

Abstract

This diploma thesis deals with characterization of sea buckthorn oil. The sea buckthorn oil is frequently used as a food supplement and in dermatology. The first part summarizes the literature on sea buckthorn oil and its biological effects. In the experimental part, the thesis deals with the comparison of three commercially available preparates of sea buckthorn oils. We employed the basic characteristics of these oils, including the determination of peroxide value, iodine value, saponification value and acid value using titration methods. Spectroscopic measurements were used to further characterize the oils. The compared sea buckthorn oil samples differed strongly in the peroxide value and in the stability during storage. In this respect, the oil from Relikt – Art Engel company had significantly lower value (2,95 mekv/kg) compared to other two oil samples studied from Elith Phito and Virde companies with peroxide values 12,68 and 8,97 mekv/kg. This value was also much less prone to increase during storage. A similar difference was also found in spectral and colorimetric characteristics of the oil samples, where this oil displayed much less optical density than the other two samples. This might be a result of different technology used for production of oils, or it may reflect some adulteration, e.g., by dilution with other vegetable oil.

Keywords: Sea buckthorn, sea buckthorn oil, fatty acids, peroxide value, colorimetry