CHEMICAL COMPOSITION RESEARCH OF THE SALVIA OFFICINALIS LEAVES DRY EXTRACT GETTING AFTER ESSENTIAL OIL PRODUCTION

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There are 38 drugs based on salvia leaves biologically active substances on the pharmaceutical market of Ukraine. In the main these drugs involve Salvia officinalis leaves, essential oil and tincture. The pharmaceutical industry use terpene nature substances. This raw material is rich on the other classes of biologically active substances, phenolic in particular. Tons of liquid extractions became waste after distillation in manufacture of salvia essential oil every year, although they contain numbers of biologically active substances, phenolic compounds in particular.

The aim of research was to study the chemical composition of the dry extract, which remains after Salvia officinalis essential oils production.

For receiving the dry extract 0,1 kg Salvia officinalis leaves were placed in a flask with slide, added 3,0 l of water and conducted distillation to obtain essential oil according to The State Pharmacopoeia of Ukraine during 2 hours. The extraction which was received was boiled down at the 85 - 95C under vacuum in circulating vacuum device at depression 680-700 mm., dilute to volume of the water rest of 0,5 liter. The getting extract is dense dark brown liquid. It was left for 4-5 days in the refrigerator. The water concentrate which was received was dried in the spray-type dryer with a temperature of heat carrier 160 C and 80 - 90 C at the exit until the dry extract was obtained. The dry extract of Salvia officinalis leaves after production of essential oil was analyzed then.

Research of qualitative composition was carried out using conventional methods of paper chromatography and thin layer chromatography. As a result of the preliminary qualitative research of biologically active substances in the Salvia officinalis extracts were discovered monosaccharides (glucose, galactose, rhamnose and arabinose), amino acids (arginine, tyrosine, aspartic and glutamic acids), flavonoids (myricetin-3-O-arabinoside, quercetin-3-O-arabinoside, quercetin and kaempferol), hydroxycinnamic acid derivatives (chlorogenic, caffeic and protokatehinic acid), coumarins (umbeliferon and skopaletin) and tannins (galo- and elagotanins) were found.

For determining the quantitative content of biologically active substances in the extract spectrophotometry was used. Derivatives of hydroxycinnamic acid in terms of chlorogenic acid was measured at a wavelength of 327 nm; flavonoids in terms of rutin after reaction with aluminum chloride - at 417 nm; sum of polyphenolic substances in terms of gallic acid - at wavelength 270 nm. As a result, extract consists of hydroxycinnamic acids (5.12%), flavonoids (9.33%), the amount of phenolic compounds is 33.55%.

The data obtained will be used for standardization of the Salvia officinalis leaves dry extract.