WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 4, Issue 12, December, 2023

EXTRACT FROM PHRAGMITES COMMUNIS PLANT GROWING IN FERGANA REGION

Azimov Nurmukhammad Shukhratovich
Teacher of Kokand State Pedagogical Institute, PhD

Sulaymonova Muslimakhon G‘ayratjon qizi
Graduate student of Kokand State Pedagogical Institute

Abstract
Three articles discuss ways to extract the highest yield from the Phragmites communis plant using different extraction methods

Keywords: Phragmites, Ph. communis, extraction

This plant species belongs to the monocotyledonous class of the grain family. This family, in turn, includes 700 genera and about 10,000 species. Representatives of this category are widespread throughout the world. It is also well adapted to growth in Central Asia, it is found in Uzbekistan on the banks of lakes, rivers and other water bodies, in almost all regions of the Republic. The reed family is moisture-loving and can grow even in saline areas. The fact that this plant grows in clumps in steppes, deserts or deserts indicates that the groundwater is close to the surface of the earth there. The common reed plant has received cosmopolitan status among botanists due to its ability to grow anywhere. Perennial herb. The young green leaves of common reed plant are good fodder for small and large cattle. When silage made from ordinary cane is fed to cattle as feed, the quantity and quality of cow's milk is observed to increase. Common reed stalks are used as a source of energy, as a raw material for dry milling and gasification purposes in the chemical industry, and in the paper industry.

Young shoots of this plant have a lot of extractive power, High in vitamin C, fiber, cellulose, fats, oils, carotene. The leaves are high in carotene and phytoncides. The young and jointed branches of common reed have a high sugar content and products, and can be consumed as a product, as a product, in the state of marinade, and as a decoction. . The roots contain up to 50% starch, 5%, 32% fiber. The process of distribution of a substance in two immiscible phases is called an extraction phenomenon. The simplest example is when the medicinal caffeine content of dry tea dissolves from dry tea into boiling water when tea is brewed, a clear example of the extraction phenomenon.

Extraction is one of the most effective ways to separate substances. Extraction is used to separate the components of plant and mineral raw materials. Extractive methods have long been used in practice. Hundreds of years ago, some preparations were made using the extraction method of perfumes and dyes. In 1825, bromine was extracted with benzene, in 1842, uranium was extracted from a nitric acid solution, and in 1867, extraction was used to separate cobalt, iron, and platinum metals from each other in their thiocyanate solutions. In 1892, iron (III) chloride was developed, and in 1924, gallium (III) chloride was developed. Extraction is the extraction of a substance from an aqueous solution using organic solvents (chloroform, carbon (IV) chloride, benzene) that do not mix with water.

Some extracts are more soluble in organic solvents than in water. Extraction in a system consisting of immiscible liquid phases - an organic solvent and a solution of substances to be separated in water is called liquid extraction. Liquid extraction is based on the different distribution of substances in two liquid phases that are interconnected, but do not mix, that is, on their different solubility in these liquid phases. Liquid extraction is used to separate or concentrate substances.

It should be remembered that in the extraction method it is not possible to completely transfer a substance from one phase to another, or to completely separate two substances from each other. A small part of the extractable substance remains in the initial phase. In the extraction process, aliphatic and aromatic hydrocarbons (hexane, octane, decane, pentene, hexene, cyclohexane, benzene, toluene, etc.), compounds with one functional group (amyl, octyl alcohols; simple and complex ethers - diethyl ether, diisopropyl ether, ethyl acetate; ketones; nitro compounds; halogen compounds - chloroform, carbon tetrachloride, 1,2-dichloroethane, chlorobenzene; sulfur compounds - sulfur carbon CS2 thiophene) and compounds with more than one functional group (for example, 2-chloroaniline) and others apply.

The above-ground part of the plant was collected by the authors in July 2023 from Dangara district of Fergana region for research. 100.0 grams were taken from the above-ground part of the plant and extraction (separation) of the sum of extractive substances with 90% ethanol was carried out.

During the extraction, 3 different methods were used:

1. extraction at room temperature
2. Extraction by boiling in a water bath
3. ultrasonic extraction.

Data are shown in Table 1.

Table 1

№	Extraction method	Time, min	Temperature, °C	Extract mass, gr
1	Room temperature	3 x 180¹	20-22	7,2
2	Water bath	3 x 30¹	85-90	19,4
3	Ultrasound	3 x 20¹	20-22	14,6

From the data in the table, it can be concluded that the ultrasonic extraction method is the most optimal (the extraction time is reduced, the maximum extraction of the extract substances was achieved). The room temperature method is long, there is an incomplete extraction of the sum of extractable substances. The extract obtained as a result of boiling contains many ballast (resin) substances and its natural substances undergo changes.

Thus, the most optimal method for extracting the extractives of the common reed plant was found to be the ultrasonic extraction method.

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