ALFALFA- MEDICAGO IN THE NATIONAL ECONOMY AND MEDICINE

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Abstract. *The article provides a botanical description of the alfalfa plant. Biological features, chemical composition of the plant, use for medical purposes and in folk medicine. The role of plants in nature and the national economy.*

Keywords: *medicago, shamrock, tubular flowers, anti-inflammatory, bactericidal, expectorant, diuretic, diaphoretic, anti-sclerotic, carbohydrates, proteins, fatty acids, bitter and tannins, organic acids, flavonoids (genistene, daidzein), essential oils, pectins, saponins, triterpinoids, plant steroids, enzymes, chlorophyll, alkaloids, hormone-like substances, anthocyanins, aspargin, carotenoids, vitamins C, D, E, K and B groups, minerals (potassium, calcium, phosphorus, magnesium, manganese, iron, zinc, copper, fluorine.*

Since ancient times, man and nature have functioned as a single whole.

Man uses natural resources for his own purposes, be it food, clothing, building materials. In his interests, he is cultivating wildlife to meet their needs.

Man began to cultivate the plant, domesticate animals, and began to breed new varieties and breeds. With the development of science and technology, the improvement of living conditions, man gradually began to lose touch with nature, to use artificial products more. But man realized that without nature and his gifts it is not possible to lead a healthy lifestyle, physical inactivity has led to many cardiovascular diseases, to obesity. Humanity has turned back to nature and its gifts.

Currently, the human need for natural resources, such as medicinal plants, is growing more and more. This article describes the use of alfalfa for food and medicinal purposes.

Alfalfa -Medicago is a genus of annual and perennial herbs or semi—shrubs of the Legume family (Fabaceae), combining 103 species. Representatives of the genus mainly live in the Mediterranean region. Most alfalfa species belong to the group of polycarpic plants, in which, after fruiting and seed maturation, the upper part of the shoots dies off, and the buds and shortened shoots (crown) in the basal part remain viable and serve as organs of renewal. New shoots at the beginning of growth in spring or after mowing use plastic substances accumulated earlier by the plant.

Branches are formed from stem buds located in the leaf axils of the main stems. The shape of the alfalfa bush corresponds to the shape of the crown.

The root system is powerful, penetrates deeply into the soil, develops on the basis of the germinal root of the seed. Alfalfa blue (sowing) -Medicago sativa has a taproot system, powerful, the main root with lateral branched roots penetrates into the soil to a depth of 10 m. In most wild species, the root system of the rod is fibrous: the main root is expressed only at the beginning of the growing season, and subsequently a large number of roots of the same thickness are formed. The powerful, deeply located root system of alfalfa improves the structure of the soil, increases its water and air permeability and contributes to the accumulation of humus.

In some ecotypes of alfalfa, a rhizomatous or root-sprouting system is formed. Thus, the Siberian forms of yellow alfalfa served as the starting material for the creation of Canadian varieties "Rhizome", "Rambler", etc., which have such important qualities as rooting. Due to symbiosis with nitrogen-fixing nodule bacteria, alfalfa accumulates atmospheric nitrogen in roots and crop residues. Nodule bacteria develop on the smallest roots of the lateral roots, feeding on the plasma of plant cells and producing nitrogenous substances from nitrogen in the air, with which they provide both their needs and alfalfa plants. The powerful, deeply located root system of alfalfa improves the structure of the soil, increases its water and air permeability and contributes to the accumulation of humus.

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The stems are branched, forming a powerful bush 50-150 cm high. Alfalfa leaves are threefold, the middle leaflet on a longer petiole than the other two, this is how alfalfa leaves differ from clover leaves, whose leaves have the same petioles. The leaf blade is ellipsoid, obovate or elongated elliptical in shape with a serrated upper part, often pubescent on the underside. The leaves of the middle tier are the most typical.

The inflorescence is a brush from a head to an elongated cylindrical shape, 1.5-8 cm long, formed on the top of the stem and side stems. It consists of a rod coming out of the leaf axil and 12-26 moth-type flowers sitting on short pedicels. The flowering of the brushes on the plant and the flowers in the brush goes from bottom to top. The flowers are bisexual. The corolla of flowers in different types of alfalfa can be the same in color or varies greatly, has all shades of blue, purple, yellow, and can be variegated or white.

Alfalfa is an optional entomophilic crossover. The structure of its flower prevents self- and wind pollination. The corolla, like other legumes, has five petals: the two lower ones fused in the lower part form a boat, the two side ones are oars and the upper one is a sail. Inside the closed boat there is a flower column consisting of nine staminate filaments fused at the bases, forming a groove with non-fused upper edges, in which the pistil is located. The gap between the edges of the gutter is covered by the tenth free stamen. In a closed flower, ready for fertilization, the column in the boat is in a tense state and is kept from being thrown out by the locking device of the flower — by the horn-shaped processes of petal paddles at the base of the column, entering the recess.

Alfalfa has an explosive type of pollination. Single wild bees, when collecting nectar, sit on the flower boat, resting their heads against the sail, push the head and proboscis into the corolla tube and at the same time violate the locking apparatus of the flower. To improve pollination and the formation of good seeds, our beekeepers bring their bees during alfalfa flowering, from which they pollinate alfalfa and collect nectar, since alfalfa is one of the good nectar plants of Uzbekistan. The flowering of alfalfa herbage in favorable conditions lasts 20-30 days. Each brush blooms for about 10 days, and an average of five flowers bloom in it every day. The ability of the pistil to fertilize persists for 3-5 days. Sunny, dry, warm weather is most favorable for the opening of flowers, pollen germination and the summer of insect pollinators, the best time of day is from 11

to 15 o'clock. In the zone of irrigated agriculture, at an air temperature of 38-40 ° C and a good turgor of flowers, their autotripping (mass spontaneous opening) is observed, the wind at this time can increase the spread of pollen, which contributes to its ingress to other flowers. Alfalfa has a genetic system of self-incompatibility, that is, its own pollen does not germinate or does not produce fertilization, although in almost every population it is possible to distinguish self-fertile forms.

