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Title: **PHYSIOLOGICAL AND BIOCHEMICAL PROPERTIES OF CLIMATED VALERIANA (VALERIANA OFFICIANILIS)**

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Paper Authors

Begmatov Abdusamat M. Khamrayev Rashid Ravshan og'li



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PHYSIOLOGICAL AND BIOCHEMICAL PROPERTIES OF CLIMATED VALERIANA (VALERIANA OFFICIANILIS)

Begmatov Abdusamat M.

Candidate of biological science(Phd), docent Head of the Department,
Senior Lecturer at Termez State University

Khamrayev Rashid Ravshan og'li

Termez State University, Faculty of Natural Sciences
2nd year master's degree in biology

ABSTRACT: Today, the use of medicinal plants is used as an effective tool in the prevention of diseases, as well as in the fight against them. Medicinal Valeriana plant with its healing properties helps to calm the nervous system, regulate heart function, dilate blood vessels, normalise blood circulation. This article describes the origin of the medicinal plant Valeriana, physiological and biochemical properties, its composition, scientifically based methods of cultivation technology.

KEYWORDS: Valerian officinalis, biochemical properties, Medicinal cure, Valerian essential oil, Valerian root, alcohol tincture.

Valerian has been known since ancient times. It has been used as a mind cleansing agent, fragrant scent and relaxation. Today valerian is used in traditional and folk medicine. All parts of the plant have healing properties, but most of the nutrients are accumulated in the root. The medicinal plant has almost no contraindications and is allowed even for young children over 1 year.

Valerian officinalis – is the herbaceous perennial plant belonging to the family Honeysuckle. Stems erect, oblong, grooved in height from 1.2 to 1.8 m, their branching is close to the top, which is located in the inflorescence. A valerian bush consists of several branches. Pinnate leaves can replace each other or form folds of 3-4 pieces.

The grass is 4 cm long, with a thick and short rhizome not exceeding 3 cm in thickness, often with a hollow or loose core structure. Many roots, called stolons from

the rhizome, are oriented in different directions, up to 12 cm in length and 3 cm in diameter, they are often separated from the rhizome and have a strong aromatic odor. They are used for the preparation of medicinal extracts and extracts with a distinct bitter taste.

Small flowers up to 4 mm in diameter, white, light pink or light purple, with a funnel-shaped five-lobed flexible wreath. Bisexual flowers are collected in panicle flower beds. Flowering of the plant begins in the second year of life and lasts throughout the summer. The plant produces aken-shaped fruits that ripen from August to September.

The Mediterranean is the birthplace of valerian. It grows in regions with temperate and subtropical climates in Russia it is located in the European part of the region. Grasses prefer to grow in lowlands, swamps,

and are found in peat bogs. Valerian is found along water bodies and forest edges. For the needs of the pharmaceutical industry, it is grown on plantations.

Unlike other medicinal plants, valerian does not have a clear active ingredient. All parts of the plant have medicinal properties, but the roots and rhizomes of the plant are often used in traditional medicine. It is in them that most of the essential oil is concentrated and contains about 100 active components that have a positive effect on the body.

Valerian essential oil contains the following ingredients:

- Macro- and microelements;
- Tannins;
- Alkaloids;
- Ketods;
- Vitamins;
- Saponins;
- Alcoholic beverages;
- Organic acids and other useful components.

Often the plant is used as an antispasmodic and sedative. Valerian also has a healing choleric effect and stimulates gastrointestinal secretion. Preparations based on valerian extract dilate coronary arteries well.

Dried Valerian root

The main indications for the use of drugs with valerian are diseases of the nervous system: insomnia, mild hysterical attacks, epilepsy, neuralgia, cardiac neurosis. Valerian medications are useful for relieving cramps, headaches and migraines, lowering blood pressure and relieving angina attacks.

Some valerian-based medications, such as Valocordin or Cardiovalen, are prescribed in combination with other sedatives to prolong their duration. Such treatment should not be used for children as it slows down their

mental development and leads to a state of indifference.

