



# Health and nutritional benefits of Dairy

- Milk and dairy products are an important part of the dietary guidelines and recommendations across the EU.
- Dairy foods are of natural sources of high-quality protein, as well as essential vitamins B2, B12 and minerals such as calcium, phosphorus and iodine.
- Research shows that dairy has beneficial effects on health beyond its nutritional value.
- People enjoy and eat foods, not nutrients. Therefore, nutrition and public health policies should focus more on foods and food patterns and less on single nutrients.
- Dairy foods are available in a wide range of products, adapted to every consumer's nutritional needs and preferences.

## Dairy foods are an important part of a healthy diet

Dietary advice all over Europe recommends that dairy products be consumed daily during all stages of life. **On average it is recommended to consume 2-3 portions of dairy foods per day for adults and 3-4 portions for children.** International institutions and public health authorities consider dairy products as an important part of a healthy balanced diet <sup>(1)</sup>. Many people in Europe do not comply with dietary recommendations and guidelines for dairy intake, in particular adolescent girls, young women, and frail elderly people (the latter representing a growing proportion of the population in the EU) <sup>(2)</sup>. Insufficient intake of dairy products may lead to unbalanced and inadequate intakes of nutrients with consequences for public health. Consuming dairy on a daily basis contributes to a better nutrient status <sup>(3, 4, 5)</sup> and is an easy, enjoyable and affordable part of a healthy and balanced diet.

## Dairy foods are naturally nutrient-rich

Milk, yoghurt and cheese are naturally rich in many essential nutrients, such as **high-quality protein, calcium, phosphorus, potassium, iodine, and the B-vitamins (in particular B2 and B12)** <sup>(6)</sup>. Dairy also contains smaller amounts of vitamin A, niacin, folate, vitamin B6, vitamin D, magnesium, selenium and zinc. A small portion of cheese (30g), or two pots of yoghurt (2 x 125g) or 250ml of milk all contain about 300mg of calcium which is the same amount provided by 3kg of fruits or 750g of vegetables. **Calcium from dairy is in general better absorbed by the human body than calcium from plant origin** <sup>(7)</sup>.

### European recommendations of dairy consumption

**2-3 servings for adults  
additional servings for children,  
pregnant & lactating women,  
and elderly**



## Health effect of dairy foods

Dairy foods provide many essential nutrients which contribute to good health at all stages of life. **High quality protein** and **calcium** are needed in sufficient amounts for normal growth and development of bones in children and adolescents and for the maintenance of bones later in life <sup>(8)</sup>. Calcium is also needed for the maintenance of normal teeth, and protein also contribute to the maintenance of muscle mass <sup>(9)</sup>.

During pregnancy and breast-feeding, many of the nutrients such as **protein, phosphorous, magnesium, iodine, vitamin B12, vitamin B2** are required in larger amounts <sup>(10)</sup>.

Scientific studies show that as part of a healthy diet dairy is associated with many health effects, including **body weight management and composition, lower blood pressure and reduced risk of type 2 diabetes** <sup>(11, 12, 13, 14, 15, 16)</sup>. A **cardio-protective effect** of dairy products has been observed in some studies <sup>(17, 19, 20)</sup>.

Several studies have found no negative links between intake of saturated fat in dairy foods and cardiovascular disease and diabetes <sup>(18)</sup>. Cheese consumption has shown no adverse effects on cholesterol levels <sup>(21, 22, 23)</sup>. The explanation for this may lie in the complex composition of milk and dairy foods which, in addition to saturated fat, contain other nutrients and bioactive components such as calcium, potassium and bioactive peptides.

Protein contributes to muscle maintenance and growth



Calcium is needed for bones, teeth and muscles



## Consumer perspective

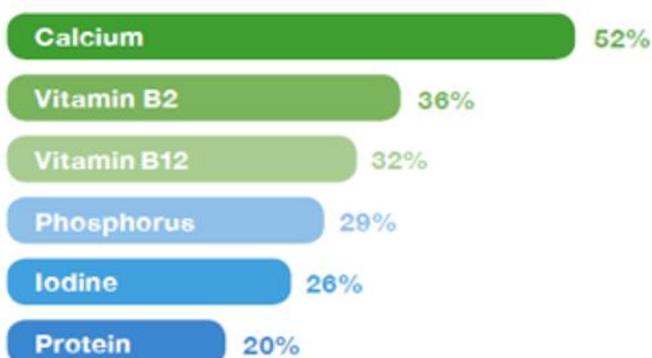
**Consumers do not eat nutrients; they eat and enjoy whole foods.** Nutrition and health policies should look at whole foods and their contribution to the overall diet and health as this is more helpful guidance to the consumers <sup>(24)</sup>.

The composition of dairy foods is largely defined by nature and the raw material – milk – which is a complex matrix of protein, lactose, fat, essential vitamins and minerals and other bioactive substances. Changes to the natural nutrient composition of dairy foods is often challenging, due to technological limitations, legal framework or consumers' acceptance.

Nevertheless, constant efforts from the dairy industry over the last decades have resulted in a **broad variety of milks, yoghurts, fermented milks and cheeses** allowing the consumers to achieve a healthy diet, according to their individual nutritional needs and preferences.



