

# *Journal of Healthy Nutrition and Dietetics*



## In release:



Blooming Sally



Thyme



Clover



Rhodiola



Plantain

Detailed description of  
useful, healing and danger-  
ous properties

Application in oriental, folk  
and official medicine

Use in cooking and cosme-  
tology

Types and growing condi-  
tions

Procurement and storage  
rules

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**Ivan - tea ( Latin : Chamaenérion angustifolium or Epilóbium angustifolium)**

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**Abstract.** The article discusses the main properties of Ivan-tea and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of Ivan-tea in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of willow-herb on the human body under certain medical conditions and diseases are analyzed separately. The scientific foundations of diets with its use are considered.

**Keywords:** fireweed, fireweed, beneficial properties, potentially dangerous effects, side effects, beneficial properties, contraindications, diets

**Beneficial features**

**Chemical composition and presence of nutrients**

*100 g of raw willow-tea leaves contain:*

Water - 70.78 g

Carbohydrates - 19.22 g

Proteins - 4.71 g

Fats - 2.75 g

Dietary fiber - 10.6 g

Kcal - 103

**Minerals:**

Potassium - 494 mg

Calcium - 429 mg

Magnesium - 156 mg

Phosphorus - 108 mg

Sodium - 34 mg

Zinc - 2.66 mg

Iron - 2.4 mg

**Vitamins:**

Niacin - 4.674 mg

Vitamin C - 2.2 mg

Vitamin B6 - 0.632 mg

Vitamin A - 0.18 mg

Riboflavin - 0.137 mg

Folate - 0.112 mg

Thiamine - 0.033 mg <sup>[4]</sup>

**What exactly is used and in what form**

An infusion or decoction based on the leaves and herbs of Ivan-tea is prescribed for both internal and external use - in the form of rinses, lotions. The infusion is also used for therapeutic washes, compresses, and when treating wounds. A decoction of willow-tea flowers is also used both internally and externally.

**Medicinal properties**

According to the chemical composition, Ivan-tea leaves contain: carbohydrates, mucus, pectin, triterpenoids, oleanolic, ursolic, hydroxyursolic and hydroxyleanic acids; caffeic, coumaric, ellagic and phenylcarboxylic acids; flavonoids: sexangularetin, kaempferol, quercetin, myricitin; rhamnoside glucoside and quercetin arabinoside; rhamnoside kaempferol; tannins, alkaloids, ascorbic acid and carotene. The constituents of Ivan tea leaves are also mineral salts: iron, copper, manganese, nickel, titanium, molybdenum and boron. Fireweed flowers contain anthocyanins, roots - proteins, salts of phosphorus, calcium and cobalt. The seeds contain fatty oils. The composition of the roots of willow-tea includes organic acids, polysaccharides, starch.

A significant amount of tannins and mucous substances explains the anti-inflammatory and analgesic properties of Ivan tea. The plant is used for catarrh of the stomach with high acidity, for lung diseases; for rinsing with sore throat, inflamed gums; with otitis media, inflammation of the middle and outer ear canal; with nosebleeds and sinusitis. Water decoction treats eczema, burns, skin rashes. Ivan tea is effective for migraine, insomnia and oligomenorrhea.

The substance chanerol, contained in fireweed inflorescences, actively affects tumors, and, having low toxicity, inhibits their growth <sup>[2,5]</sup>.

**In official medicine**

Among the pharmaceutical products that contain Ivan-tea are herbal raw materials, produced under the name " *Narrow-leaved Fireweed Grass* ". Herbal raw materials of willow-tea are crushed and prescribed to provide a calming, antispasmodic, antipyretic, anticonvulsant effect. A contraindication to the use of fireweed herb is the state of pregnancy and intolerance to the components of the plant and the associated possible allergic reaction.

