

## DETERMINATION OF THE AMOUNT OF FLAVONOIDS IN THE LEAVES OF THE SERIES

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### ABSTRACT

*This article briefly provides some data on the use of medicinal plants in the treatment of various diseases, on the distribution of flavonoids in the plant world. The authors carried out a photometric determination of the amount of flavonoids in the leaves of the series. The flask was then cooled to room temperature and filtered through a filter paper into a 100 ml volumetric flask. The extraction was performed once more, then once again with 90% alcohol for 30 min.*

**KEYWORDS:** *String, Flavonoids, Biological Activity, Phytotherapy, Chemical Composition, Photometry.*

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### INTRODUCTION

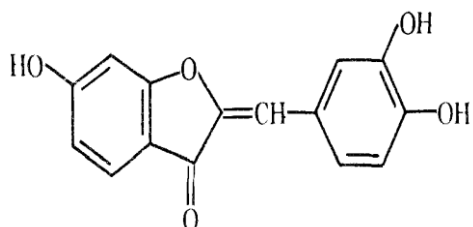
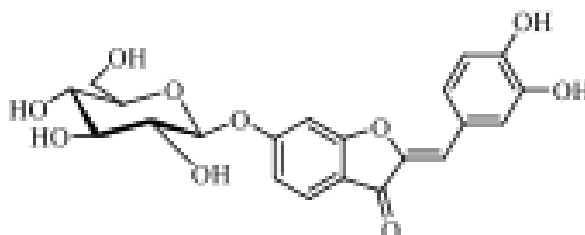
Herbal preparations are used mainly for the treatment of cardiovascular diseases, as well as choleric, laxative, expectorant, gastric, sedative, tonic, photosensitizing and other means. Increasing use in chemotherapy of tumor diseases, which is due to the high specific biological activity, combined with a complex effect on the entire body [1].

Flavonoids are among the most common biologically active compounds of plant origin. Flavonoids are found in greater or lesser amounts in almost all plants; their occurrence in higher plants reaches 80%. Flavonoids are found mainly in higher plants, but are also found in algae, fungi and mosses. Plants of the families *Fabaceae*, *Rutaceae*, *Polygonaceae*, *Rosaceae*, *Asteraceae* are the richest in flavonoids. Flavonoids are a group of plant pigments, the combination of which determines the color of flowers and fruits [2].

Phytotherapy, or healing with medicinal plants, is widely used in the treatment of gastrointestinal diseases. The active substances of medicinal plants (LR) (flavonoids, coumarins, vitamins, etc.) are contained in certain quantities. To man, as part of nature, such natural components are closer than artificial and synthetic means.

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Among all medicinal herbs, the sequence occupies a special place. Grass succession perfectly helps in the treatment of many diseases, including gastritis. Grass string with gastritis with high acidity improves metabolism, reduces inflammation in the stomach [3]. Burley herb contains a significant up to 60-70 mg% of carotenoids, as well as flavonoids: luteolin-7-glucoside, chalconbutein, auron sulphuretin, sulphurein, cynaroside, etc. [4].

*Sulphuretin**6-Sulfarein*

The herb also contains mucus, bitterness, essential oil, tannins, polysaccharides, coumarins (umbelliferon, scopoletin), triterpenoids, vitamin C (up to 0.9%), carotenoids (0.05%), carotenes, a large amount of vitamin C (up to 1000 mg%), Mn salts, polyacetylenes, as well as aromatic derivatives and thiophenes. .3%). The plant concentrates Zn, Se, Mnsalts [5].

The literature sources do not provide accurate data on the content of flavonoids in the aerial parts of the string. Therefore, in order to study the chemical composition of the sequence, we conducted experiments on the quantitative determination of the amount of flavonoids in plant material, since flavonoids are the main biologically active substances of most medicinal products. To do this, we used the spectrophotometric method using the reaction of complexation with aluminum chloride, in terms of quercetin, described in [6,7]. The crushed dry leaves of the string were taken as the object of the study.

The determination of the amount of flavonoids in percent was calculated using the following formula:

$$X = \frac{D \cdot 25 \cdot 100 \cdot 100}{m \cdot 764,6 \cdot 2 \cdot (100 - W)}$$

Where: D - optical density of the solution used;

764.6 – specific absorption index of the complex of quercetin with aluminum chloride at 430 nm; m - sample weight, in g; W - is the weight loss on drying, in %. The results of the determination are given in table.1.

**TABLE 1. THE RESULTS OF DETERMINING THE QUANTITATIVE CONTENT OF THE TOTAL FLAVONOIDS IN THE LEAVES OF THE SERIES**

№	Hinge	Optical density	Content of flavonoids, mg%
1	0,9681	0,312	0,94
2	0,9677	0,312	0,95
3	0,9657	0,311	0,94
4	0,9657	0,311	0,94
5	0,9668	0,311	0,94

As the results show, the content of the sum of flavonoids in the dried leaves of the series is 0.94-0.95 mg%.

### **Material and methods:**

**Determination of the amount of flavanoids in the leaves of the series.** About 1 g of the powdered powder was placed in a 150 ml flask with a thin section, 30 ml of 90% alcohol containing 1% concentrated hydrochloric acid was added, the flask was attached to a reflux condenser and heated in a boiling water bath for 30 min. The flask was then cooled to room temperature and filtered through a filter paper into a 100 ml volumetric flask. The extraction was performed once more, then once again with 90% alcohol for 30 min. The extracts were filtered through the same filter into the same volumetric flask, the filter was washed with 90% alcohol, and the volume of the filtrate was adjusted to the mark with 90% alcohol (solution A). 2 ml of solution A was poured into a volumetric flask with a capacity of 25 ml, 1 ml of a 1% solution of aluminum chloride in 95% alcohol was poured, brought to the mark with 95% alcohol, and the optical density of the resulting solution was measured on SF at a wavelength of 430 nm in a cuvette with a layer thickness of 10 mm. As a reference solution, we used a solution consisting of 2 ml of solution A, brought to the mark with 95% alcohol in a volumetric flask with a capacity of [5].

Thus, a quantitative determination of the amount of flavonoids in the dried leaves of the series was carried out.

### **REFERENCES**

1. Medicinal plants. Lecture course. CHSU. 2010. P.21.
2. Muravieva DA, Samylina IA, Yakovlev GP. Pharmacognosy. Moscow, Medicine. p.540.
3. Maznev NI. Encyclopedia of medicinal plants. 3rd ed., rev. and additional Moscow: Martin, 2004. p. 424.
4. Blinova KF, Yakovleva GP. Botanical and pharmacognostic dictionary: Ref. allowance. Moscow: VSh, 1990. p. 256
5. Karomatov IJ, Abduvokhidov AT. A well-known medicinal plant is a series of tripartite. Electronic scientific journal "Biology and Integrative Medicine". 2017;(9):15-16.
6. Usmanov UKh. PhD dissertation in Pharmaceutical Sciences. Tashkent. 2021. pp. 56, 103.
7. USSR State Pharmacopoeia XI. Moscow: Medicine, Vol. 2 1990. p.334.