

## PROSPECTS OF STUDYING OF SYMPHYTUM TAURICUM WILLD. HERB

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**Introduction.** The main task of modern pharmacognosy is to find new plant sources of biologically active substances. Particularly promising are plants that are easy to cultivate. In this direction, our attention was drawn to the *Symphytum* genus representatives of the Boraginaceae family. In medicine, *Symphytum asperum* Lepech. is used in the antitumor Zdrenko collection and *Symphytum officinale* L. is an important component of drugs for the treatment of traumatic injuries, diseases of the spine and joints, prevention of hematomas, varicose veins, osteochondrosis and more. *Symphytum tauricum* Willd. is a little-studied representative of the genus. It is a biennial or perennial pubescent plant with an upright branched stem, numerous ovoid wrinkled leaves and light yellow, almost white flowers in racemous bostryxes. Tubular-campaniform corolla is longer than 2-3 times the calyx. Coenobium consists of small dark gray nutlets 2-3 mm long crescent-shaped with a wrinkled surface. *Symphytum tauricum* Willd. occurs in Southern-Eastern Europe, the North Caucasus, northern Turkey, is cultivated in some European countries as a decorative.

**Aim.** The aim of our work was to study the qualitative composition of *Symphytum tauricum* Willd. herb.

**Materials and methods.** Raw materials were harvested in the Kharkiv region during the period of mass flowering. It's dried by air-shadow method. To study the qualitative composition of the raw material was ground and extracted with purified water three times on a boiling water heater with a reflux condenser. The extracts were combined and evaporated to 1/3 volume and filtered. Then gradually fractionated with organic solvents: chloroform, diethyl ether, ethyl acetate, n-butanol. The obtained fractions were investigated for the presence of biologically active substances by qualitative reactions and chromatography on paper and in a thin layer of sorbent.

**Results and discussion.** For the first time it was discovered and identified that the studied raw material contains organic acids (malic, citric, ascorbic acids), free aminoacids (aspartic and glutamic acids, arginine, tyrosine, proline, leucine, methionine, phenylalanine, lysine), free monosaccharides (D-glucose and L-arabinose), hydroxycinnamic acids (chlorogenic, neochlorogenic, caffeic, rosemary acids), phenolic acids (gallic, ellagic acids), flavonoids (rutin), coumarins (umbelliferone, scopoletin).

**Conclusions.** The obtained results of studying the qualitative composition of biologically active substances in *Symphytum tauricum* Willd. herb will be used in further research.

## IMPLEMENTATION OF GOOD AGRICULTURAL AND COLLECTION PRACTICE (GACP) PRINCIPLES IN UKRAINE ON SAFFRON CULTIVATION EXAMPLE

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**Introduction.** Since 2013 the guideline "Medicinal herbal raw materials. Good Agricultural and Collection Practice" (GACP) has been adopted in Ukraine, which is similar to the WHO GACP. On the example of saffron cultivation as a food and medicinal plant in Ukraine the expediency of application of GACP principles for the promotion of high-quality domestic production on the international market and herbal preparations is substantiated. Saffron cultivation

began in 2015. It should be noted that the environmental conditions have a great impact on the accumulation of secondary metabolites of saffron (crocin, picrocrocin, safranal), which determine the raw materials quality.

**Aim.** The aim was to develop saffron cultivation stages in Ukraine using GACP principles that will harmonize the technological processes and improve the quality of herbal raw materials to international and European requirements. **Object.** Saffron from Ukraine and quality management system for the cultivation and harvesting of medicinal plants.

**Materials and methods.** WHO Guideline GACP (2003). The studies were carried out on the plantation in the village Lyubimivka, Kherson region in Ukraine in 2016/2021.

**Results and discussion.** In 2017, based on the farm in Kherson was first conducted research on saffron cultivation in Ukraine in accordance with GACP requirements. A standard working procedure developed and implemented for use by the farm – production of saffron stigma, includes the following steps: description of the plant, corms, harvested plant part; sowing conditions (soil enrichment, disease, irrigation, sowing, harvesting, yield), primary processing, transportation and storage, packaging, quality control, and documentation. The main proposed stages of saffron cultivation are reflected in the guideline, patent and information sheet.

**Conclusion.** Stages of saffron cultivation in Ukraine in accordance with GACP requirements are implemented, which guarantee the traceability of raw materials and its stable quality.

## PROSPECTS FOR DEVELOPMENT OF MEDICINAL SUBSTANCES WITH ANTIVIRAL ACTIVITY FROM PLANT RAW MATERIALS OF GENERA *EPILOBIUM* L. AND *CHAMAENERION* SEG.

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**Introduction.** Diseases of viral etiology are one of the urgent problems of medicine. Viral diseases take many forms, they can affect many organs and systems, lead to the development of chronic diseases and contribute to the development of numerous complications. Medicinal plant raw materials and substances based on them are constantly used for the prevention and treatment of these types of pathology. Plants of genera *Epilobium* L and *Chamaenerion* Seg. (family *Onagraceae* Juss) are natural sources of phenolic compounds such as elagitannins, flavonoids and phenolic acids.

**Aim.** The aim of this study is to give a brief review on antiviral activity of plants of genus *Epilobium* L and *Chamaenerion* Seg. and potential for developing medicines from their raw materials for prevention and treatment of diseases of viral etiology.

**Materials and methods.** This review was based on the analysis of articles referred in major scientific databases. NCBI-PubMed, Web of Knowledge, Science Direct Wiley Online Library and eLIBRARY.RU.

**Results and discussion.** The effect of aqueous ethanol extracts from *Chamaenerion angustifolium* (L.) Scop and *Epilobium hirsutum* L. was studied on the reproduction of influenza A viruses in several research.

The determination of virus-inhibiting properties and virucidal activity *in ovo* of aqueous ethanol extract of *Ch. angustifolium* for two strains of the influenza A virus (A/tern/South Africa/1/61