**In folk medicine**

- For stomach ulcers, colitis and gastritis, a decoction of willow-tea is used: 15 g of herbal raw materials per glass of boiling water. Drink a tablespoon 3 times a day before meals <sup>[2]</sup>.
  - With prostatitis in a glass of boiling water, brew a tablespoon of chopped dry herbs of Ivan-tea. Let it brew, strain and take two tablespoons three times a day before meals.
  - For inflammation in the gastrointestinal tract, steam 3 tablespoons of chopped herbs in 200 ml of boiling water. Cook a decoction in a water bath for a quarter of an hour, let it brew and cool, strain. Assign two tablespoons three times a day before meals.
  - With prostate adenoma, a decoction of 1.5 tablespoons of dried leaves and flowers of fireweed per 200 ml of boiling water is recommended. Take 1 glass in the morning and at night.
  - For headaches, pour 3 tablespoons of dry herbal raw materials with a glass of boiling water. Cook in a water bath for a quarter of an hour. Drink 2 tablespoons three times a day.
  - For chronic fatigue syndrome, pour 2 tablespoons of Ivan-tea herb into 400 ml of boiling water, bring to a boil over low heat. Take a third cup three times a day before meals.
  - To improve bowel function, pour 2 tablespoons of crushed willow-tea roots into 400 ml of boiling water. Let it brew for 3 hours. Take on an empty stomach in the morning 3 tablespoons of decoction.
- 
- For anemia, steam a tablespoon of fireweed herb in 200 ml of boiling water. Insist for 2 hours. Take three times a day for a tablespoon <sup>[6]</sup>.
  - In combination with anti-cancer therapy, the following collection is advised: fireweed flowers, St. John's wort with flowers, plantain leaves, white acacia flowers (in proportions 2:2:2:1). Brew a teaspoon of the mixture with 200 ml of boiling water, leave for 30 minutes, strain and take a glass a day.
  - For insomnia, pour a tablespoon of crushed willow-tea roots with a glass of boiling water, leave for an hour, strain. Drink a tablespoon three times a day before meals.
  - For hypertension, the famous fireweed honey is recommended, which normalizes blood pressure and is also useful for insomnia.
  - With sinusitis, brew two tablespoons of willow-herb in 0.5 liters of boiling water, bring to a boil and leave for half an hour. Drink a third cup three times a day half an hour before meals.
  - For pneumonia, brew 15 g of willow-herb in 1 cup of boiling water and leave for 60 minutes. Drink a third cup three times a day 20 minutes before meals.
  - For migraines, take herbal raw materials of Ivan-tea and clover in proportions of 1: 1. Pour a tablespoon of the mixture with 200 ml of boiling water, let it brew for half an hour, strain. Take as regular tea up to two glasses a day.
  - In case of menstrual irregularities, tea is recommended: a tablespoon of grass and flowers of willow-tea and linden flowers are brewed in a glass of boiling water. Strained infusion take a cup three times a day.
  - With adnexitis, a tablespoon of a mixture of dry leaves of Ivan-tea and fern is poured into 200 ml of boiling water, cooked for 10 minutes in a water bath. Drink a quarter cup three times a day before meals.
  - With climacteric neurosis, tea from the leaves of willow-herb and blackberry is useful. A teaspoon of chopped dry leaves of fireweed and blackberry is brewed in 200 ml of boiling water, insisted and drunk in a cup three times a day <sup>[7]</sup>.

#### Externally:

- For bedsores, steam 2 tablespoons of chopped willow-tea leaves in a glass of boiling water. Cook the broth over low heat for a quarter of an hour. Let it brew, strain. Use as a fluid for washing pressure sores.

- For conjunctivitis, steam a tablespoon of crushed leaves and flowers in 200 ml of boiling water. Cook the decoction over low heat for a quarter of an hour. Let it brew. In a filtered and cooled broth, moisten a cotton swab and wipe your eyes <sup>[6]</sup>.
- For psoriasis, neurodermatitis, eczema, a bath is prepared: 0.5 kg of dry willow-herb and oregano are steamed in a bucket of boiling water. Infuse for about an hour, strained infusion is added to a full bath. Take a bath for a quarter of an hour <sup>[7]</sup>.
- To prepare a decoction for lotions, washes, compresses, herbal raw materials are taken 2-3 tablespoons per 0.5 liter of water <sup>[5]</sup>.