Alfalfa is used for forage purposes in green form or for forage (hay, haylage, grass flour). 100 kg of fresh grass harvested in the flowering phase corresponds to 21.3 feed units and contains 4 kg of digestible protein.100 kg of grass flour correspond to 85 feed units, contain 10-14 kg of digestible protein and 25-30 g of carotene. Alfalfa is used for medicinal purposes. It is used for diseases of the intestine, stomach, thyroid gland, to improve metabolism, enhance lactation, normalize the circulatory system, lower cholesterol, lower blood sugar, increase hemoglobin levels in the blood.

Some species are used as decorative and medicinal (Medicago sativa, Medicago falcata) plants, Phytoconcentrates of alfalfa are used in skin care products. Studies conducted at the National Cancer Institute (USA) have shown that alfalfa helps to neutralize carcinogens in the digestive tract, enveloping them and helping to remove them from the body.

Alfalfa leaves, greens and seeds (beans) contain carbohydrates, proteins, fatty acids, bitter and tannins, organic acids, flavonoids (genistene, daidzein), essential oils, pectins, saponins, triterpinoids, plant steroids, enzymes, chlorophyll, alkaloids, hormone-like substances, anthocyanins, aspargine, carotenoids, vitamins C, D, E, K and groups B, minerals (potassium, calcium, phosphorus, magnesium, manganese, iron, zinc, copper, fluorine, etc.). Its green mass contains (on a completely dry substance): 18-22% protein, 2.8-4.0% fat, 23-33% fiber, 32-44% BEV and 9.7-10.6% ash. It contains a lot of essential amino acids, phosphorus (0.24%), calcium (1.49%) and almost all vitamins in sufficient quantities. The local population of Central Asia has long used young alfalfa leaves and shoots for various dishes. They were used to cook green dumplings, pies, somsas, manti. Since the rich vitamin and mineral composition of the shoots and leaves required it.

Vitamin A (0.01 mg) has antiviral and bactericidal properties, and is able to increase the overall resistance of the body. It is also a powerful antioxidant and plays the "first fiddle" in a number of redox processes. In addition, it is necessary for the beauty of hair and skin.

Vitamin B1 (0.13 mg) helps to maintain the organs of the digestive system in a healthy state, helps to stabilize the emotional background, normalizes appetite, and stimulates cognitive activity. This substance is necessary for the health of the heart muscle.

Vitamin B2 (0.48 mg) participates in the normalization of the blood formula. It also participates in energy metabolism and helps to "accelerate" metabolism. This substance helps to maintain the mucous membranes of the oral cavity in a healthy state, and also increases the regenerative properties of cells. Vitamin is also necessary to stabilize the nervous system: it helps with increased anxiety and panic attacks.

Vitamin PP (0.08 mg) has a beneficial effect on blood microcirculation, participates in the synthesis of enzymes and hormones, and is necessary in order for plant protein entering the body with food to be properly absorbed. It also helps to reduce the indicators of "bad" blood cholesterol.

Vitamin C (8.2 mg) is critically needed by the body during the "cold season". It effectively increases the overall tone and ability to resist bacteria and viruses, improves the condition of the

gallbladder, participates in the synthesis of collagen, responsible for the condition of bone and cartilage tissue. It also helps detoxify the body.

The plant and its young shoots are also rich in minerals. Sodium (6 mg) helps to establish water-salt metabolism, participates in the synthesis of gastric juice. It is also able to dilate blood vessels, preventing their spasm, and normalizes blood pressure. Potassium (79 mg) promotes cognitive activity, improves the supply of oxygen to the brain. It also has antihistamine properties, relieving the condition of allergies. In addition, it helps to remove excess fluid from the body, helping to prevent the occurrence of edema.

Calcium (32 mg) is responsible for the condition of bone and dental tissue. In addition, it has anti-inflammatory and antihistamine properties, participates in the synthesis of a number of hormones and enzymes. Magnesium (27 mg) helps prevent the occurrence of calculi in the kidneys and gallbladder. It is also necessary for the endocrine system to function smoothly, is responsible for the condition of teeth and bones along with calcium. Phosphorus (70 mg) is involved in energy metabolism and is necessary during periods of intellectual and emotional overload.

Iron (0.96 mg) promotes the formation of hemoglobin in the blood, it is necessary for the body to absorb vitamin B, increases the overall resistance of the body, and removes chronic fatigue. All of the above substances have endowed alfalfa with a wide range of medicinal properties. At the same time, in folk medicine, it is used as the main ingredient of recipes designed to cope with a very impressive list of diseases. For example, hypertension, anemia, hypocalcemia.

For dumplings, spring, young shoots and leaves are collected, preferably from the top, from the germination zone, it is here that the biomass is softer and juicier. Chop finely, wash the chopped leaves and shoot, in order to remove the bitterness, add cream or egg, onion, herbs and spices. You can also use such minced meat for another dish like manti, add pancakes to the dough, and cook an amulet. And so alfalfa is used not only for forage purposes but also for various types of dishes and as a medicinal plant too.

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