

O'ZBEKISTON RESPUBLIKASI
OLIY VA O'RTA MAXSUS TA'LIM VAZIRLIGI
FARG'ONA DAVLAT UNIVERSITETI

**FarDU.
ILMIY
XABARLAR-**

1995 yildan nashr etiladi
Yilda 6 marta chiqadi

2-2022

**НАУЧНЫЙ
ВЕСТНИК.
ФерГУ**

Издаётся с 1995 года
Выходит 6 раз в год

FarDU. ILMIY XABARLAR – НАУЧНЫЙ ВЕСТНИК.ФЕРГУ

Muassis: Farg'ona davlat universiteti.

«FarDU. ILMIY XABARLAR – НАУЧНЫЙ ВЕСТНИК. ФерГУ» "Scientific journal of the Fergana State University" jurnali bir yilda olti marta elektron shaklda nashr etiladi.

Jurnal filologiya, kimyo hamda tarix fanlari bo'yicha O'zbekiston Respublikasi Oliy attestatsiya komissiyasining doktorlik dissertatsiyalari asosiy ilmiy natijalarini chop etish tavsiya etilgan ilmiy nashrlar ro'yxatiga kiritilgan.

Jurnaldan maqola ko'chirib bosilganda, manba ko'rsatilishi shart.

O'zbekiston Respublikasi Prezidenti Administratsiyasi huzuridagi Axborot va ommaviy kommunikatsiyalar agentligi tomonidan 2020 yil 2 sentabrda 1109 raqami bilan ro'yxatga olingan.

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Sayt: www.fdu.uz. Jurnal sayti

Bosishga ruxsat etildi:

Qog'oz bichimi: - 60×84 1/8

Bosma tabog'i:

Ofset bosma: Ofset qog'oz.

Adadi: 10 nusxa

Buyurtma №

FarDU nusxa ko'paytirish bo'limida chop etildi.

Manzil: 150100, Farg'ona sh., Murabbiylar ko'chasi, 19-uy.

Farg'ona,
2022.

J.Xudoyberdiyev, A.Reymov, R.Kurbaniyazov, SH.Namazov, O.Badalova, A.Seytnazarov Qoraqalpog‘istonning jelvakli fosforit uni asosidagi faollashgan superfosfat	248
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**SARIMSOQPIYOZ VA PO'STINING KIMYOVIY TARKIBI, SHIFOBAXSHLIK
XUSUSIYATLARI**

ХИМИЧЕСКИЙ СОСТАВ, ЛЕЧЕБНЫЕ СВОЙСТВА ЧЕСНОКА И ЕГО ШЕЛУХИ

CHEMICAL COMPOSITION, HEALING PROPERTIES OF GARLIC AND ITS PEEL

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Annotatsiya

Maqolada sarimsoqpiyozning mevasi va po'stining kimyoviy tarkibi maxsusmetod mass-spektrometr yordamida aniqlandi. Ushbu metod oziq-ovqat mahsulotlari tarkibidagi makro va mikroelementlarni aniqlashda qo'llaniladi. Tajribalar natijalarini tahlili olish tartibi modda miqdori mg da va uning shu miqdordagi erish darajasi ko'rsatilgan. O'rganishlarda sarimsoqpiyoz va po'sti kukuni tarkibidagi elementlarini miqdori kamayib borish tartibi jadvalda va ketma ketlikda joylashtirib borilgan va taqqoslangan. Ko'rsatilgan elementlardan muhim hayotiy zarurlari, shartli muhimlari va zaharliga yaqinlari alohida ko'rsatilgan. Natijalarga e'tibor berganimizda biz chiqindi deb tashlab yuboradigan po'stloq qismini tarkibidagi makro va mikro elementlar miqdori mevasi kukuni tarkibidan farq qilib, ayrim po'stloqdagi elementlar mevasidagi elementlarga miqdoriga nisbatan ko'pligi mass spektroskopik usulda aniqlangan va foydalligi bo'yicha mevasi kukunidan qolishmasligi aniqlangan.