### Average contribution (%) of dairy foods to nutrient intakes in adults in European countries (Based on a survey of eight Member States)



## References and further reading

1. FAO/WHO. Fats and fatty acids in human nutrition. Report on an expert consultation. FAO Food and Nutrition Paper 91. November 10-14, 2008, Geneva. FAO 2010, Rome.
2. Deutsche Gesellschaft für Ernährung. 12. Ernährungsbericht 2012: 43-47
3. Coudray B. Contribution of dairy products to micronutrient intake in France. *J Am Coll Nutr.* 2011;30 (5 Suppl 1):410S-14S.
4. Vissers PA, Streppel MT, Feskens EJ, de Groot LC. Contribution of dairy products to micronutrient intake in The Netherlands; *J Am Coll Nutr.* 2011;30 (5Suppl 1):415S-21S.
5. Van Staveren WA, de Groot LC. Evidence-based dietary guidance and the role of dairy products for appropriate nutrition in the elderly. *J Am Coll Nutr.* 2011;30 (5 Suppl 1):4429S-437S.
6. Gaucheron F. Milk and Dairy Products: a unique micronutrient combination, *J Am Coll Nutr.* 2011 Oct;30(5 Suppl 1):400S-9S.
7. Miller GD, Jarvis JK, McBean LD. The importance of meeting calcium needs with foods. *J Am Coll Nutr.* 2001 Apr;20(2 Suppl):168S-185S. Review.
8. Commission Regulation (EC) No 983/2009 of 21 October 2009 on the authorisation and refusal of authorisation of certain health claims made on food and referring to the reduction of disease risk and to children's development and health.
9. Commission Regulation (EU) No 432/2012 of 16 May 2012 establishing a list of permitted health claims made on foods, other than those referring to the reduction of disease risk and to children's development and health.
10. EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA); Scientific Opinion on Dietary Reference Values for protein. *EFSA Journal* 2012;10(2):2557 [66 pp.]. doi:10.2903/j.efsa.2012. 2557. Available online: [www.efsa.europa.eu/efsajournal](http://www.efsa.europa.eu/efsajournal)
11. Astrup A, Chaput JP, Gilbert JA, Lorenzen JK. Dairy beverages and energy balance. *Physiol Behav.* 2010 Apr 26;100(1):67-75.
12. Van Loan M. The role of dairy foods and dietary calcium in weight management. *J Am Coll Nutr* 2009; 28: 120S-129S
13. Astrup A, Chaput JP, Gilbert JA, Lorenzen JK. Dairy beverages and energy balance. *Physiol Behav.* 2010 Apr 26;100(1):67-75.
14. Van Loan M. The role of dairy foods and dietary calcium in weight management. *J Am Coll Nutr* 2009; 28: 120S-129S
15. Abargouei AS, Janghorbani M, Salehi-Marzjarani M, Esmailzadeh A. Effect of dairy consumption on weight and body composition in adults: a systematic review and meta-analysis of randomized controlled clinical trials. *Int J Obes (Lond).* 2012 Dec;36(12):1485-93.
16. Rice BH, Quann EE, Miller GD. Meeting and exceeding dairy recommendations: effects of dairy consumption on nutrient intakes and risk of chronic disease. *Nutr Rev.* 2013 Apr;71(4):209-23.
17. Soedamah-Muthu et al. (2011). Milk and dairy consumption and incidence of cardiovascular diseases and all-cause mortality: dose-respond meta-analysis of prospective cohort studies. *Am J Clin Nutr*, 2011, vol. 93, pp 158-71.
18. de Oliveira Otto et al. (2012). Dietary intake of saturated fat by food source and incident cardiovascular disease: the Multi-Ethnic Study of Atherosclerosis. *Am J Clin Nutr.* 2012 Aug; 96(2):397-404.
19. Elwood et al. (2010). The Consumption of Milk and Dairy Foods and the Incidence of Vascular Disease and Diabetes: An Overview of the Evidence. *Lipids*, 16 April 2010.
20. Bonthuis et al. (2010). Dairy consumption and patterns of mortality of Australian adults. *Eur J Clin Nutr*, vol. 64, pp 569-577.
21. Hjerpsted et al. (2011). Cheese intake in large amounts lowers LDL-cholesterol concentrations compared with butter intake of equal fat content. *Am J Clin Nutr.* 2011 Dec vol. 94 no. 6 1479-1484.
22. Nestel et al. (2012). Circulating inflammatory and atherogenic biomarkers are not increased following single meals of dairy foods. *Eur J Clin Nutr.* 2012, 66, 25-31.
23. Nestel PJ (2008). Effects of Dairy Fats within Different Foods on Plasma Lipids. Review. *J Am Coll Nutr.* Vol. 27, no 6, pp 735S-740S.
24. Position of the academy of nutrition and dietetics: total diet approach to healthy eating. Freeland-Graves JH, Nitzke S; Academy of Nutrition and Dietetics. *J Acad Nutr Diet.* 2013 Feb;113(2):307-17.