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“AS-OROM” BIOLOGIK FAOL QO‘SHILMASI TARKIBIDAGI MAKRO VA MIKROELEMENTLAR TAHLILI

АНАЛИЗ МАКРО И МИКРО ЭЛЕМЕНТОВ В БИОЛОГИЧЕСКИ АКТИВНОЙ ДОБАВКЕ “АС-ОРОМ”

ANALYSIS OF MACRO AND MICRO ELEMENTS IN THE BIOLOGICALLY ACTIVE SUPPLEMENT “AS-OROM”

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Annotatsiya

“AS-OROM” biologik faol qo‘shilmasi tarkibidagi elementlar induktiv holatda bog‘langan argon plazmali emission spektrometriya (ICP-MS) usulida o‘rganildi. O‘rganilgan “AS-OROM” biologik faol qo‘shilmasi tarkibida jami 61 ta element mavjudligi, element miqdori uning massasi ortishi bilan kamayishining tabiiy tendensiyasi ko‘rsatilgan.

Аннотация

“AS-OROM” был исследован методом плазменно-аргоновой эмиссионной спектрометрии (ICP-MS), при котором элементы в биологически активном соединении связаны в индуктивном состоянии. Было показано, что исследуемая биологически активная добавка “АС-Оромо” содержит в общей сложности 61 элемент, что является естественной тенденцией к уменьшению количества элемента по мере увеличения его массы.

Abstarct

“AS-OROM” was studied in the argon plasma emission spectrometry (ICP-MS) method, in which elements in the biologically active coupling are bound in an inductive state. The studied “ AS-Oromo” biologically active additive has been shown to contain a total of 61 elements, a natural tendency for the amount of an element to decrease as its mass increases.

Kalit so‘zlar: *Paulownia va rosmarinus barglari (1;1) nisbatda, makroelementlar, mikroelementlar, induktiv holatda bog‘langan argon plazmali emission spektrometriya (ICP-MS).*

Ключевые слова: *листья Павловнии и розмарина в соотношении (1;1), макроэлементы, микроэлементы, индуктивно связанные аргон плазменная эмиссионная спектрометрия (ICP-MS).*

Key words: *Paulownia and rosemary leaves in the ratio (1;1), macronutrients, trace elements, inductively coupled argon plasma emission spectrometry (ICP-MS).*

INTRODUCTION

Since ancient times, people have used the world of plants, a miracle and a gift of nature, for a variety of purposes. The role of plants in the treatment and prevention of various diseases is invaluable. It is known that many plant species growing on our planet have healing properties. The quantity and quality of biologically active substances contained in plants serves as the main criterion for determining their medicinal properties. The role of plants in world medicine, including in the formation and development of modern pharmacy, is invaluable [3].

RESULT AND DISCUSSION

Theoretical part: when preparing medicines from vegetable raw materials, along with proteins, fats, carbohydrates, essential oils, saponins, flavonoids, which have pharmacological

value, their mineral composition becomes important. The absence or lack of sufficient amounts of mineral salts in many consumed foods leads to significant metabolic disorders in the body. Minerals take an active part in the normalization of biochemical processes and the operation of systems. In tissues, cells of a living organism, in the process of metabolism, they perform the main indirect function, maintaining the body in close contact with the external environment. Mineral salts are directly involved in the work of the endocrine and enzyme systems and regulate water metabolism in the body. The composition of the biologically active compound "as-orom" presented by us is a mixture of leaves of Paulownia and rosemary plants growing in the territory of the Fergana region, introduced into our republic in the ratio (1;1). the leaves of the plant are harvested in the summer season.

Paulownia species grow in China and have been used as agroforest trees for more than 2,600 years due to their many positive qualities and versatility of use. Information about Paulownia mil.The first is found in ancient documents and chronicles. Paulownia has been grown and used for various purposes for many years in different regions of the world, especially in Asia, the USA, and Europe [5]. The plant contains many macro-, microelements, vitamins, proteins and flavanoids. Paulownia is one of the most commonly used medicinal plants in terms of plant parts used in traditional medicine [4-6]. In traditional Chinese medicine, its bark, fruits, xylem and leaves have been used to treat various diseases, including hemorrhoids, inflammatory bronchitis, upper respiratory tract infections, mumps, asthma, traumatic bleeding, esophagus, bacteriological diarrhea, edema, bronchopneumonia, hypertension [7-9]. Today, the Paulownia tree is grown and used in many regions of our republic. Rosemary officinalis (Rosmarinus officinalis L.) is a plant rich in essential oils, it belongs to the family of Lipaceae and is an evergreen shrub reaching 1.5 - 2 meters in height. It grows in the Mediterranean countries [1]. It has long been cultivated and used in Europe and Africa. The plant has been cultivated for more than 2 thousand years and is currently used in Spain, France, Algeria, Tunisia, Yugoslavia and India as the main essential oil plant for planting and growing on large areas. In the east, it is found on the territories of Turkey and Lebanon in Asia Minor. The plant was first planted in Central Asia in 1930 in Tashkent. It has now been established that this plant can be grown and used in Uzbekistan. Currently, medicinal rosemary has found its place in medicine due to its healing properties [6].

