

In the past, dandelion roots and leaves were used to treat liver problems. Native Americans also boiled dandelion in water and took it to treat kidney disease, swelling, skin problems, heartburn, and upset stomach. In traditional Chinese medicine (TCM), dandelion has been used to treat stomach problems, appendicitis, and breast problems, such as inflammation or lack of milk flow. In Europe, dandelion was used in remedies for fever, boils, eye problems, diabetes, and diarrhea.

Aim. The aim of the study was to study the prospects of using the extract of dandelion in the treatment of metabolic diseases

The leaves are used to stimulate the appetite and help digestion. Dandelion flower has antioxidant properties. Dandelion may also help improve the immune system. Herbalists use dandelion root to detoxify the liver and gallbladder, and dandelion leaves to help kidney function.

Most scientific studies of dandelion have been in animals, not people. Traditionally, dandelion has been used as a diuretic, to increase the amount of urine and eliminate fluid in your body. It has been used for many conditions where a diuretic might help, such as liver problems and high blood pressure. However, there is no good research on using dandelion as a diuretic in people.

Fresh or dried dandelion herb is also used as a mild appetite stimulant, and to improve upset stomach. The root of the dandelion plant may act as a mild laxative and has been used to improve digestion. Preliminary research suggests that dandelion may help improve liver and gallbladder function. But this study was not well designed.

Preliminary animal studies suggest that dandelion may help normalize blood sugar levels and lower total cholesterol and triglycerides while raising HDL (good) cholesterol in diabetic mice. But not all the animal studies have found a positive effect on blood sugar. Researchers need to see if dandelion will work in people.

Conclusions. A few animal studies also suggest that dandelion might help fight inflammation. Thus, the use of dandelion extract in the treatment of metabolic diseases is promising.

ORGANIC ACIDS OF *IRIS GRAMINEA* L.

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Introduction. The genus *Iris* belongs to the family *Irideaceae*, comprising of 300 species, of which 16 species are found in Ukraine and several species are ornamental. In recent years, *Iris* species have gained great popularity in the perfume and cosmetic industries due to their sweet fragrance. Plants of the genus *Iris* have been previously recognized as rich sources of secondary metabolites (Kassak P., 2012). *Iris* species are used in the treatments of cancer, inflammation and bacterial and viral infections. Many compounds isolated from these species were found to have antineoplastic, antioxidant, antiplasmodial, and antituberculosis properties (Kukula-Koch, 2013; Khare, 2007). Previous phytochemical investigations on the *Iris* species have resulted in the isolation of a variety of compounds including flavonoids, isoflavonoids, isoflavonoid-glycosides, benzoquinones, triterpenoids and stillbene glycosides (Mykhailenko, 2017; Wang & Zhao, 2010).

Organic acids have a wide range of pharmacological effects on the human body, benzoic and salicylic acids exhibit antibacterial activity, hydroxycinnamic acids and their derivatives - anti-inflammatory, malic acid promotes the absorption of iron. Continuing to study plants of the genus *Iris*, we chose *Iris graminea*. It is a belonging to the subgenus *Limniris*, in particular the series *Spuriae*. It is a rhizomatous perennial, with purple or violet blue flowers almost hidden by narrow, grass-like leaves, and a plum scented fragrance. It is cultivated as an ornamental plant in temperate regions. It has several common names, including Grass-Leaved Flag, Grass leaved Iris, Plum Iris and Plum tart Iris (because of the scent). This species naturally occurs in the southern half of Europe, from Spain and France in the West to Ukraine and the Caucasus in the East.

Aim. The aim of this study is determination of the qualitative and quantitative composition of organic acids of the rhizomes of *Iris graminea* L. by gas chromatography-mass spectrometry (GC/MS) method.

Materials and methods. The subject was the rhizomes with roots of *Iris graminea* prepared in April, 2017 in the State Dendrological Park "Alexandria" of Ukrainian National Academy of Sciences (Belaja Tserkov, Kyiv region, Ukraine). Raw materials dried to air-dry state, was used for chemical analysis of an average sample raw crushed to a particle size of 2 – 3 mm.

For the chromatographic analysis the BAS of rhizomes extracted with 70% ethanol (1:20) with heating on a water bath at 50°C for 30 min. Organic acids were determined by one-dimensional paper chromatography «Filtrak № 4» in a solvent system of *n*-propanol – 25% ammonia solution (6:4). Chromatograms were treated with a solution of sodium 2,6-dihlorfenolindofenolyata, organic acids appeared as pink spots on a blue background in visible light. The component composition of organic acids of rhizomes of *Iris graminea* was investigated by the method of chromatography-mass-spectrometry on the 5973N/6890N MSD/DS Agilent Technologies (USA). Methyl esters of organic acids prepared according by a modified method (Carrapiso A.I, García C. Lipids. 2000. Vol.35, N11. P.1167-1177). For component identification data from the mass-spectra libraries NIST05 and WILEY 2007 with total number of spectra of more than 470,000 were used combined with identification programs AMDIS and NIST.

Results and discussion. In comparison with the standard compounds and of R_f value the oxalic (R_f 0.35), malic (R_f 0.39), ascorbic (R_f 0.67), succinic (0.45), tartaric (0.35) and citric (R_f 0.29) acids were identified in the rhizomes of *Iris graminea* by Paper Chromatography.

The analysis of organic acid composition of the rhizomes of *I. graminea* showed presence of 38 acids and their total content in the dry raw materials was 31551,32 mg/kg. Qualitative composition of the lower carboxylic acids varied there are mono-, di- and tricarboxylic acids by the number of carboxyl groups; aliphatic and aromatic acids by the nature of hydrocarbonic radical connected with a COOH-group; saturated and unsaturated acids by the level of saturation. The lowest acids are presented by both free organic acids, and hydroxyacids.

Monobasic saturated acids are contained in the amount of 13.99%, dibasic saturated – 28.23%. Hydroxyacids are contained in a large amount - 43.66%, dominated by citric acid (28.25%). Phenolic acids account for 6.07% of the total amount of carboxylic acids. Among the aliphatic acids in the dominant apple (13.41%), levulin (7.92%), oxalic (6.73%) acids. Unsaturated fatty acids are 11.33%, the largest quantities are linoleic (6.01%), linoleic (3.04%) acids, and gondoic acid has also been identified.

Citric acid (28.25%) is prevalent among the saturated aliphatic acids; it shows metabolic activities in the metabolism of carbohydrates and amino acids and maintaining acid-base balance in the body.

Conclusions. *Iris graminea* rhizomes were investigated by gas chromatography. 38 organic acids were established and their quantitative value were determined. It was found that iris rhizomes contain 31551,32 mg/kg. The results of this study are significant for determining beneficial compounds in iris rhizomes, so making use of these plant raw material as source of new medicines in the future is possible.

PHYTOCHEMICAL ANALYSIS OF THE LEAVES AND ROOT CROPS OF PASTINACA SATIVA

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Introduction. Parsnip (*Pastinaca sativa* L., celery (umbellifer) family – *Apiaceae* (*Umbelliferae*)) is widely cultivated as a vegetable and medicinal plant in Ukraine and European countries. In scientific medicine, preparations are used on the basis of biologically active substances of the fruits of parsnips. The combination of furocoumarins of parenteral has the ability to expand peripheral vessels and coronary vessels of the heart, to eliminate bronchospasms and spasms of smooth muscles of the abdominal cavity, exhibits a moderate sedative effect, also applies to angina pectoris, cardioneurorosis with spasm of the vessels, gastrointestinal cramps, biliary tract, kidney and urinary tract. A mixture of two furocoumarins –