STUDYING OF FLAVONOIDS OF ROMAINE LETTUCE

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Introduction. Lettuce is a single vegetable. It belongs to the Aster family (*Astraceae* L.), subfamily – *Cichorideae*, genus - *Lactuca*, species - *Lactuca sativa* L. The main varieties include iceberg, romaine and various leaf varieties. Lettuce is one of the most widely consumed vegetables in the world, but its nutritional value is underestimated.

Lettuce leaves are a good source of biologically active compounds for human health. It is rich in fiber, macro- and microelements, vitamins (folic and ascorbic acid). Lettuce is low in calories, fat, and sodium. However, the composition of nutrients and biologically active compounds differs in different varieties of lettuce and has not been studied enough. Therefore, we chose romaine lettuce (*Lactuca sativa var. romana* Lam.) for a more detailed phytochemical study.

Purpose. The aim of this work was to identify and quantify the content of flavonoids in the leaves of Romaine lettuce.

Materials and methods. The object of our study were dried Romaine lettuce leaves. To detect flavonoids used 70% ethanol extract from the studied raw materials. General chemical reactions were carried out: cyanidin test (Shinoda test), with 10% solution of iron (III) chloride, 2% solution of aluminum (III) chloride, 10% solution of potassium hydroxide and 2% solution of lead (II) acetate.

Absorption spectrophotometry was used to quantify the content of flavonoids in the studied raw material sample. The experiment was performed according to the method of the State Pharmacopoeia of Ukraine (SPU) 2.0, Appendix 1.

Quantitative content of the sum of flavonoids (X, %), in terms of luteolin-7-glucoside and dry raw materials was calculated by the formula:

$$X = \frac{A_1 \times m_0 \times P \times 1{,}63}{A_0 \times m \times (100 - W)},$$

The obtained results were statistically processed according to the requirements of the SPU.

Results and their discussion. The results of the experiment confirmed the presence of flavonoids in the leaves of Romaine lettuce.

The quantitative content of flavonoids in the studied raw material was established, which amounted to 2.62 ± 0.06%.

Conclusions. The obtained data can be used in the standardization of raw materials Romaine lettuce and in the development of new herbal medicines based on it.

Key words. Romaine lettuce, flavonoids, spectrophotometry.