

EVALUATION OF ESSENTIAL OILS COMPOSITION OF *ARTEMISIA ABSINTHIUM* L. USING GC-MS

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Chemical analysis of spice, aromatic plants at different vegetation stages can serve for the optimal collection of plant raw material revealing the period when the plant possesses the highest biological activity and accumulates the highest content of biologically active compounds, which could be used in pharmacy, medicine, food or cosmetic industry [1].

The aim of this study was to investigate the qualitative and quantitative composition of essential oils obtained from *A. absinthium* during different vegetation stages.

The object of investigation was *Artemisia absinthium* L. a perennial medicinal, aromatic plant of *Asteraceae* (Bercht. & J. Presl) family. *A. absinthium* is widely used in the Lithuanian folk medicine mainly for stomachic and anthelmintic activity, also for healing gall-bladder and kidneys diseases, against insomnia, diarrhea [3, 5, 6, 7]. Raw material of *A. absinthium* was collected during different vegetation stages of vegetation cycle in Spice – Melliferous plants collection *ex situ* of Botanical Garden at Vytautas Magnus University in 2018. Five stages have been separated: growth and leaf production, flower bud development, beginning of the flowering, massive flowering, end of the flowering [4]. The essential oils have been extracted by hydrodistillation method and analysed by the chromatographic techniques in the gas phase and chromatography in gas phase coupled with mass spectrometry (GC/MS) so as to determine their chemical composition. The percentage composition of the essential oils was computed from GC peak areas without correction factors. Qualitative analysis was based on a comparison of retention times, indexes and mass spectra with the corresponding data in the literature [2] and computer mass spectra libraries.

There were studied 5 samples of *A. absinthium* considering different vegetation stages. A total of 81 different compounds were found in the essential oils. The data showed that amounts of compounds with the content of major constituents varied significantly from (0.02 to 66.38%). The highest content and diversity of compounds was determined during the massive flowering stage. To the major constituents belonged *trans*-sabinyl acetate, *cis*-chrysanthenol, *trans*-pinocarvyl acetate, *cis*-myroxide, β -myrcene, linalool.

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