Medicinal plants and medicines derived from them are widely used in medicine in the prevention and treatment of cardiovascular diseases, especially in calming the nervous system. Medicinal valerian is one of such medicinal plants. After the independence of our country, in some farms, such as in the specialized state forestry named after Abu Ali ibn Sino in Pop district of Namangan region and in the specialized state forestry named after Y. Akhunboboev in Tashkent region and in some private farms in Parkent district. Some positive work has been done on the cultivation of valerian, and it has been proved that this medicinal plant can be grown in the mountainous regions of the Republic. At present, more than a dozen medicinal plants, including valerian, are grown in the specialized state forestries of the republic.

Medicinal valerian - *Valeriana officinalis* L, a perennial herbaceous plant belonging to the family Valerianaceae (Valerianaceae), with a short rhizome and many small roots, located vertically underground.

In the first year from the rhizome take root tubers, from the second year the stem grows. Stems erect, growing up to 1.5-2.0 meters. Cylindrical, fine-edged unbranched (sometimes branched at the top), hollow inside, hairless at the top and covered with feathers at the bottom. The leaf is simple, oddly separated, consisting of 4-11 pairs of segments (fragments). If the rhizome leaves are long-banded, the band of leaves on the stem will shorten as it reaches the top of the stem. The leaves are located opposite the stem. The flowers are small, fragrant, clustered in a large shield at the tip of the stem. The cup leaves are not clearly visible

as they are turned towards the flower. The inflorescence is five-lobed, the tip is turned inwards, white or pink, the paternal 3 maternal nodes are 3-lobed, located below. Fruit - elongated ovoid, light brown pistachio. The seeds of the valerian plant weigh 0.4–0.6 grams per 1000 grains. It blooms from late May to August-September. The species belonging to the genus *Valeriana* are polymorphic plants. About 250 species of them are recorded in the wild in the world distributed in mountainous regions of North and South America, Europe and Asia. There are 23 species in the former Soviet Union, 12 species in Central Asia and 3 species in the Republic. Due to the fact that Valerian species are scattered in nature, their natural resources cannot meet the needs of the pharmaceutical industry and the population. In medicine, mainly medicinal valerian - *Valeriana officinalis* L, is used, this species is grown on special farms. Valerian root and rhizome are used to make medicines. It is called "Valerian root" in pharmaceutical practice.

Once the valerian seeds are ripe, the underground parts are dug out. In the second year of vegetation, valerian grown in plantations is harvested by digging with the help of specially designed plows or hoes, and the rhizome is separated from the stem.

The roots and rhizomes of the valerian plant contain 0.5-2% essential oil and pure isovaleric acid. Valerian essential oil is mainly found in thin roots, while isovaleric acid is more abundant in thick and old rhizomes. This oil contains a complex of isovaleric acid with barniol alcohol - barniolisovalerianate, as well as a complex of barniol with acetic and formic acids, as well as terpeniol, pinene, camphene, azulene, cesil alcohol (proazulene),

limonene, pure barneol and izovale. there will be other compounds.

In addition to the essential oil, the product contains about 0.01% of alkaloids (hatinin, valerian, actenidine, etc.), volatile bases, valeric glycoside, alcohol, additives, sanonins, sugars, malic, acetic and other acids. It is recommended to plant valerian in autumn and early spring in the conditions of our republic. In some regions, especially in some regions of Russia, where there is a lot of rain, it is possible to sow in the summer.

In autumn, the land is plowed, leveled, chiseled and cleared of weeds, 60 cm wide is sown, 7-8 kg of seeds are sown per hectare, the depth of the planted seeds should not exceed 1-1.5 cm. Valerian seeds are resistant to frost and germinate when the soil temperature is 50 C. However, the optimum level of seed germination is 15-200 C. During periods of good weather, the seeds germinate 15-20 days after sowing. In the second and subsequent years of vegetation, valerian grass sprouts as soon as the snow falls from the ground. Valerian care begins with loosening and mowing the lawn. Sprouted seedlings are fed with local and mineral fertilizers.