Аннотация

В статье определен химический состав плодов и шелухи чеснока с помощью специального масс-спектрометрического метода, который применяется для определения макро- и микроэлементов в пищевых продуктах. Приведен порядок анализа результатов опытов в мг вещества и его растворимость в том же количестве. Из указанных элементов показаны жизненно необходимые, условно важные и близкие к токсичности. По результатам, количество макро- и микроэлементов в кожуре, которые мы выбрасываем как отходы, отличаются от содержания фруктового порошка.

Abstract

The article determined the chemical composition of garlic fruits and peel using a special mass spectrometric method, which is used to determine macro- and microelements in food products. The procedure for analyzing the results of experiments in mg of a substance and its solubility in the same amount is given. Of these elements, vital, conditionally important and close to toxicity are shown. From the results it can be concluded, the amount of macro and micronutrients in the peel that we throw away as waste is different from the content of the fruit powder.

Kalit so'zlar: vitaminlar, mikroelementlar, makroelementlar, bakterialar, buyrak kasalliklari, ichak kasalligi, bronxial astma, buyrak tosh kasalligi.

Ключевые слова: витамины, микроэлементы, макроэлементы, бактерии, болезни почек, кишечные заболевания, бронхиальная астма, почечнокаменная болезнь.

Key words: vitamins, microelements, macronutrients, bacteria, kidney diseases, intestinal diseases, bronchial asthma, nephrolithiasis.

INTRODUCTION

The beneficial effect of garlic on the human body has been known since ancient times. The chemical composition of the plant is rich in macronutrients and vitamins. Garlic can be fried and even boiled, but the vegetable does not lose its healing properties, which are widely used in folk medicine. With the help of garlic, you can strengthen the immune system, reduce the level of "bad" cholesterol in the blood, which increases endurance and human performance, which is especially appreciated by athletes[5,153-167].

Composition and caloric content of garlic

Garlic contains a rich set of vitamins, macro- and microelements. It is scientifically proven that the product contains natural antibiotics.

Chemical composition of garlic.

The chemical composition of garlic can vary greatly depending on the growing conditions, climatic zone, diversity. Garlic raw materials contain 6.0-13.3% protein, 15-28% sugar, mineral salts, vitamins C, PP, B1, B2, carotene, essential oil (0.23-0.74%), allicin and other organic compounds and some of the macro- and microelements present in it [4, 22-24].

Germanium is contained only in this vegetable. The substance is responsible for strengthening the walls of capillary connections and strengthens the structure and permeability of blood vessels. Consuming a reasonable amount of vegetables can be an excellent prevention of varicose veins. Germanium helps to activate the movement of oxygen through the blood vessels, which is an excellent stimulation of the immune system.

Selenium is a powerful antioxidant that neutralizes toxins in the liver. Vegetables are mainly used as a cure for poisoning. Selenium is involved in the restoration of skin, nails, and hair fibers. The selenium content depends on the composition of the soil. In the north-western regions, the amount of selenium in the soil is less, in the southern regions it is more, so garlic is recommended to be grown in the southern regions.

Iodine is a key element responsible for the synthesis of substances in the body. Heat exchange plays a role in the regulation of protein and water metabolism. It is used as a prevention of thyroid diseases. Garlic contains more than 100 elements.

Sulfur is one of the main elements in garlic and occurs in the form of sulfides that can completely destroy a number of dangerous bacteria, for example, staphylococci, typhoid bacilli, fungi and yeast. Sulfur-containing substances are of particular importance. They are a real antioxidant for poisoning with toxins [4,22-24].

The trace elements and vitamins contained in garlic help to quickly destroy bacteria and fungi that can lead to the development of serious diseases: dilates blood vessels; prevention of varicose veins and vascular blockage; increases the body's resistance to infections; acts as a diuretic; relieves pain.

