieties	Mix	Composite products
Bakery wares	Pastry	Small tarts and cakes	Composite products
Bakery wares	Pastry	Cakes, loaves	Composite products
Bakery wares	Defrosted sweet bakery	Cake, donuts, muffins, etc.	Composite products
Bakery wares	Soft bread	Soft rolls	Composite products
Bakery wares	Soft bread	Brioche, milk bread rolls, etc.	Composite products
Bakery wares	Pastry in modified atmosphere packaging	Focaccia, croissants, sausage rolls, etc.	Composite products
Bakery wares	Sweet pastry in modified atmosphere packaging	Cinnamon rolls, chocolate croissants, etc.	Composite products
Baking products	Baking mixes	Cake, biscuits	Composite products

Spreads	Sweet spreads	Chocolate sprinkles	Composite products
Spreads	Sweet spreads	Chocolate spread	Composite products
Convenience	(Fresh) pizza	(Fresh) pizza	Composite products
Convenience	Bakery, pastry, other cereal products	Bapao ,other snacks	Composite products
Convenience	Bakery, pastry, other cereal products	Pre-made sandwiches	Composite products
Convenience	Bakery, pastry, other cereal products	Quiche, baguette with spread	Composite products
Convenience	Bakery, pastry, other cereal products	Pancakes	Composite products
Convenience	Bakery, pastry, other cereal products	Millefeuille containing dairy butter	Composite products
Convenience	Bakery, pastry, other cereal products	Buttered baguette, filled/stuffed bread	Composite products
Convenience	Meals	Dutch Meals	Composite products
Convenience	Meals	Italian meals	Composite products
Convenience	Meals	Oriental meals	Composite products
Convenience	Meals	Other meals	Composite products
Convenience	Meals	Fresh pasta	Composite products
Convenience	Meals	Fresh pasta sauce	Composite products
Convenience	Ultra fresh meal	Ultra fresh meal	Composite products
Frozen meals	Frozen meals	Mixed meals with animal products	Composite products
Frozen meals	Frozen pizza	Frozen pizza	Composite products
Frozen meals	Frozen soups	Frozen soups	Composite products
Frozen meal components	Frozen millefeuille and pastry	Frozen millefeuille and pastry	Composite products
Frozen meal components	Frozen bread	Frozen bread	Composite products
Frozen meal components	Frozen pastry and dessert	Frozen pastry and dessert	Composite products
Frozen snacks	Puff pastry, dumplings	Puff pastry, dumplings	Composite products
Frozen snacks	Oriental snacks	Oriental snacks	Composite products
Beverages	Smoothies	Smoothies	Composite products
Grains	Bread substitutes	Cheese crackers	Composite products
Grains	Pasta	Fresh pasta with eggs	Composite products
Grains	Pasta	Tortellini, ravioli	Composite products
Long shelf-life other	Pasta	Meals	Composite products
Long shelf-life snacks	Chips	Chips	Composite products
Long shelf-life snacks	Chocolate	Candy bars	Composite products
Cookies & biscuits	Fresh cookies, biscuits	Biscuits	Composite products
Cookies & biscuits	Fresh cookies, biscuits	Fresh cookies, cookies, etc.	Composite products
Meals	Pre-made sandwiches	Pre-made sandwiches with animal ingredients	Composite products
Meals	Salads (fresh & ready to eat)	Salads (fresh & ready to eat)	Composite products
Meals	Pre-made meals	Pre-made meals, microwave meals	Composite products
Meal components	Condiments	Dips	Composite products
Meal components	Condiments	Salad dressing	Composite products
Other	Other	Other	Composite products
Other categories	Gluten-free	Products mix	Composite products
Savouries	Savoury snacks	Nuts, salty snacks, rice crackers	Composite products
Savouries	Savoury snacks	Toasties	Composite products
Snacks sweet	Sweets	Candy, liquorice	Composite products
Snacks sweet	Sweet snacks	Fruit bars	Composite products
Snacks sweet	Sweet snacks	Muesli bars, energy bars	Composite products
Soup	Noodle soup	Vegetable, mushroom flavour	Composite products
Soup	Canned or bagged soups	Soups containing chicken, beef, fish, pork, eggs, cheese, cream	Composite products
Tapas	Mixed spreads, olives with cheese	Vegetarian spreads	Composite products
Meat/fish/poultry	Meat substitutes	Vegetarian meat substitutes	Composite products
Meat/fish/poultry	Cold meats	Paté and meat spreads	Composite products
World foods	Italian	Pesto, tapenade	Composite products
World foods	Italian	Toast	Composite products
World foods	Oriental	Egg noodles	Composite products
World foods	Other	Polish, Turkish, Moroccan, Lebanese, etc.	Composite products
World foods	Oriental	Sambal oelek	Composite products
World foods	Central America	Sauces, spice packages, meal kits	Composite products
World foods	Oriental	Sauces, spice packages, meal kits	Composite products
Bakery wares	Bake at home rolls	Stuffed	Animal core
Baking products	Baking mixes	Pudding	Animal core
Baking products	Baking products ingredients	Gelatine	Animal core
Baking products	Baking products ready-to-use	Cake base, tartelettes	Animal core
Convenience	Meals	Sushi with fish and/or eggs	Animal core
Frozen	Poultry	Poultry	Animal core
Frozen	Fish & fishery products	Fish & fishery products	Animal core
Frozen	Meat	Meat	Animal core
Frozen ice	Frozen ice cream	Frozen ice cream, Italian ice cream	Animal core
Frozen snacks	Bites meat, game, poultry	Bites meat, game, poultry	Animal core
Beverages	Coffee	Coffee cups, pads, instant coffee with milk, cocoa with milk	Animal core
Beverages	Chocolate drinks	Chocolate drinks	Animal core
Beverages	Coffee add-ins	Coffee creamer	Animal core
Eggs	Eggs	Eggs	Animal core
Long shelf-life other	Baby food	Baby milk formulas	Animal core
Long shelf-life snacks	Chocolate	Chocolate bars, chocolates	Animal core
Cheese	International cheeses	International cheeses	Animal core
Cheese	Other	For baking, cooking & other	Animal core
Cheese	Slices and blocks	Goat cheese	Animal core
Cheese	Slices and blocks	Dutch cheese	Animal core
Cheese	Grated cheese	Grated cheese	Animal core
Cheese	Cheese spreads	Cream cheese, dairy spreads	Animal core
Meal components	Condiments	Gravy	Animal core
Meal components	Condiments	Mayonnaise	Animal core
Oils, fats and vinegar	Butters	Butter for baking, frying	Animal core
Oils, fats and vinegar	Butters	Butter (solid)	Animal core

