

Sea Buckthorn (*Hippophae Rhamnoides* L.) as a source of biochemically active substances

ABSTRACT

This work is primarily focused on summarizing of existing data in the literature about the chemical composition of sea buckthorn (*Hippophae rhamnoides* L.) fruits, in particular of its oil. It was found that the content of individual chemical components substantially varies in different cultivars and is also very dependent on the conditions in which the plant is grown. Various sea buckthorn products can be rich sources of antioxidants, such as the vitamin C (in amounts up to 2500 mg/100g of fresh fruit) and tocopherols (up to 481 mg/100g of fresh fruit), flavonoids (up to 1100 mg/100g of fresh fruit) and carotenoids (up to 2139 mg/100g of oil). The fatty acids of this plant are mostly unsaturated (up to 89% of all fatty acids), in dominant amounts linolenic and linoleic acid can be found in seed oil and palmitoleic and saturated palmitic acid in pulp oil.

Content and effects of significant flavonoids in the plant are also summarized. Among the most important biological effects of sea buckthorn, its antioxidant activity can be included as well as effects on the function of cardiovascular system, hepatoprotective and anticancer effects proven for some of the substances. Thanks to that the sea buckthorn has a high potential for use in pharmaceutical industry and medicine.

Keywords: Sea Buckthorn, *Hippophae rhamnoides* L., extraction, chemical composition, oil profile, nutraceutical compounds, vitamins, flavonoids