Danone Nutricia Campus

Embracing a sustainable future

Plant-based dairy alternatives

Key findings from two comprehensive 2023 scientific reviews investigating the nutrient profile and role of plant-based dairy alternatives within healthy and sustainable diets

Policy makers & health professionals

Fortified plant-based drinks and alternatives to yogurt have a role to play within healthy and sustainable national food-based dietary guidelines without compromising nutritional status

Recommendations for industry

Industry should consider the nutritional needs of different population groups and adjust fortification practices accordingly

Advising consumers

Soya, oat and almond products are **generally recommended** over rice and coconut varieties.

Plant-based alternatives to dairy, irrespective of protein content, will not compromise protein status in healthy individuals consuming a balanced and varied diet. For individuals with specific concerns about protein intake, soya varieties are a suitable choice given their higher protein content.

Unsweetened options available, but even sweetened options of plant-based drinks are in the main low in total sugars

Look at the label for **micronutrient content** – it will vary

- Calcium, vitamin D and vitamin B12 are often added to nonorganic varieties
- Iodine and vitamin B2 are less frequently added

Organic varieties cannot be fortified with micronutrients due to the EU food regulation constraints. If opting for organic, ensure other food sources of critical nutrients are present in the diet. Depending on their chosen dietary pattern, supplements may or may not be required

Read the studies

Medici E, Winston CJ and Rowland I. A comprehensive analysis of the nutritional composition of plant-based drinks and yogurt alternatives in Europe. Nutrients 2023;15:3415. DOI: 10.3390/nu15153415

Craig WJ, Messina V, Rowland I, et al. Plant-based dairy alternatives contribute to a healthy and sustainable diet. Nutrients 2023;15:3393. DOI: 10.3390/nu15153393

Environmental impact of plant-based drinks in Europe*

GHG emissions (kg CO_2 equiv.) per 250ml

Dairy milk	0.56
Rice drink	0.23
Soya drink	0.21
Oat drink	0.16

59% to 71% fewer GHG emissions

Land use (m^2) per 250ml

Dairy milk	0.56
Rice drink	0.13
Soya drink	0.10
Oat drink	0.09

77% to 84% less land needed

Water use (L) per 250ml

Rice drink	146.54
Dairy milk	62
Oat drink	0.85
Soya drink	0.31

use 99% less water

Eutrophication potential (g PO_4^{3-} equiv.) per 250ml

Dairy milk	2.31
Soya drink	1.05
Oat drink	0.36
Rice drink	0.27

55% to 88% lower eutrophication potential

*Source: Poore J and Nemecek T. Reducing food's environmental impacts through producers and consumers. Science 2018;360:987-992.
**Sourcing rice from producers who are adopting non-traditional paddy field practices will significantly reduce the water foot-print of rice drinks.

The nutrition profile of plant-based dairy alternatives (PBDA) in Europe and their role in sustainable healthy diets

In 2023, Medici et al. conducted a comprehensive review of the nutrition profiles of the European PBDA market. Subsequently, a second study utilising the key findings from this publication, explored the role of PBDA in promoting sustainable and healthy diets.

Why the research was undertaken

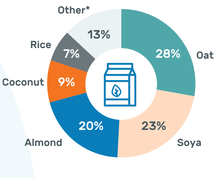
There is increasing interest in examining how plant-based dietary patterns may relate to environmental sustainability and population health. In Europe, the consumption of PBDA has grown, influenced by factors such as lower reported environmental impacts, inclusion in dietary recommendations, and wider availability. It is important to assess their nutritional composition and evaluate whether they provide adequate levels of key nutrients within different dietary contexts.

This research aimed

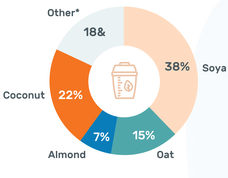
to investigate the nutritional profile of PBDA to support decision-making regarding their inclusion in sustainable food-based dietary guidelines (FBDG). As FBDG discourage the use of flavoured dairy and PBDA, the study's investigation focused on plain, unflavoured plant-based drinks and how they compared to their dairy counterparts.

30 European countries | **27** brands + **16** private (retailer) | **309** plain unflavoured PBDA

249 PBD



60 PBAY (incl. 8 Greek-style)



* other single ingredients or a combination

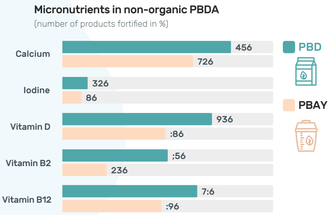
European organic food regulations prohibit the fortification of PBDA with micronutrients

35% organic | **65%** non-organic

70% unsweetened | **30%** sweetened

Micronutrients in non-organic PBDA

(number of products fortified in %)



Micronutrients in non-organic varieties*

Percentage PBDA fortified

* European organic food regulations do not permit fortification of organic plant-based dairy alternatives and therefore they have been excluded from our micronutrient analysis