Oils, fats and vinegar	Butters	Flavoured butter	Animal core
Soup	Bouillon and stock	Chicken, beef, pork, fish, game.	Animal core
Tapas	Cheese blocks	Cheese blocks	Animal core
Tapas	Eggs	Eggs	Animal core
Tapas	Animal spreads	Animal spreads	Animal core
Tapas	Meat/fish/poultry	Poultry	Animal core
Tapas	Meat/fish/poultry	Beef	Animal core
Tapas	Meat/fish/poultry	Pork	Animal core
Meat/fish/poultry	Cold meats	Sandwich spreads	Animal core
Meat/fish/poultry	Canned goods	Poultry	Animal core
Meat/fish/poultry	Canned goods	Fish	Animal core
Meat/fish/poultry	Canned goods	Meat	Animal core
Meat/fish/poultry	Dried sausages, smoked sausages	Dried sausages, smoked sausages	Animal core
Meat/fish/poultry	Poultry	Fillet	Animal core
Meat/fish/poultry	Poultry	Grill	Animal core
Meat/fish/poultry	Poultry	Halal	Animal core
Meat/fish/poultry	Poultry	With bones	Animal core
Meat/fish/poultry	Poultry	Schnitzel	Animal core
Meat/fish/poultry	Other	Lamb, veal, horse, turkey	Animal core
Meat/fish/poultry	Other	For preparation	Animal core
Meat/fish/poultry	Beef	Burgers, meat balls, other	Animal core
Meat/fish/poultry	Beef	Minced meat	Animal core
Meat/fish/poultry	Beef	Grill	Animal core
Meat/fish/poultry	Beef	Halal	Animal core
Meat/fish/poultry	Beef	Parts and cuts (for frying, stews, etc.)	Animal core
Meat/fish/poultry	Beef	Sausages	Animal core
Meat/fish/poultry	Pork	Grill	Animal core
Meat/fish/poultry	Pork	Add-ins (diced ham, etc)	Animal core
Meat/fish/poultry	Pork	Schnitzel	Animal core
Meat/fish/poultry	Pork	Parts and cuts (chops, ham, roulade, etc)	Animal core
Meat/fish/poultry	Pork	Sausages	Animal core
Meat/fish/poultry	Fish & fishery products	Seafood	Animal core
Meat/fish/poultry	Fish & fishery products	For lunch, brunch, snacks	Animal core
Meat/fish/poultry	Processed meats	Sliced	Animal core
Meat/fish/poultry	Processed meats	Meat balls, other	Animal core
Meat/fish/poultry	Processed meats	International	Animal core
Meat/fish/poultry	Processed meats	Grill	Animal core
Meat/fish/poultry	Game	Game	Animal core
World foods	Italian	Sauces with meat	Animal core
World foods	Other	Long shelf-life meat	Animal core
World foods	Polish	Meats	Animal core
World foods	Oriental	Prawn crackers	Animal core
World foods	Oriental	Fish sauce	Animal core
Dairy	Dairy desserts	Pudding/porridge	Animal core
Dairy	Dairy desserts	Desserts	Animal core
Dairy	Milk	Drinks	Animal core
Dairy	Milk	Long life milk	Animal core
Dairy	Milk	Fresh milk	Animal core
Dairy	Dairy for cooking	Cooking cream, crème fraîche	Animal core
Dairy	Dairy desserts	Yogurt & other fermented dairy products	Animal core
Dairy	Dairy desserts	Sweet cooking cream, crème fraîche	Animal core