METHOD AND LITERATURE ANALYSIS

I.R.Askarov recommended the use of various therapeutic agents based on garlic in the treatment and prevention of several diseases.

During the study of the composition of garlic in the pharmaceutical industry, N.K.Olimov contributed to the development of the industry by creating new technologies and methods of standardization of drugs.

M.U.Usubbaev and others studied the basis of garlic powder using various methods and analyzes and created several tablets based on new technologies in the treatment of diseases, including garlspin.

H. Isakov studied the healing properties of garlic and paid attention to the prevention and treatment of diseases in humans in folk medicine.

RESULTS AND DISCUSSION

Table 1

DETERMINATION OF MICRO- AND MACROELEMENTS BY THE ISP-MK METHOD

No	Elements	Garlic ash mg/kg	Garlic Peel ash mg/kg
1	LithiumLi	0.039	0.184
2	BerylliumBe	0.002	0.10
3	Boron B	3.815	10.042
4	SodiumNa	427.961	790.943
5	MagnesiumMg	742.746	1103.573
6	AluminumAl	14.747	178.245
7	SiliconSi	97.516	393.163
8	Phosphorus P	3084.936	790.391
9	Sulfur S	222.851	203.658
10	Potassium K	12217.044	5031.959
11	CalciumCa	796.066	5134.817

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12	TitaniumTi	1.090	22.314
13	Vanadium V	0.012	0.099
14	ChromeCr	0.313	0.496
15	Manganese Mn	2.146	4.298

**MACRO - AND MICROELEMENTS ARE INDUCTIVELY BOUND TO PLASMA.
DETECTION BY SPECTROMETRY (ISP-MS)**

This method is used to determine the element of macro- and microelements in food products. To do this, 0.0500-0.500 g of the test substance is weighed on analytical scales and placed in a Teflon autoclave container, then an appropriate amount of purified concentrated mineral acid (nitric acid and hydrogen peroxide) is poured. The autoclave is closed and installed on a programmed Berghof (MWS-3+) microwave coffee grinder. Depending on the type of substance under study, the appropriate application is determined. After decomposition of the substances placed in the autoclave, they are transferred to measuring flasks with a capacity of 50 or 100 ml and brought to the required mark with 0.5% nitric acid.[2] 50-51p.

The detection of substances was carried out on an emission spectrometer with argon plasma bound in ISFMS or a similar inductive state. The detection method captures the optimal wavelength with the maximum radiation of the studied micro- and macroelements.

The procedure for analyzing the results of experiments in mg of the substance and its solubility in the same amount is indicated. When the true value of the results is obtained, the ISPMS device automatically calculates the available amount of substance in the test sample and enters it in the form of mg/kg or mcg/g.

The error is defined as % in RSD.

The following equipment was used to carry out the above analyses.

ISPMS NEXION-2000 or a similar mass spectrometer, microwave separators (Germany) or a similar telephone autoclave: test tubes of different sizes.

Reagents used: Multi-element standard No. 3 (29 elements for MS).

Standards - mercury, nitric acid, hydrogen peroxide, bidistilled water and argon (gas purity 99, 995%).

Necessary equipment and tools

Devicesandequipment	Technicalcondition
ISP MC NEXION-2000 device (Perkin Elmer USA)	Working
Berghoff Micro wave Distribution System	Working
Teflonaucoclaves DAP-100	Working
Analyticalscales	Working
WaterDeionizers	Working

As it can be seen from the table, the study of the elemental composition of garlic fruits and peel powder revealed the presence of more than 50 elements.

K> P> Ca> Mg> Na> S> Si> Fe> Al> B> Mn> Ti> Sn> Sr> Cu> Ba> Pb> Cr> Se> Ni> Ga> Li> Pd> V> Mg> Zn>As>Co>Cd>Be>Ag>Sb and so on.

