

Abstract

This bachelor thesis summarizes information about sea buckthorn (*Hippophae rhamnoides*), about chemical composition of different parts and products based on this species, and about their biologically active contents. A special emphasis is given to the oil prepared from sea buckthorn fruits. Sea buckthorn is a rich source of antioxidants such as vitamin C, vitamin E, flavonoids and carotenoids. The oil contains high levels of unsaturated fatty acids, in particular of palmitooleic acid. The beneficial effects on human health make sea buckthorn and products from this plant popular food supplements.

The second part of this thesis describes analytical methods used for determination of bioactive compounds in sea buckthorn. The protocols based on high performance liquid chromatography, gas chromatography or capillary electrophoresis are described in more detail.

In the experimental part, four samples of sea buckthorn oil (two from Czech and two from Mongolian producers) were compared using absorption spectrophotometry and colorimetric evaluation using the CIELab method. Both samples of Czech origin displayed somewhat shifted absorption maxima and much weaker absorption, their coloration being much weaker. This may suggest some adulteration of these products

Keywords: Sea buckthorn, *Hippophae rhamnoides*, biologically active compounds, extract, oil