

9th International Pharmaceutical Conference

„SCIENCE AND PRACTICE” 2018

*Dedicated to the 100th anniversary
of independent Lithuania's pharmacy*

BOOK OF ABSTRACTS



November 9, 2018
Kaunas, Lithuania

**9TH INTERNATIONAL CONFERENCE OF PHARMACY SCIENCE AND PRACTICE
2018**

9th of November, 2018 Lithuanian University of Health Sciences, Sukilėlė 13, Kaunas Lithuania

ABSTRACT BOOK

**November 9, 2018
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The 9th international conference of Pharmacy Science and practice is organized by Lithuanian University of Health Sciences (LUHS) Faculty of Pharmacy and Lithuanian University of Health Sciences Faculty of Pharmacy Alumni in collaboration with Lietuvos Farmacijos sąjunga, Lietuvos vaistininkų sąjunga ir Studentų farmacininkų draugija

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Research of elemental composition of *Catalpa bignonioides*

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Introduction. The work is devoted to the study of the elemental composition of the plant *Catalpa bignonioides*, the family *Bignoniaceae*. The chemical composition and pharmacological properties of this plant have not been studied sufficiently despite the long history. *Catalpa bignonioides* was imported from North America, now cultivated in Europe, Asia and America [6]. This plant has been used as an antiseptic, laxative [3], antioxidant [1], sedative and anti-inflammatory remedy from ancient times [4-5]. The fruit broth *Catalpa ovata* has a strong diuretic effect associated with the accumulation of potassium salts. The study of the elemental composition of *Catalpa bignonioides* is very relevant and gives the opportunity to expand the pharmacological application of this plant.

Aim. To determine the elemental composition of *Catalpa bignonioides* and DSB varieties leaves by the atomic emission spectroscopy method with an arc excitation of the spectrum.

Materials and methods. The objects of the study were leaves of *Catalpa bignonioides* harvested during the growing season in 2017, at the Botanical Garden of the National University of Pharmacy (Kharkiv). Studies of the mineral complex took place in the State Scientific Institution "Institute for Single Crystals" of the National Academy of Sciences of Ukraine. The atom-emission spectrographic method with photographic registration was used for the study of the common mullein leaves element composition [2]

Results and discussion. As a result of the analysis, it has been found that in the raw material of *Catalpa bignonioides*, 19 elements in total were identified, among which were 5 – macroelements (K, Ca, Mg, P, Na), 9 – microelements elements (Fe, Cu, Zn, Mn, Si, Al, Ni, Mo, Sr), 5 – ultra microelements (Hg, Co, Cd, As, Pb), set quantitative content. A significant amount contains potassium (2125 mg/100 g), calcium (1190 mg/100 g). Such macroelements as magnesium (380 mg/100 g), phosphorus (145 mg/100 g) and sodium (50 mg/100 g) accumulate in smaller quantities. Raw material of *Catalpa bignonioides* accumulates a considerable amount of silicium (225 mg/100 g), aluminum (34 mg/100 g), iron (34 mg/100 g), zinc (8.5 mg/100 g), strontium (6.8 mg/100 g). The content of the elements in the samples of raw *Catalpa bignonioides*, can be arranged in the following decreasing sequence of the content for leaves K>Ca>Mg>Si>P>Na>Fe=Al>Mn>Zn>Sr>Cu>Pb>Ni>Mo>Co>Cd=As=Hg.

Conclusions. The content of 19 elements in leaves of *Catalpa bignonioides* has been determined. A significant amount contains potassium, calcium, magnesium, silicium, phosphorus. The study of plant of the of *Catalpa bignonioides* continues.

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