The experimental part was investigated by plasma emission spectrometry of argon, in which the minerals contained in the biologically active compound "As-Orom" were bound in an inductive state. Determination of the mineral composition. Paulownia and rosemary, which grow in the territory of the Ferghana region, were harvested in the summer for sampling from the leaves of the plant. The collected samples were dried in cool conditions. The substances were detected using ICP-MS or a similar inductively coupled plasma emission spectrometer. To do this, 0.0500-0.500 g of the test substance is measured on analytical scales and placed in a Teflon container of an autoclave, then an appropriate amount of purified concentrated mineral acids (nitric acid and hydrogen peroxide) is poured. The autoclave is closed and installed on a microwave shredder with the berghof program (MWS-3+). Depending on the type of substance under study, the appropriate application is determined. Substances placed in an autoclave, after decomposition, are placed in measuring flasks of 50 or 100 ml and brought to the desired level with 0.5% nitric acid.

Research results. The minerals contained in the biologically active additive “AS-Oromo” were investigated by the method of argon plasma emission spectrometry, which is bound in an inductive state. When the composition of the main Macroelements, microelements and toxic elements in the sample was studied separately, the following results were obtained (tables 1-2).

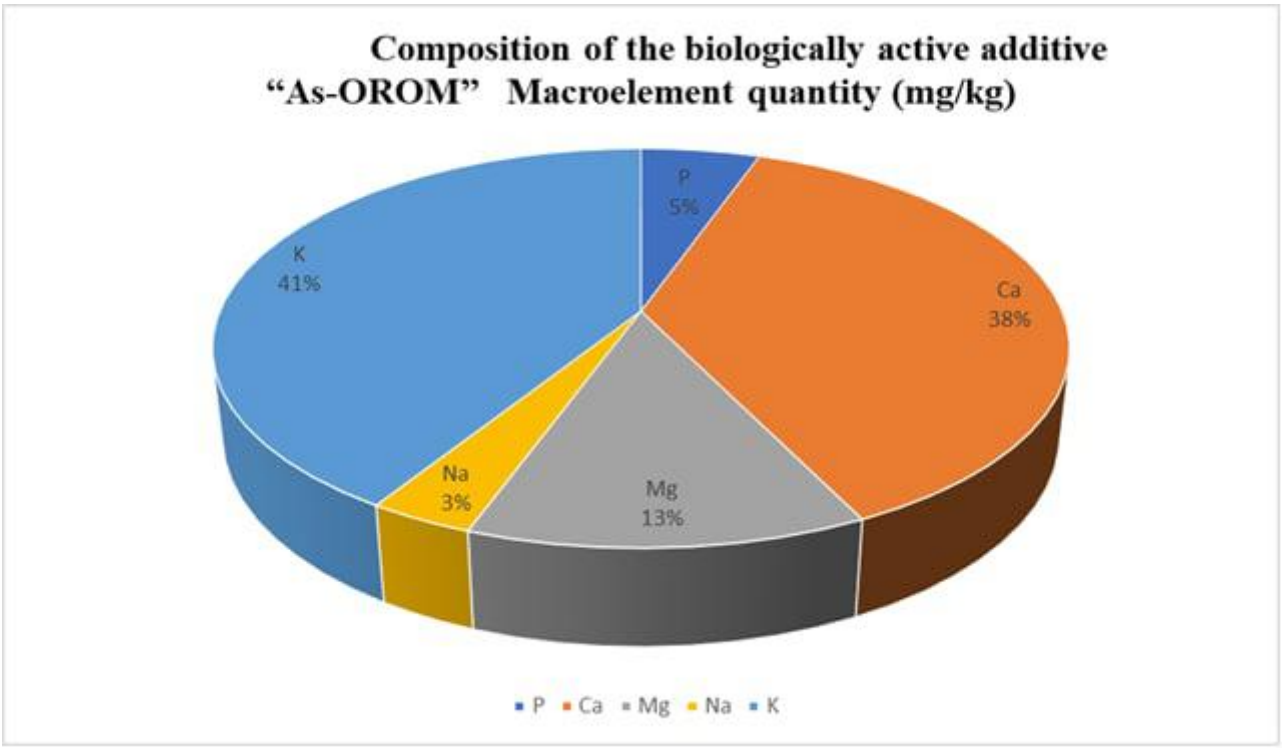
The amount of basic Macroelements (mg/kg) in the biologically active additive “AS-OROM”.

Table 1.

