

fresh leaves are prepared with salads, drinks, sauces, vegetable soups. Previously, we studied raw materials (herb, fruits, leaves, flowers) of borage with blue flowers. We studied the chemical composition and developed substances with membrane-stabilizing and anti-inflammatory action based on the raw material. There are also two cultivated varieties of borage: with white flowers, Alba, and with spotted leaves, Variegata. We continue the study of cultivated in Ukraine borage Alba in order to expand the base of raw materials.

**Aim.** The aim of this work was to study a number of quality indicators of the borage Alba rosette leaves, and a preliminary studying of the qualitative composition of the main biologically active substances.

**Materials and methods.** Raw materials were harvested in the Kharkiv region during the full unfolding of the leaves (late April - early May 2017.). For the dried raw materials, the following numerical values were determined: loss on drying, total ash, extractant absorption coefficient; a preliminary studying of the chemical composition was carried out using qualitative reactions and chromatography on paper.

**Results and discussion.** When examining samples of raw materials, it was found that the loss on drying was  $9.34 \pm 0.19\%$ ; the total ash content was  $9.82 \pm 0.27\%$ ; coefficient of water absorption –  $3.89 \pm 0.15\%$ ; the absorption coefficient of 50% ethanol was  $4.42 \pm 0.16\%$ . According to the results of previous studying of borage rosette leaves, they contain free and bound carbohydrates, free and bound aminoacids, organic and phenolcarboxylic acids, flavonoids, tannins, ascorbic acid.

**Conclutions.** The obtained results will be used in further research to expand the raw material base for obtaining the substance.

## PHYTOCHEMICAL RESEARCH OF BIOLOGICALLY ACTIVE COMPOUNDS OF THE HERB OF *GLYCYRRHIZA GLABRA*

Gullyrov D.

Scientific supervisor: prof. Ilina T. V.

National University of Pharmacy, Kharkiv, Ukraine

dovletgullyrov@gmail.com

**Introduction.** One of the cosmopolitan plants in the temperate zone is representatives of the genus Licorice - *Glycyrrhiza* L. legume family - Fabaceae. The official species are licorice - *Glycyrrhiza glabra* L. and Chinese licorice - *Glycyrrhiza uralensis*, in which roots are used as a raw material. The raw material is included in most national pharmacopoeias of the world, used for the production of mucolytic, bronchodilator, antiulcer drugs. The above-ground part, considering the volumes of annual harvesting and processing of roots, has an impressive raw material base, but is practically not used.

**Aim.** Determination of chemical composition of the licorice herb to confirm the possibility of using the herb *Glycyrrhiza glabra* L. as a new source of biologically active substances (BAS).

**Materials and methods.** The object of the study was the licorice herb, harvested during the flowering period of the plant in June 2017 in pharmacopoeia section of the NUPh. The qualitative composition of raw materials was determined by generally accepted qualitative reactions and chromatographic analysis. The content of BAS was determined in aqueous extraction: extractive substances and polysaccharides - by gravimetry, the sum of organic acids and ascorbic acid - by the titrimetry method, hydroxycinnamic acids, flavonoids and polyphenolic compounds - by spectrophotometry.

**Results and discussion.** Organic acids, polysaccharides, phenolic and hydroxycinnamic acids, coumarins, flavonoids, tannins, iridoids, triterpene saponins were found in the raw material. The content of extractive substances in the aqueous extract of licorice herb is 24,05%, water-soluble polysaccharides - 9.02%, organic acids - 2.3%, ascorbic acid - 0.02%, hydroxycinnamic acids as chlorogenic acid - 1,26%, flavonoids as rutin - 0.63%, polyphenolic compounds as gallic acid - 2.16%. Optimal is the triple extraction of raw materials with water, which allows extraction of 91.68% of extractive substances, 91.66% of water-soluble polysaccharides, 87.30% of hydroxycinnamic acids, 93.06% of flavonoids and 87.96% of polyphenolic compounds.

**Conclusions.** Obtained results confirm the possibility of using licorice herb as a new source of BAS.