EFFECTS OF COMBINED HHP AND HEAT TREATMENT ON NUTRITIONAL QUALITY OF VITAMIN-C ENRICHED LIQUID WHOLE EGG

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Egg is recognized as a nutrient dense food containing high quality proteins which make it to a functional food [1]. Already a highly nutritional all-natural food source—as attested by the ability to develop and maintain a 21-day-old embryo—eggs enriched with vitamins represent an opportunity to provide a more functional food source, especially for geographical areas most susceptible to vitamin deficiencies. Of the 13 commonly accepted vitamins, all but vitamin C are present in the egg [2].
A great opportunity for increased vitamin-intake is the consumption of vitamin enriched products. On the markets there are no vitamin-C enriched egg products, although that is a great opportunity to satisfy the daily requirement of vitamin C. The goal of our experiment was the examination of effects of added vitamin C in whole egg. In our study the effects of HHP and heat treatments is highlighted. Vitamin C was added to homogenise liquid whole egg (LWE) in different ratios (500 – 1000 mg/L). For preservation HHP (350 – 500 MPa, 5 min) and heat treatment (57 – 64 °C, 10 min) were used in different combinations. Antioxidant and vitamin C content were messaured. Our results show that only slightly decreases are in vitamin C and total antioxidant content caused by HHP. The effects of heat caused higher decreases. Our experiment showed the optional industrial application of HHP for LWE.

Acknowledgements
We are very grateful for upport of the ÚNKP-17-3 New National Excellence Program of the Ministry of Human Capacities and EFOP-3.6.3.- VEKOP-16-2017-00005.

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