

'Organic' milk is poorer in iodine than conventional milk

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Organic farming animals depend on the mineral content in soil. / Meneer Zjeroen

Milk from organic farms has a lower concentration of elements like zinc, iodine and selenium than milk produced by conventional farming methods. The discrepancy is due to the absence of mineral substances in the diets of the cows reared. According to researchers, animals on organic farms should have their diets supplemented with natural sources

of iodine such as seaweed, because it is a very important element for children and pregnant women.

The concentration of nutrients in animal food products is linked to the diets of the animals reared. Conventional production methods provide mineral diet supplements, while in [organic farming](#) animals depend on the [mineral content](#) in soil, which may not be sufficient.

For this reason, researchers at the University of Santiago de Compostela compared the mineral and [toxic elements](#) of organic and conventional milk taken from over thirty farms located in the northeast of the Iberian Peninsula.

The results demonstrated that mineral element content in [organic milk](#) is low compared with conventional milk, although no differences were found in the quantity of [toxic compounds](#) such as cadmium, which were also detected in very low concentrations.

"Levels of the elements that are typically supplemented in the diets of livestock in conventional systems – particularly iodine, copper, selenium and zinc – are higher than those found in organic milk," Marta López, researcher at the University of Santiago de Compostela and co-author of the study, explains to SINC.

In the researcher's opinion, the fact that organic milk contains lower levels of elements such as copper and zinc is not a problem because milk is not the primary source of these elements in our diets.

"Iodine is another matter," López goes on to clarify. "The contribution of iodine to our diets in countries like Spain is covered by iodised salt; in other countries, like England, with milk. In Spain the lack of sufficient iodine in some kinds of milk is especially relevant for children, due to the importance of iodine in neurological development, but also to people

with diets low in salt."

Iodine is necessary for the metabolism, especially during pregnancy and infancy. Iodine deficiency can cause scurvy, which has historically been a big problem the world over, particularly in populations at a distance from the coast, who did not eat much fish, and so milk and its derivatives were the primary source of iodine.

Seaweed as an alternative source

Nevertheless, according to López, the most relevant aspect of the study is that it brings this limitation to light and enables organic production to be improved. "There are [natural sources](#) of iodine that can be incorporated into the diet. We are trialling the use of [seaweed](#) as a source of iodine and have had good results," she affirms.

In addition, the scientists found that mineral content is higher in winter, which is when dietary supplementation is greater, as a result of the reduced availability of grass.

In any case, although one might draw the conclusion that conventional milk is more nutritious in terms of minerals, López is cautious: "Organic milk may have lower content of certain minerals, but it has other properties that are much more beneficial than those of conventional milk."

More information: F. Rey-Crespo, M. Miranda, M. López-Alonso. "Essential trace and toxic element concentrations in organic and conventional milk in NW Spain". *Food and Chemical Toxicology* 55 (2013) 513–518

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