

PHENOLIC COMPOUNDS OF LAMIUM ALBUM L. HERB EXTRACT

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Lamium album L., commonly called white nettle or white dead-nettle, is a herbaceous perennial herb in the family Lamiaceae, growing in a variety of habitats from open grassland to woodland, generally on moist, fertile soils. *Lamium album* L. herb has been used in folk medicine of many countries for centuries as an expectorant, anti-inflammatory, antispasmodic, diuretic, hemostatic and sedative remedy.

The aim of presented work was to investigate the composition of phenolic compounds of *Lamium album* L. herb dry extract, obtained by extraction with 70% ethanol.

Materials and methods. The white dead-nettle herb was harvested in the flowering stage in Kharkiv region in the July of 2011.

For the analysis was prepared methanolic extract of the herb. Dividing the amount of phenolic compounds into individual components was performed by high-performance liquid chromatography (HPLC) using chromatograph Agilent 1200. For the analysis used chromatography column Supelco Discovery C18 size 250×4,6 mm, filled by octadecyl-functionalized silica grains. Chromatography mode: maximum feed rate of the mobile phase 0.7 ml/min, eluent working pressure 100-120 bar (10000-12000 kPa), column thermostat temperature 25°C, injected sample volume 5-10 ml, chromatography time 50 minutes. Elution mode – gradient, scan time – 0.6 sec, detection range – 190-400 nm, the wavelength – 320, 330 nm (for hydroxycinnamic acids) and 255 nm (for flavonoids). The identification of compounds was performed by retention time of standards and spectral characteristics.

Obtained results. It is established that *Lamium album* L. herb extract contains (in mg per 100 g of raw material) flavonolic glycosides rutin (158.0) and isoquercitrin (376.8), chlorogenic (411.0), ferulic (72.4), caffeic (28.8) and rosmarinic (49.7) acids. Total content of identified flavonoids was 534.8 mg/100 g, identified hydroxycinnamic acids – 561.9 mg/100 g.

Conclusions. In the white dead-nettle herb dry extract two flavonoids and four hydroxycinnamic acids were identified and quantified. These substances are biologically active and significantly contribute to the pharmacological effects of studied plant extract.