

STUDY OF DYNAMICS OF BIOACTIVE SUBSTANCE EXTRACTION FROM YELLOW BEDSTRAW (*Galium verum*) HERB MEAL

Kutova V. M., Shynkovenko I. L., Iliyina T. V.

National University of Pharmacy, Kharkiv, Ukraine

Kutovaya.vita@gmail.com

Introduction. The yellow bedstraw *Galium verum* L. of the *Rubiaceae* Juss. family belongs to cosmopolitan plants; its areal covers almost all the temperate zones of Eurasia. In the territory of Ukraine, it is found everywhere, excepting the Carpathian Mountains. The plant is not officinal but widely used in the traditional medicine of many countries as a choleric, diuretic, anti-inflammatory agent. Anteriorly, at the Pharmacognosia Chair of the National Pharmaceutical University of Ukraine, the chemistry of the herb and rhizomes with roots of the yellow bedstraw was studied. In the herb, hydroxycinnamic acids, coumarins, flavonoids, iridoids of asperulosid group, saponins, ethereal oil were found; it has been established that in the underground organs, anthracene-derived alizarin groups accumulate. The lipophilic and phenol fractions obtained in the experiment showed antimicrobial and fungicide activity. The antioxidant and citostatic activity of dry yellow bedstraw herb extracts obtained by aqueous and 70% ethyl alcohol extraction of the starting materials has been studied.

Aim. Continuing the earlier studies, it was a hot topic to determine the possibility of a complex raw material processing, specifically, obtaining a dry extract from the yellow bedstraw herb meal remaining after subsequent obtaining lipophilic and phenol complexes.

Materials and methods. The objective of this work was to study the dynamics of bioactive substance (BAS) extraction from the yellow bedstraw herb meal. The object of the study was the meal remained after a subsequent and exhaustive extraction of the yellow bedstraw herb by chloroform and ethyl acetate-alcohol mixture (8:2). The obtained dry meal ($m=23.61$ g) was covered with water ($V=235.0$ ml) and heated in the boiling-water bath for 30 min, after which it was filtrated. The procedure was repeated 6 times. Six overflows were obtained: 100 ml, 230 ml, 207 ml, 222 ml, 203 ml, 239 ml, respectively. In the obtained overflows, dry residue was determined as the parameter of the extractive substance.

Results and discussion. As a result of the study, it was established that the water saturation factor of the meal was 7.7 ml/u. The dry residues in the overflows are 1 – 2.30%, 2 – 2.35%, 3 – 2.36%, 4 – 1.86%, 5 – 1.95%, 6 – 0.97%, respectively.

Conclusions. The obtained findings provide a background for subsequent study of the dynamics of BAS extraction from the yellow bedstraw herb meal, specifically, the determination of the main BAS group content in the relevant dry extracts.