

STUDY THE TECHNOLOGY OF EXTRACTING USEFUL SUBSTANCES FROM LICORICE ROOT

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Abstract. Among the representatives of the flora used by humans as medicinal agents, it is difficult, perhaps, to find a plant with such an ancient, documented history, such as licorice. In fairness, it should be emphasized that the collective term "licorice" or licorice refers to the roots and rhizomes of sweet licorice species *Glycyrrhiza glabra* L. and *Glycyrrhiza uralensis* Fisch. These are the most common types of licorice in Eurasia that were used in ancient medical recipes and medical recommendations, as well as in cosmetics and cooking.

Key words: glycyrrhizic acid, ammonia, acetone, nitrate acid, food additives. добавки.

Biologically active components of licorice root are triterpene glycosides (the most important of which is glycyrrhizic acid), the content of which can reach 25% of the dry material weight, various phenolic compounds, which account for 3-5%, and carbohydrates. The total content of extractive substances can reach 40%.

Licorice is used in the tobacco and food industries, for technical purposes - as a foaming agent, in the light industry - for tanning leather, obtaining fairly strong dyes, as well as in the production of cosmetics.

The first industrial procurement of licorice root in Azerbaijan was organized in the late 80s of the XIX century by American and English firms.

In 1906, procurement began in the valley of the Amu Darya River. The reserves of licorice root were huge, the raw material was distinguished by an increased content of glycyrrhizic acid.

The extraction with hot acetone was repeated twice more in this manner. The raw material powder was washed with acetone until the volume of liquid in the cylinder reached 100 ml, which was then poured from the cylinder into a beaker (200 ml). The cylinder was rinsed with 40 ml of alcohol and the alcohol was then poured

into the same beaker. Then concentrated ammonia solution was added dropwise to the beaker, while stirring vigorously, until an abundant curdled light-yellow sediment was formed (pH in the range of 8.3–8.6 - determined using a potentiometer). The sediment with the mother liquor was transferred to a filter placed in a Buchner funnel, the liquid was sucked off. The filter with the sediment and the beaker were washed 3–4 times with acetone (50 ml of acetone). The filter with the sediment was placed in a beaker and the sediment was dissolved in 50 ml of water. The resulting solution was poured into a flask (250 ml). The filter was repeatedly washed with small portions of water, which were then added to the main solution, bringing its volume in a measuring flask with water to the 250 ml mark (solution 1). Solution 1 in the amount of 30 ml was poured into the flask and the solution was topped up with water to the level of 500 ml (solution 2). The crushed raw material, containing glycyrrhizic acid, must contain at least 6% of this active component. This indicator is important in the production of dietary supplements.

Food additive E-958 is used as a sweetener, flavor enhancer, and foaming agent. In the food industry, glycyrrhizin is mainly used in the manufacture of food products for diabetics and non-cariogenic food products. The specific and persistent licorice flavor limits its scope of use to a few items ("hot" confectionery, bitters, pastis). When used in minimal doses, it has the property of enhancing aroma and taste.

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