

## RESEARCH OF ESSENTIAL OILS OF LABRADOR-TEA SHOOTS

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Comprehensive study of underinvestigated species today is the urgent task of modern pharmaceutical science in the world.

Promising plant for research is Labrador-tea (*Ledum palustre*). This plant has a large area of distribution and significant resource base in the forest area of Ukraine. The essential oil is a major component of all parts of the plant except the roots. Also plant is rich in tannins and flavonoids. In folk medicine Labrador-tea is usually used as antitussive, anti-inflammatory, antispasmodic, diuretic, diaphoretic, disinfectant and sedative. In official medicine it is used only as antitussive herb due to content of ledol in essential oil on the base of which the drug "Ledin" was created and registered in Ukraine but not represented in the pharmacies. This indicates that the potential of plant raw material was used insufficiently.

The purpose of our study was to examine the composition of the essential oil of Labrador-tea shoots to determine the prospects for a new drug creation on the base on it.

Essential oil from Labrador-tea shoots was obtained by method of steam distillation. The time of distillation was 2 hours. It was determined that the plant raw material contains 0.7% essential oil.

Qualitative and quantitative composition of components of Labrador-tea shoots essential oils were defined by paper chromatography and Chromato-Mass-Spectrometry using a gas chromatograph Agilent Technology 6890 with mass spectrometric detector 5973. Identification of compounds was performed by comparison of obtained mass spectra with library data NIST05-WILEY (about 500,000 mass spectra). Indexes retention of components were calculated on the base of results of analyzes of substances with the addition of a mixture of normal alkanes ( $C_{10}$ - $C_{18}$ ).

In general, 23 substances were detected in the essential oil, 15 of which were identified. It was also found that the dominant components were ledol, neofitadiene and  $\alpha$ -terpinylacetate.

The results of investigation will be used to create a new medicine and its standardization.