Of these elements, irreplaceable vital (K, P, Na, Fe, Ca, Co, Mg, Mn, Cu, Mo, Cr, Zn), conditionally important (B, Si, As), toxic (Ba, Bi, Cd, Pb, Hg), poisonous relatives (Ga, Sn, Sr, Ti, Zr).

The most common elements in garlic fruit powder are K, P, Ca, Mg, Na, S, Si, Fe.

Depending on the amount of macro-microelements contained in the garlic husk powder, they are distributed as follows. Ca> K> Mg> Na> P> Si> S> Al> Fe> Ti> Sr> B> Ba> Mn> Zn> Sn> Ga> Cr> Ni> Cu> Li> Rb> V> Co> Zr> Mo> As> Pb> Hg> Be> Cd> Se> Ag> Nb> Sb> Cs> W> Ti> Bi and so on. Of these elements, vital (Ca, K, Mg, P, Si, S, Na, Al, Fe, Co, Mn, Cu, Mo, Cr, Zn), conditionally important (B, Si, As, Sb), toxic (Ba, Bi, Cd, Pb, Hg), close to poisons (Ga, Sn, Sr, Ti, Zr).

The most common elements in garlic peel powder are Ca, K, Mg, Na, P, Si, S, Al, Fe, Ti, Sr. We will consider the use of garlic powder in medicine for the prevention and treatment of various diseases [3,25-35].

1. Inflammation of the throat. To overcome a sore throat, you need to prepare a garlic tincture for drinking. Mix 1 teaspoon of powder with a glass of milk and insist for half an hour, drink twice a day or shake.

2. For flu or colds. In the treatment of infectious diseases, 1 teaspoon of honey is mixed with an equal amount of garlic powder. They are taken several times a day for half an hour before meals.

3. Bronchial asthma. Decoction of garlic in milk greatly relieves the symptoms of the disease. Take 12-15 cloves of garlic and cook them in 1 liter of milk, cover with a lid and insist until it cools down.

4. In the treatment of arterial and vascular diseases. Before that, a half-liter glass jar of garlic is cauterized on it with a 40% aqueous solution of ethyl alcohol and kept in a dark place for 12 days.

5. Eating garlic powder with honey relieves shortness of breath.

6. It is good to add honey to garlic powder and rub it into white spots (sands).

7. Adding turmeric seed powder to garlic powder is good for rubbing the face.

8. Chop 250 g of garlic, pour 1 liter of vodka and stand for 14 days (at a temperature of 300C). The neck of the container should be well closed. The mixture is shaken every 3-4 days, stored in a cool place by bathing and taken 5-20 drops 3 times a day for colitis, enterocolitis, influenza, dysentery, bronchitis and pneumonia, atherosclerosis.

9. Drink half a teaspoon of garlic powder twice a day to relax your stomach.

10. Adding honey to garlic powder and rubbing it into the blood under the eyes gives a quick effect.

11. Adding garlic husk powder to linseed oil and rubbing it into the beard instead of whitehair, black hair appears [1,739-752].

When garlic husk powder is added to animal feed in animal husbandry, the meat productivity of animals increases, the nutritional value increases, especially dairy products, and, of course, is used in the production of breeding varieties. It is also used in fisheries and poultry farming not only to produce high-quality meat and eggs, but also for the prevention of viral and fungal diseases.

CONCLUSION

Thus, when we look at the results, the amount of macro- and microelements in the bark that we throw away as waste differs from the content of fruit powder in some cortical elements, including: Ti-22 times, Sr-20 times, Al -12.7 times, Ba -10.2 times, Co-9.2 times, Ca-6.4 times, Fe-6.2 times, Be-5 times, Li-4.7 times, Si-4.1 times, Ni-3.5 times, excess Ag-3.0 times, the number of elements in the fruit was determined by mass spectroscopic method and did not lag behind the fruit powder in terms of usefulness.

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