It is recommended to apply 30-40 kg of nitrogen and phosphorus mineral fertilizers per hectare. During the processing of valerian, overgrown flower stalks are removed so that its underground rhizome and root mass are large. Valerian can also be propagated by seedlings in addition to seeds. For this purpose, a special nursery is established, seedlings are grown and the seedlings are transplanted to open ground. The distance between each seedling should be 10-15 cm and it should be watered immediately.

Valerian roots are dug at the end of the second year of vegetation, after the seeds of the plant have matured. 15-20 centners of dry roots are dug from each hectare. The harvested product is cleaned of soil, washed in water in special containers or baskets. The water is left in the open for some time to evaporate and dried at 35-40°C in an air intake or in a dryer. The roots and rhizomes of valerian are odorless and whitish when wet, after drying they turn brown and have a distinctive "valerian scent". These changes are the result of a fermentation process that occurs during the drying process.

In general, the pharmaceutical industry needs a complete and uninterrupted supply of raw materials for medicinal plants, as well as planting and cultivating medicinal plants to create a raw material base, as well as expanding their arable land. The development of wire farming in our country is one of the main tasks of our agricultural sciences.

General medicinal properties

The healing properties of valerian have a multifaceted effect, but, most importantly, they have a beneficial effect on the central nervous system and help reduce muscle spasms.

Drops in the form of alcohol tincture are taken in the following cases:

- ❖ headache;
- ❖ eclipses caused by brusin;
- ❖ nervous excitement;
- ❖ deep emotional experiences;
- ❖ heartbeat;
- ❖ shortness of breath;
- ❖ asthma;
- ❖ coronary insufficiency;
- ❖ spastic constipation;

In folk medicine, the plant is known as a remedy for flatulence, worms and poor

appetite. The crushed roots are ground into a powder and decoctions are prepared which are used in the treatment of tinctures, lung diseases, scarlet fever, and headaches.

Important! Valerian-based drugs, such as Valocordin, Cardiovalen, are used in combination with other sedatives to prolong their effects. Such a complex is absolutely not suitable for children, as it contributes to a decrease in development and indifference.

A useful infusion for washing the eyes of infants and adults, as well as for general strengthening of the body. The effectiveness of treatment comes not with a single dose, but only with regular use.

The ancients also knew about the properties of valerian, the plant extract was added to perfumes and attracted cats who were intoxicated by its peculiar odor.

1. Use of valerian preparations for women

For women, medications with valerian are prescribed for menopause to relieve fatigue and normalize sleep. They relieve nervousness and improve overall well-being. Pregnant women are prescribed valerian in the form of tablets for nervousness, as well as for spasms. Valerian tincture is contraindicated during pregnancy.

Women can take the drug in the form of tinctures, tinctures, tablets, according to the instructions for use. If it is not possible to take the drug in the recommended form, it can be replaced with a warm bath with a tincture made from valerian roots.

2. Use valerian for children

For children, valerian is prescribed for various nervous disorders, hyperactivity, indifference to food, cramps in the gastrointestinal tract. In addition, due to the strong sedative effect, it is not recommended to take the drug without a doctor's prescription or to exceed the dose prescribed by a specialist. This leads to depression,

allergic rashes, drowsiness, developmental delay, and indigestion in the child.

It is strictly forbidden to give valerian to children under 1 year of age.

Babies over 1 year of age can be given no more than 1 drop of tincture in diluted form. When the child is 2 years old, the amount of drug is multiplied by 2 drops and then in the same way.

3. Effects of valerian drugs on men

The medicinal plant has only a positive effect on men, it reduces the intensity of muscle spasms, relieves the progression of cardiovascular disease, prevents nervous tension and overexertion. The only negative effect of valerian drugs on male sexual function is a decrease in drowsiness and nervous excitability, which leads to a natural decrease in attraction to the opposite sex.

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