Iodized salt in cheese production: an important contributor to Swiss iodine intake

Milk and dairy products are generally good dietary sources of iodine; however, they are prone to variations in iodine concentration. Large fluctuations in iodine content of milk and dairy products originate mainly from supplements to cattle feed (1) and seasonal variation. During cheese production, a large part of milk iodine is lost because, like other substances dissolved in milk serum, iodine passes into the whey, which is separated from the curd. The use of iodized salt in brine treatment and cheese curing could improve the contribution of cheese to the iodine supply in Switzerland, where the annual per capita consumption of cheese, at approximately 21.3 kg, is high. Except for some fresh cheeses such as mozzarella, salt is used in the production of cheese. The salt content of ripened cheeses usually varies between 0.5 and 2.5% depending on the type and variety of cheese.

Haldimann and coauthors studied the diffusion of iodide in experimentally produced soft, semi-hard and hard cheeses after brine-salting and subsequent ripening with iodized or non-iodized salt. Diffusion of iodide (I⁻) into the cheeses was monitored by zonal analyses at different times of ripening. The results showed that iodide diffuses slowly into the interior of the cheeses, and the ripened cheeses showed a concentration gradient between rind and center, an average increase of 402 ± 30 µg kg⁻¹ iodine was achieved in the edible part of the experimental cheeses and the Swiss daily consumption of adults of soft (13 g), semi-hard (16 g) and hard (13 g) cheese, an iodine intake of 1.8 µg d⁻¹ (1.2% of the RDI) can be achieved for cheeses made with iodized salt. The use of iodized salt in cheese production could thus increase the daily intake of iodine for men to 20.5 µg (13.7% of the RDI) and for women to 15.2 µg (10.1% of the RDI).

Consistent use of iodized salt in cheese production would provide at least 10% of the RDI for iodine in Swiss adults.

References