

DETERMINATION OF VOLUGARIS DRY QUANTITIES OF MICRO AND MACROELEMENTS AND APPLICATION IN MEDICINE

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ABSTRACT

This article describes the amount of elements in the powder of crushed fruits (grains) of vulgaris plant and provides information on its chemical composition and use in medicine. If you prepare such an ointment from the core and skin and apply it on your face, it will remove blemishes, freckles and redness and clarify the skin. White beans relieve pain in the chest and lungs, normalize the salt balance in the body. It is rich in red blood cells and dramatically increases the amount of hemoglobin in the blood. The amount of macro and micro elements in the fruit (grains) of beans was determined in a device based on the method of optical emission spectrometry "Inductively coupled argon plasma".

KEYWORDS: *Vulgaris, Macro And Microelements, Starch, Alkyl Acid, Pantothenic Acid, Vitamins Of Group C, PP, V, Zinc, Potassium, Iron.*

INTRODACTION

Today, a lot of research is being done around the world to isolate medicinal substances from plants, to determine their chemical structure and biological activity, and to apply them in practice. The fruit (seeds) of the bean plant, which has been used by humans for many years. In terms of starch, carbohydrates, protein, vitamins C, PP, B group, zinc, potassium, iron, beans are close to meat and seafood. Beans are a diuretic and antimicrobial agent. It is therefore useful in diseases of the liver, kidneys, gallbladder, urinary tract, intestinal infections, as well as in diabetes, hypertension, tuberculosis, rheumatism, gout and anemia. White beans relieve pain in the chest and lungs, normalize the salt balance in the body. It is rich in red blood cells and dramatically increases the amount of hemoglobin in the blood. Today, many of our scientists are conducting research in the country on the reproduction of medicinal plants and the determination of the content of micro and macronutrients, the study of biology [1-5].

Beans are a vulgaris plant (Phaseolus) - an annual and perennial plant of the legume family, a legume of the genus Phaseolus. More than 200 species are found in the tropics and subtropics, mainly in America. The world's most common type of bean (P. vulgaris) is found in Central and

South America. cultivated areas reached 22 million (1999). Cultivated in large areas in India, Brazil, China. Ordinary beans have been grown in Uzbekistan since ancient times. Root - bullet root, grows well, penetrates into the soil to a depth of 1.5–2 m. At the root, tufts develop. Stems herbaceous, branched, some species creep up to 3-4 m. The leaves are complex, odd, lanceolate, three-lobed. The flower is bisexual, located in the axils of the leaves, forming a single or single cluster. Fruits dukkak, color light pink or dark brown, black. There are 6-12 seeds in the pod. The seeds are kidney-shaped, the color is white, yellow, pink and other colors.

Beans are a heat-loving plant, the optimum temperature for flowering is 18-25°C, the temperature for fruit formation is 20-23°C. Loviyanamsevar, in Uzbekistan, belongs to the watermen. Fertile soil conditions are demanding. Growth period is 75-120 days. Cereals are rich in protein and high in calories. [1-5].



Figure 1. Bean plant and product.

The chemical composition of beans contains 20-31% protein, 0.7-3.6% fat, starch, alkyl acid, pantothenic acid, mineral salts. In terms of richness of vitamins C, PP, B group, zinc, potassium, iron, it is close to meat and seafood.

The stem is a good fodder for livestock. Some species are grown as ornamental plants. Enriches the soil with nitrogen.

The main crop is planted in spring (late April or May) and in June as a secondary crop, consuming 60-250 kg of seeds per hectare. Planting depth is 3-5 cm. Harvested legumes 75-80%, when ripe, legumes are collected, dried in the threshing floor, cleaned. Yield is 25-40 ts / ha. Navruz, Kakhrabo and other varieties are grown on irrigated lands in Uzbekistan [1-8].

In medicine, beans are useful as a dietary food for gastritis associated with low stomach acid. If you apply thick grease from the skin to your hair, it will be soft and supple. If you prepare such an ointment from the core and skin and apply it on your face, it will remove blemishes, freckles and redness and clarify the skin. If you feel nauseous and the constant vomiting is bothering you, drink the bean talcum powder on its own with water or as slurry. If you have pain in the kidneys and bladder, pour 20 g of bean flowers 200 ml of boiling water and infuse as a tea.

If you drink it half a glass 3-5 times a day before meals, you will recover quickly. A thick paste of beans is a cure when the breasts swell and milk sticks to the breasts. Patients with headaches are advised not to consume beans. In beans, it is close to meat and seafood in terms of starch, carbohydrates, protein, vitamins C, PP, B group, zinc, potassium, iron. Beans are a diuretic and antimicrobial agent.

It is therefore useful in diseases of the liver, kidneys, gallbladder, urinary tract, intestinal infections, as well as in diabetes, hypertension, tuberculosis, rheumatism, gout and anemia. White beans relieve pain in the chest and lungs, normalize the salt balance in the body. Red blood cells are rich in iron and increase the amount of hemoglobin in the blood [1-8].

