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ПИЁЗНИНГ КИМЁВИЙ ТАРКИБИ ВА ШИФОБАХШ ХУСУСИЯТЛАРИ

ХИМИЧЕСКИЙ СОСТАВ И ЦЕЛЕБНЫЕ СВОЙСТВА ЛУКА

CHEMICAL COMPOSITION AND HEALING PROPERTIES OF ONION

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Аннотация

Мақолада пиёз ўсимлигининг фойдали хусусиятлари, кимёвий таркиби, табобатда қўлланилиш усуллари ва амалий аҳамияти ҳақида маълумотлар келтирилган.

Аннотация

В статье представлена информация о полезных свойствах лука, о его химческом составе, способах его применения в медицине и практическом значении этого растения.

Annotation

This paper provides information on curative properties of the onion, its chemical composition, methods of application in medicine and its practical significance.

Таянч сўз ва иборалар: ўсимлик, пиёз, табобат, шифобахш хусусият, дори, маҳсулот, витаминлар, минераллар, иммунитет.

Ключевые слова и выражения: растение, лук, медицина, целебные свойства, лекарства, продукт, витамины, минералы, иммунитет.

Key words:plant, onion, folk medicine, healing property, medicine, product, vitamins, minerals, immune system.

Many scientists believe that the homeland of onions and garlic is the mountainous regions of Central Asia and Afghanistan. This is because there are so many wild forms of onion that are consumed by local people there. Batun-onions and multi-tiered onions originated in the southern parts of Eastern Siberia and its proximity to China and Mongolia.

In Egypt, pyramid builders were definitely added onions to their meals to keep them from getting sick. The Egyptians enriched various recipes with onions and garlic. Interestingly, the workers at the Pyramids of Giza mostly ate onions during the time they had to do some hard work. Greek athletes ate onions to make their blood flow faster like gladiators during a fight. In Greece and Rome, too, onions were widely grown and loved.

Even today, onions are a type of vegetable that is consumed in almost all households and in the preparation of most dishes. Onions have a special place in human life because of their valuable nutritional, dietary and medicinal properties. Its smell whets the appetite, the taste gives aroma to various dishes, and it itself improves digestion. It is consumed raw, cooked, fried, boiled, dried and marinated throughout the year.

Onion is a perennial plant that grows up to 60-100 cm in height. It grows a large onion under the ground. The stems are thick, the inside is hollow, swollen below the middle, the flowers are gathered in a simple umbrella, the fruit has a spherical structure. Avicenna used onions to treat jaundice and used them to whet the appetite. He also treated purulent wounds, purulent discharge

from the ears, tonsillitis and whitening of the eyes with onion juice.

The Persians call it piyoz, the Romans - cravmitas (derived from Dioscorides 'term Cromion-onion garlic), the Turks Sogan. There are four types, the best of which is white [1].

There are a number of species of onion among which

Bulb onion − It is a biennial plant that ends in the first year when planted from seed, and bears seeds in the second year. Its seeds begin to germinate at 2-3 degrees, but it is preferable that the temperature be 18-20 for better germination.

The onion of Shallot − It is a type of onion that can reproduce vegetatively, its onion is divided into several small pieces united on a common base, but they are in the same peel, like garlic. Onions are very well kept for the winter and produce green onions in 18–20 days after planting. Its leaves taste very good and the onions are very tasty even though they are small.

The onion of Perry − its appearance resembles a broad-leaved garlic. Its leaves are flat and the top looks like it is covered with paraffin. Older onions have 9-13 leaves. In the second year of life, the perry onion produces an arrow (petal) and it blooms and gives seeds. This onion has a slightly bitter taste and a pleasant aroma. Its green leaves and petals can be used for food.

Perry onions are very beneficial to consume as they contain sugar, protein, various vitamins, and salts of sodium, potassium, calcium, iron and phosphorus. One of its valuable properties not found in other vegetables is that the amount of ascorbic acid in the leaves doubles when the leaves are preserved.

Perry onion is recommended for patients with gastrointestinal diseases, gout, rheumatism, kidney stones and obesity. This onion is very resistant to frost and can easily withstand temperatures up to 7 degrees. [5]

The onion of Baton − the amount of vitamin C in this onion is twice that of ordinary onion, and it is a winter-hardy plant. The seeds begin to germinate at a temperature of 2-3 degrees. Because Baton onion receives moisture from the deeper layers of the soil, it is very drought tolerant and can grow easily even in water-scarce areas.

The onion of Shniit − distinguished by its extreme cold tolerance, it produces large poplar leaves in early spring. The taste of the bubarg is a little bitter and pleasant. Its arrow and leaves are used in food because it is very high in carotene and vitamin C. The amount of ascorbic acid is high in spring leaves. Its bulbs are small, no more than 1 cm in diameter. Each bulb produces petals in the second and subsequent years, and they bloom for a long time (5 months). This onion flower is very beautiful - a dark red or purple flower is a real treasure for bees.

