Facts about iodine.

Iodine is a nutrient that can only be obtained through the diet. Iodine has only one function in the body, to be a part of the metabolic hormones thyroxine (T4) and triiodothyronine (T3) produced in the thyroid gland (thyroid).

Metabolic hormones affect many processes in the body, and both too little and too much iodine can increase the risk of metabolic disorders. Moderate to severe iodine deficiency increases the risk of both low and high metabolism, and the same applies to high iodine intake over a long period of time. This means that while it is important to ensure sufficient iodine in the diet, it is also important to ensure that the intake is not too high.

Iodine deficiency

Iodine deficiency is very widespread worldwide because soils, agricultural products and drinking water have highly variable iodine contents in different parts of the world. Iodine deficiency can lead to an enlarged thyroid, called a goiter.

Iodine deficiency was previously a common disease in Norway, because the natural iodine content in soils and drinking water is low. Prior to 1950, goiters caused by iodine deficiency were very widespread, especially in the inland where people ate little saltwater fish. Around 1950, iodine was added to cattle feed, at a time when cows had iodine deficiency and suffered from goiters. It was found that iodine was effectively transferred to cow's milk, and since milk was an important part of the Norwegian diet, goiters caused by iodine deficiency disappeared.

Too much iodine

An excessive intake of iodine can be harmful. European recommendations state that the daily average iodine intake should not exceed 0.6 milligrams. Too much iodine can cause both high and low metabolism. (source: metabolism.org).There is insufficient knowledge of the types of iodine present in kelp, and what proportion of iodine is bioavailable for human and animal absorption. (source: Pegasus Report)

The Pegasus report states that any meal with high iodine content, where daily recommendations are exceeded, is normally not harmful as opposed to a regularly elevated intake over a long period of time. Excessive intake of iodine can have a negative effect on the thyroid gland, especially for sensitive groups such as the elderly, groups with iodine deficiency, pregnant women (fetuses), breastfeeding mothers and newborns.

Iodine sources

Milk and white saltwater fish are still the most important sources of iodine in the Norwegian diet, but since the 1990s milk consumption has dropped. In a nationally representative dietary survey in 2010-2011 among Norwegian men and women, milk and milk products averaged 37% of the iodine intake, with fish and seafood constituting 22%.

Reduced milk consumption is the reason why iodine deficiency has again become relevant in Norway. In groups that drink little milk, iodine intake is too low. The Norwegian Directorate of Health advises that at least two of the recommended three daily servings of dairy products should be milk, both sweet, sour milk and yogurt. Brown cheese also contains a lot of iodine, white cheese is not a good source. However, for those who eat white fish and fish products, fish is a very good source of iodine.

The Norwegian Directorate of Health recommends that we eat fish for dinner two or three times a week. Remember that only white saltwater fish are a good source of iodine (for example, cod, saithe and haddock).Since 1938, table salt supplemented with iodine has been available to buy in Norway. The amount of iodine added is so low that it has little practical significance for Norwegians iodine intake. Source: https://www.fhi.no/ml/kosthold/fakta-om-jod/v

Kelp and Iodine

Seaweed and kelp are sold today mainly as a spice product, for example dried Sugar kelp in small flakes. If you want to eat kelp every day, the daily recommended amount of iodine of 0.15 mg is equivalent to a small pinch of Sugar kelp.Winged kelp contains less iodine than Sugar kelp. For the same product, but with Winged kelp, this corresponds to approximately 1 teaspoon.Remember that the daily upper recommended intake of iodine is 0.6 mg.

Above, we have based these suggestions on a daily recommendation of 0.15 mg iodine.New kelp products are being developed. Blanching of kelp will significantly reduce the iodine content of kelp, allowing larger quantities to be consumed. The development of kelp products is currently underway, and there are exciting times ahead.

Reduction of Iodine Content

Tip: Iodine is very water-soluble, and if you dip Sugar kelp in boiling water for approximately 30 seconds, the iodine content will be reduced by over 90%, so you can eat more kelp without exceeding the recommended daily intake of iodine. The industry and researchers are currently working on different processing methods and preparation techniques.

Kelp and Iodine

Seaweed and kelp have very varying iodine content depending on the species and processing method. Some products contain so much iodine that Norwegian kelp companies inform about iodine content on the packaging so that consumers can easily calculate how much iodine is consumed. In Norway Sugar kelp and Winged kelp are currently being cultivated, containing on average 3000-6000 mg iodine / kg dry weight and 400-900 mg iodine / kg dry weight respectively.

Cooking and kelp

Kelp is a good source of fiber, minerals, antioxidants (selenium) and vitamins. Kelp itself is a flavor enhancer as it contains glutamate which gives the characteristic umami flavor, also called the 5th flavor.Kelp contains approximately 50-70% less sodium than traditional table salt and is therefore well suited as a salt substitute.Kelp is a sustainable food as it grows with the help of sunlight and nutrients from the sea and therefore does not require fertilizer or fresh water. It starts to grow in February when the sunlight returns and is harvested around April / May when the quality of the plants is best. The companies that grow kelp process the kelp right after harvesting. Today it is most often dried or frozen fresh. Several of the seaweed farmers are certified organic by Debio.