APPENDIX 2 - Definitions and delineation of product categories

Delineation of product categories

The Protein Tracker focuses solely on protein, not on other nutrients or ingredients found in food products. It is important to note that although there is significant overlap between plant-based protein products and vegan products, a product does not have to be 100% vegan to be grouped with 'plant-based'. Examples of such products are granola sweetened with honey or products containing E numbers of animal origin. Because the protein in these products is entirely vegan, they will still be grouped under plant-based (core or non-core).

Plant-based, vegetarian and vegan

As yet there is no standardised definition of the term 'plant-based'. Experts from ISO are developing a definition. If, upon publication of the ISO-definition, it does not align with the above subdivision of plant-based groups (in other words: if the use of the term 'plant-based' still allows for x% of animal-derived protein in the product), we will evaluate how this impacts the The Protein Tracker and how we can implement this new definition. The impact of such a change on the protein ratios laid out in this document is expected to be relatively insignificant.

The classification of products as 'vegan' or 'vegetarian' in the Protein Tracker methodology is based on widely accepted societal definitions:

Vegan: Not containing any ingredients or processing aids of animal origin. Products carrying the label 'vegan' are automatically classified as 'plant-based core' or 'plant-based non-core'. Proteins from fungi and microorganisms (mushrooms, yeast, mycoprotein, etc.) all qualify as vegan too.

Vegetarian: Not containing any products or by-products from slaughter. Products carrying the label 'vegetarian' will often consist (in part) of animal ingredients and fall into the group 'animal-core' or 'composite products'.

