

## RESEARCH OF BLUEBERRY PHENOLIC COMPOUNDS

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In medicine and pharmacy Bilberry fruits – *Fructus Myrtilli* – are widely used. Decoction from Bilberry fruits is used as an astringent in colitis, enterocolitis and diarrhea. The astringent effect is caused by tannins of condensed group. According to PhEur fruits contain at least 1% of condensed tannins in terms of pyrogallol. In the pharmaceutical market of Ukraine such drugs as Strix, Optix, Vizio Balans, Bilberry Forte, etc. are represented, which contain biologically active substances of Bilberry fruits. This group of compounds is used to improve vision. In folk and scientific medicine stems and leaves of bilberry are used as a hypoglycemic agent in the form of decoctions and are in composition of hypoglycohaemic drugs Arfazetyn and Mirfazyn. Considering the wide spread of diabetes in Ukraine and a national program "Diabetes", it was advisable to carry out a phytochemical study of blueberry leaves in order to obtain medicines.

As a result of determining of content of extractives in blueberry leaves and chromatographic analysis of the amount of phenolic compounds, the best extractant – 50% ethyl alcohol was chosen. In the extract obtained by this extractant using method of exhaustive extraction content of extractives was 39.12%. The composition of extract was studied using conventional research methods – qualitative reactions, paper and thin-layer chromatography. Hydroxycinnamic acids and flavonoids were studied by two-dimensional paper chromatography in comparison with authentic samples of hydroxycinnamic acids in systems *n*-butanol-acetic acid-water (4:1:2) and 5% acetic acid followed by treatment of chromatogram with ammonia vapor.

Quantification of hydroxycinnamic acid derivatives, flavonoids and polyphenolic compounds was performed by spectrophotometric method. Optical density was measured in the cell layer with a thickness of 10 mm on spectrophotometer Specol 1500 (Switzerland) at the appropriate wavelength. The content of hydroxycinnamic acids derivatives was calculated in terms of chlorogenic acid at 327 nm, the content of flavonoids was calculated in terms of routine – at a wavelength of 417 nm after the formation of complex with aluminum chloride; the content of polyphenolic compounds was calculated in terms of gallic acid – at 270 nm. It established that in blueberry leaves the content of phenolic compounds was – 5.81%, hydroxycinnamic compounds – 1.62% and flavonoids – 3.84%.

Obtained results can be used in the further development of quality control methods for blueberry leaves for the State Pharmacopoeia of Ukraine.