

A healthy protein transition executive summary



Introduction and request for advice

The current levels of consumption and production of food exert significant pressure on the environment. Globally, the food system is estimated to account for approximately 30% of total greenhouse gas emissions, 60% of land biodiversity loss and over 50% of nitrogen emissions. Research has shown that altering the food system is essential to meet climate targets and ensure a sufficient supply of healthy food for the global population in the future. A significant part of the Dutch diet's environmental impact comes from animal-based foods. Additionally, the consumption of certain animal protein sources is linked to an increased risk of chronic diseases. Moreover, our current diet is one of overconsumption: we are eating more than necessary.

Proteins are integral to a healthy diet. In the Dutch diet, proteins are primarily derived from meat (and meat products), dairy, bread, grains, rice and pasta. Currently, the majority (57%) of proteins come from animal-based foods. The Dutch government is aiming for a shift towards a diet with more plant-based and fewer animal-based proteins, known as the protein transition. The goal is a 50% animal-based and 50% plant-based protein ratio by 2030, according to the Wheel of Five.

Calculations indicate that a further shift towards plant-based proteins is needed to reduce environmental impact. At the request of the Minister of Agriculture, Nature and Food Quality and the State Secretary for Health, Welfare and Sport, the Health Council of the Netherlands has examined the health consequences of the protein transition, particularly the shift towards a diet with 60% plant-based and 40% animal-based proteins. The Health Council was also asked to assess the environmental impact of this shift and its implications for future dietary guidelines.

Committee and methodology

This advisory report was drawn up by the Health Council's temporary Protein Transition Committee. The advisory report is based on empirical research into the relationship between a more plant-based diet, protein sources and chronic diseases or its risk factors. The Committee also assessed the nutritional effect of a shift towards a more plant-based and less animal-based diet through modelling research, focusing on both the general population and specific groups. Additionally, the Committee assessed the effect of the protein transition on the environment.

The protein transition as a shift and decrease

The protein transition involves a change in the diet of a significant portion of the Dutch population. This change goes beyond proteins, as the protein transition also affects the intake of other nutrients. In this advisory report, the Committee uses the term 'protein transition' for the shift towards a diet that includes more plant-based and fewer animal-based proteins without sacrificing energy intake. The Committee specifically focused on the shift towards 60% plant-based and 40% animal-based proteins. In practice, this will also decrease the total protein intake, as plant-based protein sources generally contain fewer proteins than animal-based sources.

The protein transition is a healthy development for the general population

The Committee has concluded that the shift to a diet with 60% plant-based and 40% animal-based proteins is beneficial for the health of most Dutch people. This diet aligns better with the Dutch dietary guidelines than the current Dutch diet. An important advantage of the protein transition is that it will reduce the risk of chronic diseases. A healthy (more) plant-based diet with whole grains, fruits, vegetables, nuts and legumes lowers the risk of cardiovascular disease, type 2 diabetes and cancer. Reducing the consumption of red and processed meats is also associated with a lower risk of disease. Furthermore, the protein transition will lead to a decrease in the intake of saturated fats and processed salt, while increasing the dietary fibre intake. The Committee expects no detriment to

muscle and bone health for the general population due to the protein transition.

The Committee investigated whether the protein transition could result in deficiencies in certain nutrients. Animal-based foods are a source of not only protein, but other nutrients as well. The Committee has concluded that it is possible to implement the protein transition without causing nutrient deficiencies. Regarding animal protein sources, the Committee recommends reducing meat consumption and not consuming more fish and dairy than advised. To increase the intake of plant-based protein sources, the Committee advises consuming more legumes and nuts and to vary with protein sources. For ready-made meat, dairy and fish substitutes, it is essential that their nutritional composition improves, since these products often contain excessive added salt or sugar. For the benefit of consumers who regularly use these substitutes, the Committee emphasises the importance of ensuring that such products provide essential nutrients in quantities comparable to the products they replace.

Since the current Dutch diet already provides more than enough protein, a decrease in total protein intake would not result in a deficiency for most Dutch people. The Committee advises to keep monitoring the intake of vitamins A, B2 and B12, calcium, iron (in girls and women of childbearing age) and iodine to ensure adequacy.

