

## **Antimicrobial activity of the extracts from the Sea buckthorn berries (*Hippophae rhamnoides* L.) against bacteria of the genus *Arcobacter***

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### **Abstract**

The number of multiresistant strains of bacteria has been increasing rapidly in the last few years. Same can be said for arcobacters, where the resistance against some common antibiotics has been proven. Bacteria of the genus *Arcobacter* can be a cause of unpleasant diseases not only for animals but there is a solid evidence of connection between these bacteria and human diseases. Therefore their existence in food has to be eliminated. It is well known that natural products are a source of the antimicrobial substances, and above all, go with today's trend of using natural products.

The aim of this project was to test the survival of these microorganisms in the presence of the extracts from sea buckthorn berries. The two most common species of these bacteria found in the Czech Republic were tested (*Arcobacter cryaerophilus* and *Arcobacter butzleri*) by the agar diffusion well test followed by determination of the minimal inhibitory concentration for the individual extracts (ethanolic extract from the sea buckthorn and extract from the sea buckthorn in phosphate buffered saline). The analysis of sea buckthorn extracts by HPLC was performed as well. To verify the inhibitory effect of the extracts, the real foodstuff with artificially inoculated density of the arcobacters was used. The results of this study show that the sea buckthorn has a bright future as an antimicrobial agent against bacteria of the genus *Arcobacter*.