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ONION BULB - BULBUS ALLII CEPAE. GARLIC BULB - BULBUS ALLII SATIVI

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Abstrakt: This article studies the biological properties, chemical composition, pharmacological effects, and practical significance of onion (Bulbus Allii Cepae) and garlic (Bulbus Allii Sativi) bulbs. These plants have been widely used as food and medicinal products since ancient times. During the study, the morphological structure, growth and development characteristics, adaptability to environmental factors, and their significance as medicinal raw materials of onion and garlic bulbs were analyzed. The effects of biologically active substances, including phytoncides, allicin, essential oils, vitamins, minerals, and organic compounds found in their composition on the human body were also highlighted. The results of the analysis revealed that onion and garlic have strong antibacterial, antiviral, antifungal, anti-inflammatory, and immune-boosting properties. The phytoncides and sulfur compounds contained in them are important in that they limit the development of pathogenic microorganisms and activate the body's defense mechanisms. In addition, these plants are widely used in folk medicine and modern medicine as an anthelmintic, in the prevention of cardiovascular diseases, in improving digestive function, and in the treatment of colds. The article summarizes scientific information on the role of onions and garlic in pharmacognosy, their prospects in the production of medicinal products, and their importance in maintaining human health. The results obtained will serve to further expand the possibilities of effective use of these plants in pharmaceutical and medical practice.

Keywords: onion, garlic bulb, Bulbus Allii Cepae, Bulbus Allii Sativi, phytoncides, allicin, medicinal plants, antibacterial effect, pharmacognosy.

Bulbus Allii Cepae is the bulb of the onion plant.

Plant genus. Onion - Allium cepa L.; belongs to the family of tulips (onions) - UIiaceae. Perennial herbaceous plant, reaching a height of 60-100 cm. Under the bark is a large bulb. The stem is thick, hollow, swollen below the middle, with 4-9 leaves located in a sheath at the base. The leaf is long - cylindrical, straight, pointed, hollow, shorter than the stem.



Figure 1. Onion bulb - Bulbus Allii Cepae.

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The flowers are collected in a spherical simple umbel surrounded by a single petal. The inflorescence is simple, consisting of 6 white petals. The fruit is a spherical, many-seeded capsule. The seeds are black, three-sided, and wrinkled.

It blooms in June-August. The fruit ripens in August-September. Its homeland is southwest Asia. Onions are grown in large quantities everywhere. The bulb of the plant is dug up when it is ripe and stored wet.



Figure 2. Onion bulb - Bulbus Allii Cepae.

The finished product consists of an oblong or flat-spherical bulb, covered with a yellow-brown, reddish, sometimes white or purple peel on the upper side. The bulb has a specific smell, a sharp, bitter taste, and the volatile substances in it irritate the mucous membranes of the eyes and nose.Chemical composition. The bulb contains 0.01-0.05 percent essential oil, 10-11 percent sugar, 10 mg percent vitamin C, 60 mg percent vitamin B., carotene, flavonoids (quercetin and its glycosides). The onion leaf contains 20 mg percent vitamin C, percent vitamin B2, 4 mg percent carotene, essential oil, citric and malic acids. The essential oil of the onion contains sulfur compounds.Use. Medicinal preparations of the onion plant are used to treat intestinal atony, colitis, arteriosclerosis, sclerotic forms of hypertension, and avitaminosis. These preparations are applied to the nasal mucosa in rhinitis and are also used in gynecology to treat trichomonas colpitis. Preparations of the onion plant have bactericidal properties. Crushed onion heads are also used to treat difficult-to-heal and purulent wounds. In folk medicine, onions are used as a diuretic and a medicine for treating gonorrhea. Medicinal preparations. Allilcher

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(tincture).



Figure 1.Garlic onion - Bulbus allii sativum.

Name of the plant. Garlic onion (smelly onion) - Allium sativum L.; belongs to the Uliaceae family. Perennial, bulbous, herbaceous plant reaching a height of 20-70 (sometimes 100) cm. The stem is erect, cylindrical, about half of which is covered with a sheath of leaves. The leaves are linear, flat or oblong, with a sharp tip. Some varieties of garlic onion have bulbs in the axils of the leaves. The flowers are collected in a simple umbel. The umbel is covered with a single-leaf sheath that falls off. There are small bulbs between the flower clusters. The inflorescence is simple, consisting of 6 white petals. The father is 6. The maternal node is three-chambered, located above. Fruit - a multi-seeded capsule. Often fruitless.

Geographical distribution. Homeland South Asia. Garlic is widely grown in the same regions as onions.

Product preparation. The bulb of the plant is dug up in the summer months.

Product appearance. The finished product consists of an egg-shaped bulb, covered with a whitish skin on the top. The bulb consists of 7-30 individual bulblets, covered with a pink or purple skin. The bulb has a distinctive pungent odor and a bitter taste.

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Figure 2.Garlic onion - Bulbus allii sativum.

Volatile substances in the onion irritate the mucous membranes of the eyes and nose.

Chemical composition. The product contains 0.3 percent alliin, 0.4-2 percent essential oil, 10 mg percent vitamin C, phytoncides, phytosterols, 0.06 percent fat, a small amount of iodine and other substances. The essential oil consists of a mixture of 6 percent allylpropyl sulfide, 60 percent diallyl disulfide, 20 percent diallyl trisulfide and about 20 percent other polysulfides. The compound in the crystalline state of the amine is broken down and decomposed by the enzyme allinase into allicin, pyruvic acid and ammonia. Allicin is a colorless, oily liquid with a garlic odor. It is poorly soluble in water, well soluble in organic solvents, and decomposes under the influence of alkalis. Allicin has strong bactericidal properties(Allicin diluted to 1:125,000 stops bacteria from growing).Uses. Medicinal preparations of the garlic plant are used for arteriosclerosis, hypertension, colitis, pulmonary tuberculosis; in gynecology, it is used for trichomonas colpitis and enemas are used to kill oyster mushrooms. The product preparations and crushed onion heads are also used to treat purulent wounds. Garlic onion heads are bactericidal, fungicide, prostisticidal has a laxative and antispasmodic effect. Medicinal preparations. Infusion.

Previously, other medicinal preparations were also prepared from garlic and used in medicine. Of these, onion tablets have been discontinued since 1970, allicin - since 1978, and allicin has been discontinued since 1979 and are not currently used in medicine.

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