The onion of Slizun (onion with iron)− differs from the others by the earlier growth of the green onion. Its leaves are flat, 2-3 cm wide and up to 40 cm high. Its petals (arrows) are not edible, but the taste of the leaves is pleasant and not too bitter. The leaves and onions are very rich in vitamins, ascorbic acid and iron salts. Therefore, this onion variety is recommended for patients with anemia.

Fragrant onion − this type of onion is common in China, the Far East, and Central Asia, and its leaves are broad, thick, and succulent. The lower part of the body is also thick, and in its lower part there are white bark, from which vegetative buds develop. The fragrant onion sprouts until late autumn, and its leaves never become rough, the taste is pleasant, a little bitter. The leaves are rich in carotene and ascorbic acid. The leaves and petals of this onion are eaten fresh, cooked and salted.

The main and most common varieties of onion localized in Uzbekistan are Istiqbol (elongated and good for use in salads), Zafar (red), Sumbula (early ripening in May) and several other varieties described below. [2]

Onion head and green leaves are vegetables that are consumed throughout the year and contain a lot of nitrogenous substances (1.7-2.5%), sugar, essential oils, vitamins, enzymes, calcium and phosphorus salts.

Essential oils give them a unique aroma and pungent taste. Depending on the amount of essential oils in ordinary (bulb) onions are divided into 3 groups:

1. Bitter (with excessive amount of essential oil, in other words over 0,5 grams per kilogram)

2. Half-bitter (with amount of essential oil ranging from 0,5 to 0,3 grams per kilogram)

3. Mild (with amount of essential oil not exceeding 0,3 grams per kilogram)

Onion varieties grown in Uzbekistan contain 9-13.5% dry matter, 6.8-12% sugar, including 4.8-8.2% sucrose, 1.4-6.90 mg /% vitamin C. The green leaf contains 16-50 mg /% vitamin C and is rich in vitamins A_1, B_1, B_2. In addition, onions contain small amounts of citric and malic acids, and the outer dry skin contains yellow quartzite dye. The fruit contains 34-36% dry matter, 6.7% nitrogenous substances; 0.1% oils; 26.3% nitrogen-free extractives; 0.77% fiber; it contains 1.44% ash and 10-12 mg /% vitamin C. The value of onions as an important component of many foods is due to the fact that they contain large amounts of carbohydrates and nitrogenous substances.

Different onions contain 6-21% dry matter, including 5-17% carbohydrates. Nitrogen content in onions is 1-4%. Sugar is 4-14%, which is in the form of glucose, sucrose, fructose and maltose. Onions contain 0.05% essential oil, flavonoids and phytoncides. Onions are rich in vitamins C, B_1, B_2, B_6, PP and various micronutrients, have phytoncide properties, and are therefore widely used in medicine and in the storage and processing of vegetable products, such as potatoes.

Onions contain 50 different chemical elements, which are as salts of sodium, potassium, phosphorus. Onions are the best remedy for coughs and colds. Regular consumption of it increases the body's resistance to disease. In ancient times it was recommended to eat large amounts of onions when typhoid and plague spread. In folk medicine, onions are used in heart disease, viral and oncological diseases, kidney and fungal diseases, in the treatment and prevention of abscesses, boils and dermatitis, hypertension and atherosclerosis.

The RR vitamin in onions strengthens blood vessels, making them elastic and mobile. Onions contain essential oil, vitamins C, B, carotene, phytoncides, flavonoids and other substances; the leaves contain vitamins C, B_2, carotene ether and organic acids. [1]

The biochemical composition and color of onions are given in the table below. [3]

Plants	The calorie of a kilogram onion	% in its content						Vitamins in %				
		Dry matter	Sugar	Protein	Oil	Ash	Cellulose	C	Carotene	B1	B2	PP
Regular onion	230	9-12	1.5	1.3	0.1	1	0.9	16-50	3.7	0.12	-	-
Green onion – in its bulb	520	10-20	6-12	2	0.5	0.7	0.7	2-10	0.03	0.12	0.02	0.6
The onion of Baton	-	10	3,5	1,9	-	-	1,1	10,5	0,05	0,02	0,02	0,16
The onion of Perry	420	13,5	10	1,8	0,1	0,5	0,9	15	-	-	-	-

The beneficial properties of onion heads are due to the fact that it contains valuable vitamins (B, C, E, PT) and minerals. Onions contain volatile sulfur-containing substances (phytoncides) and vitamins C, B_2, carotenoids, citric and folic acids, essential oil, sugar, mono- and oligosaccharides, including glucose, fructose, sucrose, maltose, flavonoids: spireoside, quercetin-3-glucoside, quercetin-3,4-diglucoside,

quercetin-7,4-diglucoside, the shells are especially healing due to their richness in flavonoids. [3]

One of the chemicals that determine the quality of onions is the mineral elements contained in it, which are composed of organic and inorganic substances. Mineral elements are determined by drying and burning the product under study and its ash content. In the presence of mineral elements, all the physiological processes that take place in the human body take place. [5]

17 trace elements were found in onion ash. The whole plant has phytoncide activity. The biochemical composition of onions is not the same as a percentage and depends on the variety, climate, soil conditions, as well as a number of agricultural practices.