Innovation

The field of protein production is thriving with innovation. Newly developed products are finding their way to our supermarket shelves almost daily. Consider such potential game changers as cultured meat or products made with proteins derived from precision fermentation. The Protein Tracker aims to align itself with societally accepted definitions for its classification of products as plant-based, animal, or composite. Whenever a definition is lacking, the matter is discussed in the Protein Tracker project team. The project team will continue to come together to make sure the Protein Tracker methodology is up-to-date with technological and societal developments.

Product categories and groups

There are a number of product categories that we classify as 'composite products' even if they contain mostly food products with exclusively plant-based proteins. This is because some of the products from this (sub) category contain a small percentage of animal proteins.

These are categories such as chips, chocolate, granola and tapenades. We have chosen to place these categories in 'composite products' for three reasons:

1. By making calculations for these products with the 50/50 ratio, we reduce data distortion. This is because 50% of the protein from these categories already counts towards the plant-based share of protein volumes sold;
2. Classifying these products as fully plant-based would remove the incentive for food category managers to veganise products still containing a small share of animal ingredients;
3. The problem of data accuracy will be solved automatically once measurements are carried out at the product level, and each product containing solely plant-based proteins is grouped with 'plant-based core' or 'plant-based non-core'.

In the linking of groups to food (sub)categories in the Protein Tracker methodology the following rules were used as a guideline:

- If 100% of products from a (sub)category are plant-based/vegan, the product category will classify as 'plant-based core/ non-core'.
- If a (sub)category falls within a product group identified as relevant to the shift towards alternative proteins ('core'), it will classify as 'plant-based core' or 'animal core'.
- If a mainly plant-based (sub)category also lists products that contain animal ingredients, this category will fall into 'composite products'.
- If a (sub)category contains vegan/plant-based, vegetarian and meat/fish/poultry products, this category is labelled as 'composite products'.
- If a (sub)category contains products with solely animal-sourced ingredients, it will be classified as 'animal core'.
- Wherever possible, we distinguish between (sub)categories with animal products and (sub)categories with plant-based products. If it is not possible to distinguish, the (sub)category will be classified as 'composite products'.
- If a (sub)category containing almost exclusively animal-sourced products also lists a few individual plant-based products, it will still classify as 'animal core'.

Note: Some (sub)categories will contain individual products that diverge from the rest of their group. Supermarkets may sort these individual products manually into the correct group during their data analysis. This may be relevant if a plant-based product falls into an animal subcategory. The individual product can then still be tagged as 'plant-based' (core or non-core). The other products from the subcategory will remain tagged as 'animal-core'.

APPENDIX 3 - Step-by-step guide to using NEVO Online

How to use the NEVO Online database

If data on the protein content of a product or product category are not available in a supermarket's dataset, we recommend using the NEVO Online database to arrive at an estimate of the protein content. Take the following steps to determine the protein content of a product or product category.

Note: The NEVO Online database (developed in the Netherlands) provides data on the composition of foods expressed per 100 g edible part. For information that is relevant to your practice, please refer to comparable datasets specific to your country.

For product categories

1. Download the NEVO Online dataset <https://www.rivm.nl/form/nevo-online-gegevensbestand-2>
2. Select all products that correspond with the relevant category.
3. Select the protein content of all these products and calculate their average.
4. This result can be taken and used as the average of the product category.

For products

1. Download the NEVO Online dataset <https://www.rivm.nl/en/dutch-food-composition-database/access-nevo-data/request-dataset>
2. From the dataset, select the product that best corresponds with the product you want to evaluate.
3. Select the protein content of that product. This protein content estimate can be used for calculations regarding the product.

Note: The parties responsible for developing the Protein Tracker methodology are aware that data regarding products or product categories based on the NEVO Online dataset are not the most reliable data. The Green Protein Alliance and ProVeg are happy to offer support in the selection of products and product categories and in improving the quality of the available data, so that we can collectively work towards a situation where we no longer rely on the NEVO Online database for obtaining the required information.