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Nitrate intake with consuming traditional food-fermented white cabbage (*Brassica oleracea* L. *capitata*)

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Vegetables constitute the main source of nitrates for the human body; other food groups and drinking water represent less significant sources. In the literature, high nitrogen inputs are often associated with adverse effects associated with its conversion to the more toxic nitrite. In the oral cavity and the gastrointestinal tract five to twenty percent of ingested nitrate is affected by anaerobic bacteria that convert it to nitrite which represents 80% of the total human exposure to nitrite. The sources of the highest intake of nitrate for the human body are leafy vegetables and potatoes. In winter time due to the increased accumulation of nitrates in lettuce the nitrate intake is significantly increased by eating lettuce. The possibilities of nitrate reduction represent traditional forms of consumption of seasonal vegetables such as white cabbage (*Brassica oleracea* L. *capitata*). The high performance liquid chromatography was used to determine the nitrate content in raw white cabbage and the changes in nitrate content after the fermentation and cooking of the fermented white cabbage. The white cabbage was fermented according to the classical process in large vinegar factories. In our study, the nitrate content in the raw cabbage was 374 mg/kg of fresh matter (between 118 mg/kg and 695 mg/kg). During the fermentation of the cabbage, the nitrate content was not significantly changed. After cooking, the nitrate levels in the fermented cabbage have significantly decreased by 22%. In the winter time, eating cabbage (fresh or fermented) significantly reduces the intake of nitrates in our organism. Preservation of traditional dietary habits can therefore have a positive impact on human health.

Biography

Alenka Hmelak Gorenjak with the research work in the fields of Food Safety, works closely with the University of Maribor. With the topic of her PhD studies she participated in the study for the project "Study on the influence of food processing on nitrate levels in vegetables" which was co-funded by the EFSA. Her research and scientific activity has resulted in the publication of scientific articles and publications with scientific and professional contributions to the conference. She is also a reviewer of scientific journal articles.

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