Onions are especially rich in carotene and vitamins A and C - only 300 g of vegetables are able to provide a person the daily norm of these substances, which are necessary for the normal functioning of many systems and bodies. The ascorbic acid content of stored onions does not decrease, but rather increases, which makes it possible to consider onions as one of its main sources in winter. [4]

The water-soluble dry matter of edible onions is better absorbed by the human body than the water-insoluble substances. Therefore, the higher the amount of water-soluble substances in onions is, the greater its consumption value is. Water-soluble dry matter contains a large amount of carbohydrates as a percentage, and its high content of sugars affects their taste and sensory performance. Experts have shown that carbohydrates during the storage period of vegetables, especially sugar, can increase due to other high-molecular carbohydrates [5]. The basis of cellulose in onions is hemocellulose and pectin. Cellulose and pectin are involved in the formation of peel in onion products.

The healing properties of onion peel are that the outer shells of the bulbs are also very rich in chemical composition. They contain the flavonoid quercetin, a substance with clear antioxidant properties. In addition, onion peel contains many vitamin-like compounds of carotenoids that give it a distinctive yellowish-red color. [3]

These substances also belong to the group of antioxidants, so they protect cells from the effects of free radicals. Phytocides, vitamins C, E, B, nicotinic acid, potassium, iron and calcium salts are isolated from onion peel. Syrup obtained from onion peel waste is used as a dye.

The quality and safety of food depends on its organoleptic and physicochemical properties, quality and quantity of substances in it.

The specificity of the chemicals in onion products has led to its research not only in the food industry and the pharmaceutical industry, but also in the preparation of medicines and its use in folk medicine.

The drug prepared from onion - allilchep (alcohol tincture) is used in the treatment of intestinal weakness (loss of tone), colitis (inflammation of the colon), atherosclerosis, some types of hypertension. Allilchep is also applied to the mucous membranes of the vagina in rhinitis, nasal mucosa, and in trichomoniasis colpitis. Onion preparations have strong bactericidal properties. Chopped onions are used in the treatment of hard-to-heal and purulent wounds. Onions are also widely used as a vitamin-rich vegetable in hypo and avitaminosis. Onions have long been used among the people to treat various diseases.

In addition, onion juice has been used as a headache reliever, mild laxative, and in women period starter when menstruation stops. In folk medicine, the healing properties of onions are used as a diuretic, in the treatment of various ulcers, scabies, scurvy, severe intestinal pain, colitis, atherosclerosis, hypertension, avitaminosis, mango, abscess, flu, diarrhea, and even roundworm. Alcoholic tincture of onion with honey and apples is used to treat intestinal, atherosclerosis, hypertension, sore throat, and cough. Onions also have the ability to reduce the amount of sugar in the human body. Because of this, liquid foods with more onions are recommended for patients with diabetes. Green onions provide good functioning of the heart muscle, are rich in potassium and carotene,

which are important in the excretion of excess fluid in the body.

In scientific medicine, the medicinal properties of onion plants are used: tincture (allilchen), allilglycer (a mixture of glycerin with onion head extract), intestinal atony, colitis, atherosclerosis, some types of hypertension, avitaminosis (tsinga and other diseases). These drugs are also applied to the mucous membranes of the nose in colds (rhinitis) and are also used in gynecology and in the treatment of trichomoniasis colpitis. Purulent discharge from the ears, purulent wounds, tonsillitis, headaches (drops in the nose and ears) and white discharge from the eyes are treated with onion juice. [5]

A complex antioxidant in onion peel, rich in biologically important substances, slows down the aging process in the body; acts to prevent an increase in cholesterol levels and therefore to prevent atherosclerosis; reducing the risk of developing diabetes, cardiovascular disease; improving the condition of teeth and gums, as well as bones and tissues; normalization of the digestive system. High levels of quercetin have been shown in scientific studies to have anti-cancer properties in onion peel.

In folk medicine, the medicinal properties of onions as a diuretic, various wounds, scabies, scurvy (loss of teeth due to vitamin deficiency), severe intestinal pain, colitis, atherosclerosis, hypertension (choking), avitaminosis, abscess, flu, diarrhea, and even, is also used in the discharge of roundworms.

An alcoholic infusion of this vegetable is used to treat intestinal diseases, atherosclerosis, hypertension, and a mixture of it with honey and apples is a cure for sore throat and cough. Onions also have the ability to lower blood sugar. It is therefore recommended for patients with diabetes. Green leaves of onion have a positive effect on the activity of the heart muscle. These greens are rich in potassium and carotene, which excrete excess fluid in the body. It is also very useful in the prevention of dental diseases. [1]

The product has become an integral part of salads and dishes, without which almost no food can be prepared. The article summarizes several varieties of onions, their chemical composition, nutritional value, biological and medicinal properties, with very interesting information about the cultivation, germination and use of onions for various purposes.

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