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## PLANT-BASED DRINKS CANNOT REPLACE MILK



Plant-based drinks are not a suitable alternative to **milk**, as they have very different nutrient compositions. This finding comes from [a new study](#) by the **Danish Food Institute**, which mapped the nutrient content of oat, soy, rice, and almond drinks. According to the results, **plant-based drinks** are clearly a different type of food than milk, with lower nutritional content.

Researchers from the [National Food Institute of the Technical University of Denmark, DTU](#), analysed vegetable substitutes on the Danish market, with and without **added minerals and vitamins**, such as calcium, iodine, riboflavin, vitamin D2, and vitamin B12. The study collected **75 samples of nine plant-based drinks** and analysed them for macro- and micronutrient content (including amino acids, sugars, vitamins and minerals). According to their results, the nutrient content of these **vegetable drinks** varies and differs from milk, essentially constituting **two different food groups** that do not cover the same nutritional needs.

In general, **milk has a greater nutritional content than plant-based drinks** when it comes to calcium, phosphorus, magnesium, zinc, potassium and iodine. Even in plant-based drinks with added calcium, **the calcium content was lower than in milk**. The vitamin content is also lower in plant-based drinks than in milk, except for vitamin E. These findings are interesting as **consumption of plant-based drinks** has grown in recent years, with **total sales increasing fivefold from 2014 to 2019**, from 72 million Danish kroner per year to 277 million. This may be due to the **perception that plant-based drinks are healthier** than animal milk, regardless of lactose intolerance or cow's milk allergies. Or it may be down to a desire to reduce consumption of **animal products** and live a more vegan lifestyle, based on a somewhat unfounded belief that it is more sustainable.

**Dairy products** are very important in the **Danish diet**, contributing more **than 10% of the total protein and micronutrients intake**, such as riboflavin (vitamin B2), cobalamin (vitamin B12), calcium, phosphorus, magnesium, zinc, iodine and potassium. Not only are **plant-based drinks** less nutritious, but they also **contain arsenic**, a highly toxic substance in its inorganic form. Arsenic can be found in contaminated water used for drinking, food preparation and irrigation of food crops, posing a **great threat to public health**. It was found in rice drinks with 1.5-1.8 µg of arsenic per 100 g.

The **analytical result** is comparable to that reported for samples taken in 2009-2010, which was 2.2 µg per 100 g. The previous study also analysed the amount of **inorganic arsenic**, 2.0 µg per 100 g. This means that 80-90% of the

arsenic measured was inorganic. Also, less than 0.5 µg of arsenic per 100 g was found in oat, soy and almond drinks. **Inorganic arsenic is carcinogenic**; long-term exposure can cause cancer and skin lesions. [It has also been associated](#) with **cardiovascular disease and diabetes**. In-utero and early childhood exposure have been linked to negative impacts on cognitive development and increased deaths in young adults.

The **EU maximum residue limits** for the substance are **30 µg/l**. For this reason, the **Danish Veterinary and Food Administration**, DVFA, and the European Food Safety Authority, **EFSA**, **recommend a limited consumption of rice drinks for adults**. In contrast, rice drinks should be **completely avoided for children**. Cow's milk remains the best option for children and adults to meet the nutritional requirements of high-quality protein, B vitamins, vitamins A and D, calcium, minerals and essential nutrients, helping to make strong bones, [preventing osteoporosis](#) and having good general health.