DISCUSS THE RESULTS

In determining the amount of micro and macronutrients in the fruits (grains) of beans, it was detected and studied on the basis of optical emission spectrometry "Inductively coupled argon plasma" on the device Optima-2100DV (USA) and Autodosator S-200 Perkin Elmer. "It was detected on a Spectro Xepos 111 (SSHA) device using X-ray fluorescence spectrometry.

Technical parameters of the device: Equipment with voltage 120/230 V, Power 150 W. It was done with the help of. To do this, the sample solutions were delivered to the wells in the autodaster, and the final processing is carried out by the device Win-Lab (offline). The device automatically calculates the noise, the shape of the solution at the specified locations of the elements under study. The obtained results and analysis of spectra were determined automatically by the method of "multispectral analysis". After the analysis of the results. The results are automatically displayed on a computer connected to the device. The results of these studies are presented in Table 1.

TABLE 1 THE AMOUNT OF MICRO AND MACRONUTRIENTS IN THE FRUIT OF THE BEAN PLANT

№	Element	Macro and micro element content mg/g	№	Element	Macro and micro element content mg/g
1	Li	0.309	23	As	0.042
2	Be	0.092	24	Se	0.080
3	B	19.680	25	Rb	1.457
4	Na	302.403	26	Sr	7.282
5	Mg	2419.727	27	Zr	0.130
6	Al	26.435	28	Nb	0.001
7	Si	424.395	29	Mo	3.607
8	P	4705.753	30	Ag	0.011
9	S	871.768	31	Cd	0.012
10	K	10056.992	32	In	0.000
11	Ca	3301.565	33	Sn	0.753
12	Ti	14.708	34	Sb	0.027
13	V	0.074	35	Cs	0.002
14	Cr	1.383	36	Ba	2.176
15	Mn	7.468	37	Ta	0.000
16	Fe	108.381	38	W	0.007

17	Co	0.094	39	Re	0.000
18	Ni	1.404	40	Hg	0.392
19	Cu	3.997	41	Tl	0.001
20	Zn	10.886	42	Pb	0.144
21	Ga	0.167	43	Bi	0.007
22	Ge	0.002	44	U	0.032

The data in the table show that 44 elements of beans were quantified, including beans V (19.680mg/g), Na (302.403mg/g), Mg (2419.727 mg/g), Al (26.435 mg/g), Si (424.395 mg/g), P (4705.753 mg/g), S (871.768 mg/g), K (10056.992 mg/g), Ca (3301.565 mg/g), Ti (14.708 mg/g), Cr (1.383 mg/g), Mn (7.468 mg/g), Fe (108.381 mg/g), Ni (1.404 mg/g), Cu (3.997 mg/g), Zn (10.886 mg/g), Rb (1.457 mg/g), Sr (7.282 mg/g), Mo (3.607 mg/g), Ba (2.176 mg/g), the amount of elements was found to be higher than others. [9-25].

Experimentsection

1 mg using an analytical balance.±1. The amount of macro and micro elements in the fruit (grains) of beans was determined and studied on the basis of optical emission spectrometry "Inductively coupled argon plasma" on the device Optima-2100DV (USA) and Autodosator S-200 Perkin Elmer. Samples of fruits (grains) of beans finely ground, 0.1 g of the sample was weighed to the nearest. The sample was placed in Teflon autoclaves and filled with 2 ml of nitric acid solution and 1 ml of hydrogen peroxide solution. Decomposes by heating at °S and cooling it to 25-40 °S again. After disintegration, the sample solution is autoclaved with 5-10 ml of deionized LaboStar PRO UV 4, 1.5 l / min, rinsed 3 times in a 50 ml volumetric flask with water obtained from Evoqua (SG Wasser) to 50 ml with deionized water. completed. The amount of macro and micro elements in the fruit (grains) of beans was determined in a device based on the method of optical emission spectrometry "Inductively coupled argon plasma". After receiving the data from the device, the final processing is performed by the device Win-Lab (offline). The device automatically calculates the noise, the shape of the solution at the specified locations of the elements under study. The standards use a multi-element standard solution. The analysis is repeated 5 times and is the arithmetic mean. The RSD for each element should be between 0.01 and 1.0%. Used in S-200 Perkin Elmer autodaster, generator power - 1500 W, pump peristal speed - 1.2 ml / min, argon flow 12-15 l / min, plasma observation-axial point - 0.8 l / min [9 - 25].

CONCLUSION

1. The amount of macro and micro elements in the fruit (grains) of beans is determined by the X-ray fluorescent spectrometer Spectro Xepos 111, technical index: 120 / 230V, power 150W. The study of the device (SSA) revealed the content of 44 elements in the fruit (grains) of beans, the content of V (19.680mg/g), Na (302.403mg/g), Mg (2419.727 mg/g), Al (26.435 mg/g), Si (424.395 mg/g), P (4705.753 mg/g), S (871.768 mg/g), K (10056.992 mg/g), Ca (3301.565 mg/g), Ti (14.708 mg/g), Cr (1.383 mg/g), Mn (7.468 mg/g), Fe (108.381 mg/g), Ni (1.404 mg/g), Cu (3.997 mg/g), Zn (10.886 mg/g), Rb (1.457 mg/g), Sr (7.282 mg/g), Mo (3.607 mg/g), Ba (2.176 mg/g), the amount of elements to others was found to be relatively large.

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