

PLANTS OF GENUS *GEUM* L. HOW SOURCES OF POLYPHENOLIC COMPOUNDS

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Last decade there is observed growing interest of scientific and traditional medicine towards plants as a source of raw material for manufacturing medicines. One of the most spread in plants ingredients of secondary metabolism are phenolic compounds that participate in various physiological processes. Besides, high biological activity characteristic to phenols allows using them in medicine at treatment and prophylaxis of many diseases. One of the sources of phenolic compounds are plants of the genus *Geum* L. (avens) that belongs to the family *Rosaceae* subfamily *Rosoideae*. Seven species are spread through NIS countries territory. We have investigated the chemical content of 3 species: *G. aleppicum* Jacq. (aleppic avens), *G. rivale* L. (water avens), *G. urbanum* L. (common avens) spread over the whole territory of Ukraine and used widely in folk medicine as astringent, haemostiptic, anti-inflammatory, antiseptic, analgetic, restorative remedies. It is known that plants of the genus *Geum* contain hydroxycinnamic acids, coumarins, flavonoids, tannins, amino- and fatty acids. The aim of our study was to investigate phenolic content of 3 species of the genus *Geum* of Ukrainian flora and to establish pharmacological activity of substances obtained. As a raw material there were used samples of herb and rhizomes of named avens species collected in 2012-2013 at the territory of Kharkov and Kharkov region. For investigation of phenolic content of the raw material there were used qualitative reactions, UV-spectrophotometry, paper and thin layer chromatography (on "Silufol" plates) in the systems of ethylacetate-formic acid-water (10:2:3), 15% acetic acid; chromogenic revealing reagents were: ammonium vapor, 2% ethanol solution of NaOH, 2% ethanol solution of AlCl₃. Based on the results of qualitative reactions, UV-fluorescence, R_f data of substances as well as the data of direct and differential spectrophotometry in the herb and rhizomes of avens species studied there were identified 5 flavonoid compounds. In the herb and in the rhizomes it is identified 3. coumarins and 6. phenocarbonic acids. Determination of antibacterial activity of different fractions of biologically active compounds of the genus *Geum* was carried out at the base of I.I. Mechnikov Kharkov research institute of microbiology and immunology. Particularly, phenolic compounds complex of ethanol fraction expressed pronounced antimicrobial activity against: *Staphylococcus aureus*, *Esherichia coli*, *Proteus vulgaris*, *Proteus aeruginosa*, *Candida albicans*. Thus, the results obtained proved expediency of further investigation of the genus *Geum* plants as promising medicinal plants.