The protein transition for specific groups

The Committee explored how the protein transition will affect specific segments of the general population, including people with chronic diseases or overweight, children, the elderly, pregnant and lactating women, and those with low protein and energy intakes. For some segments, meeting dietary reference values may be more challenging due to higher dietary reference values or lower food intake. Limited data on food consumption and nutritional status for these segments make it challenging to estimate the consequences. However, based on the available information, the Committee sees no reason to believe that the effects of the protein transition would differ for these groups. Pregnant women, breastfeeding women and those with low protein and energy intakes (e.g. due to illness or vulnerable health) require more attention. If they choose to shift towards a more plant-based diet, they should do so well-informed, for example with help from a dietitian.

A vegetarian diet as a way to implement the protein transition

The Committee suggests that adopting a vegetarian diet with fish included once a week is one way to achieve the 60% plant-based and 40% animal-based protein ratio. As long as their diet is sufficient in both quantity and variety, vegetarians should not have any deficiencies. However, attention is needed for vegetarian diets of children, pregnant and breastfeeding women, and those with low protein and energy intakes.

In 2001, the Health Council recommended a higher protein intake for vegetarians and vegans to compensate for the potentially lower protein quality in their diet. Based on new calculations, the Committee has concluded that this higher protein recommendation for vegetarians is no longer necessary. The protein recommendation for vegetarians is now in line with that for the general population. The recommendation for vegans remains unchanged, as there is insufficient data to revise the existing recommendation.

The protein transition will reduce the environmental impact

It is estimated that the shift towards a diet with 60% plant-based and 40% animal-based proteins could lead to a reduction of approximately 25% of the environmental impact compared to the current diet. This reduction applies to both greenhouse gas emissions and land use. The environmental impact could be reduced further by making different choices within product groups. For example, white meat (such as chicken) has a lower environmental impact than red meat (such as beef). The Committee notes that achieving environmental targets will require more than the protein transition. It is also needed to avoid overconsumption, to combat food waste and to reduce the environmental impact via innovation in production systems.



Recommendations

The Committee views the protein transition as a dietary change that will benefit the health of most Dutch people and yield environmental gains. Therefore, it recommends implementing policy measures targeting the entire population to achieve the current policy goals (a 50:50 ratio) and subsequently progress towards a further shift towards 40% animal and 60% plant-based proteins. Attention should be paid to pregnant women, breastfeeding women and those with low protein and energy intakes, enabling them to make informed dietary choices in making the shift. Information on nutrition should target both consumers and dietitians and caterers.

The Committee further advises monitoring the progress and health effects of the protein transition through food consumption and nutritional status research in a more diverse range of population groups than currently considered. This should include consideration of different diets and food cultures. The Committee recommends incorporating scientific data on environmental impact when quantifying future dietary guidelines and to inform recommendations on product choices within food groups.

Furthermore, the Committee advises stimulating research into:

1. the bioavailability of nutrients in plant-based diets;
2. the health effects of meat, fish and dairy substitutes, as well as alternative (new) protein sources;

3. the environmental effects of animal, plant and alternative protein sources, with attention for transparency of data;
4. the potential environmental gains from avoiding overconsumption;
5. the effects of interventions (including policy measures) targeting the food environment and behaviour change.

Policy focused on a comprehensive approach

The intake of plant-based proteins in the Netherlands has generally increased in recent years, while that of animal-based proteins has decreased. However, a faster shift is necessary to achieve the policy goal of 50% plant-based and 50% animal-based protein by 2030 and to reduce the environmental impact of the Dutch diet further. Currently, food policy mainly emphasises the consumer's responsibility, but the Committee finds this approach too limited. It recommends a robust policy that strives for a physical, social and economic environment where healthy and sustainable diets becomes the norm. Moreover, this transition can only occur if all parties involved in the food chain take responsibility.

This publication can be downloaded from www.healthcouncil.nl.

Preferred citation:

Health Council of the Netherlands. A healthy protein transition.

The Hague: Health Council of the Netherlands, 2023; publication no. 2023/19.

All rights reserved