Composition of the biologically active additive “As-OROM”	
Element name	Macroelement quantity (mg/kg)
P	4365
Ca	30570
Mg	10370
Na	2756

K	33570

From the table data, it can be seen that macronutrients are found in large quantities in the biologically active additive “AS-OROM” studied. Included: P 4365 mg/kg, Ca 30570 mg/kg, Mg 10370 mg/kg and NA 2756 mg/kg and K 33570 mg/kg are available.

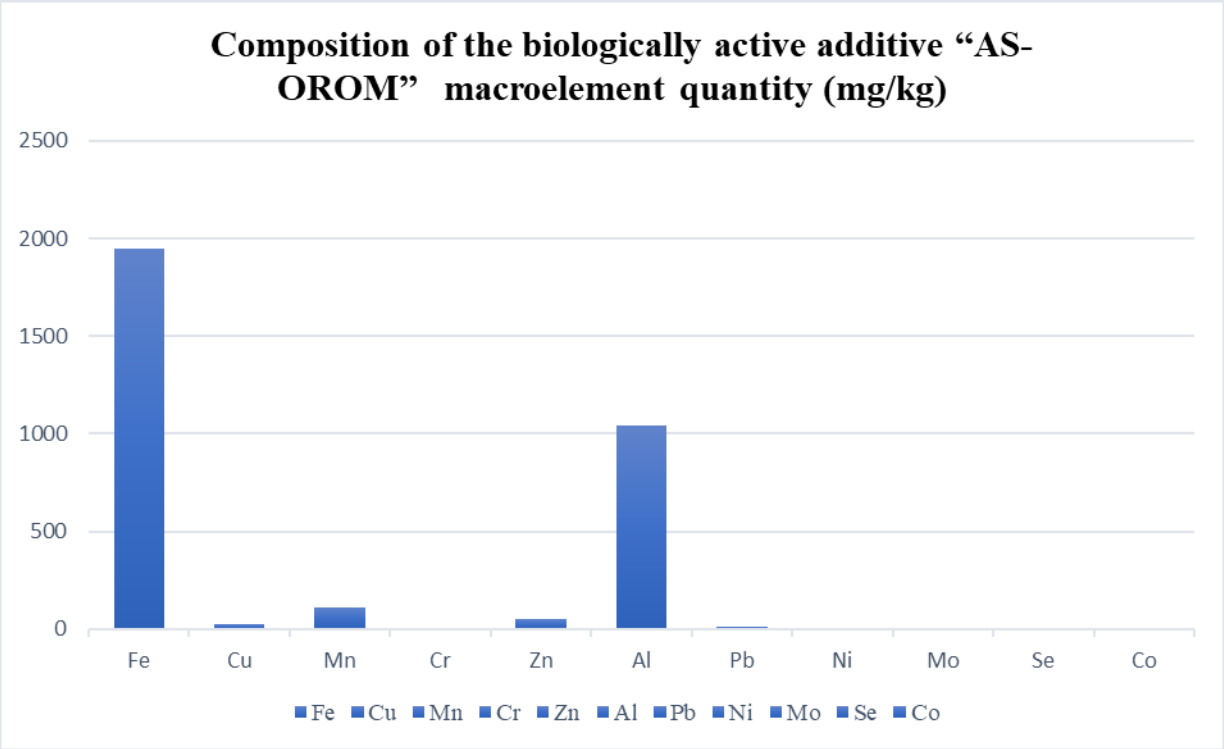


The amount of basic trace elements (mg/kg) contained in the biologically active additive “AS-OROM”

Table 2.

Composition of the biologically active additive “AS-OROM”	
Element name	Macroelement quantity (mg/kg)
Fe	1945
Cu	25,5
Mn	110
Cr	2,56
Zn	50,3
Al	1044
Pb	10,5
Ni	6,60
Mo	2,75
Se	0,086
Co	0,891

From the table data, it can be seen that microelements are found in the following amounts in the biologically active additive “AS-OROM” studied. Including: the compound contains Fe 1945 mg/kg, Cu 25.5 mg/kg, Mn 110 mg/kg, Cr 2.56 g/kg, Zn 50.3 mg/kg Al 1044 mg/kg, Pb 10.5 mg/kg, Ni 6.60 mg/kg, Mo 2.75 mg/kg, Se 0.086 mg/kg and Co 0.891 mg/kg.



CONCLUSION

The main mineral composition of the biologically active additive “AS-OROM” was investigated by the method of inductively coupled plasma optical emission spectrometry. According to the results of the obtained chemical analysis, it was found that the biologically active additive “AS-OROM” contains the amount of 61 elements in the composition of the biologically active additive “AS-OROM”, combining modern medicine and folk medicine, taking into account the high content of useful macro-and microelements, it is recommended to produce and practice the addition of food, which helps in

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