### **in oriental medicine**

Tibetan doctors advise Ivan tea for insomnia, headache attacks and attribute to it the properties of a drug that suppresses the activity of cancer cells.

Fireweed grass is recommended by Mongolian doctors in the treatment of intestinal disorders, with gastric ulcers. Ivan-tea is used as a means of stopping vomiting and eliminating the symptoms of food poisoning.

### **In scientific research**

The study of fireweed angustifolia remains relevant for scientists, since the medical potential of this plant has not been fully disclosed.

The content of tannins in fireweed leaves was studied by B.R. Brown, P. I. Brown, W. T. Pike. <sup>[eight]</sup>

Frolova T.S., Salnikova O.I., Dudareva T.A., Kukina T.P., Sinitsina O.I. studied the excretion of ursolic acid by fireweed angustifolia and gave an assessment of the acid using microbiological tests. Frolova T.S., Salnikova O.I., Kukina T.P. also analyzed the system of lipophilic acids secreted by fireweed angustifolia. <sup>[9]</sup>

The scientific work of Zorin D.P. is devoted to measures to combat insect pests that threaten the culture of willow-tea <sup>[10]</sup>

The subject of scientific interest of K. O. Tamm is the reaction of fireweed angustifolia to various sources of nitrogen in aquatic culture. <sup>[eleven]</sup>

### **Weight regulation**

Fireweed accelerates lipid metabolism, normalizes digestive functions and cholesterol levels, frees the body from “excess” water, has a mild laxative effect, and moderates appetite.

### **In cooking**

Young **leaves and shoots** of fireweed have taken their niche in the culinary field, they are used like ordinary asparagus. The leaves are delicious in vegetable dishes, as part of salads. Ivan tea **root is also edible, it is peeled and roasted**. But the root part of the plant, collected before the period of opening the flowers, is suitable for food, otherwise the root gives off bitterness. Fireweed grass is eaten both raw and stewed.



**Syrup with Ivan-tea.** To prepare such a syrup you will need: 40 pink clover flowers, 30 white clover flowers, 50 fireweed (willow-herb) flowers, half a teaspoon of alum, 2.3 kg of sugar, 3 cups of water. Rinse the flowers thoroughly and mix them with sugar and alum in a deep bowl. Add boiled water and mix well. Let it brew for 15 minutes and then bring to a boil. Squeeze out the flower-syrup mass, pour the resulting syrup into washed jars and sterilize in a hot water bath for at least 10 minutes. <sup>[12]</sup>

**Salad with Ivan-tea.** To prepare the salad, you will need: about 150 g of shoots and leaves of Ivan-tea, green onions, dill and parsley, a tablespoon of vegetable oil (or low-fat sour cream), salt. Leaves and shoots of willow-herb wash, dry, finely chop, mix with chopped green onions, dill and parsley. Season with vegetable or sour cream and add salt to taste <sup>[7]</sup>.

## In cosmetology

For cosmetic procedures, **alcohol tincture** of Ivan-tea is used. Before applying the mask to the face or hair, it is necessary to test for the possible occurrence of an allergic reaction to fireweed tincture.

## Strengthening hair masks

- Mask with Ivan-tea for hair based on oils and egg yolk. To prepare the mask, combine two tablespoons of burdock oil, one yolk and five drops of pine essential oil. Heat the combined ingredients over low heat, pour 10 ml of fireweed tincture into the mixture, stir and apply to the hair along the entire length. Wrap your head with polyethylene or a towel. After an hour, wash off the mask and wash your hair.
- Mask with Ivan-tea for hair based on oils and birch sap. Castor oil, burdock oil and birch sap (taken in proportions 1:1:2, picking up with a teaspoon) are combined with 10 ml of fireweed tincture. Massaging, rub the mask into the scalp and apply to the hair from roots to ends. Wrap your head. Wash off the mask after 60 minutes.
- Mask with Ivan-tea for hair lemon-carrot. Grind one carrot and lemon in a blender or pass through a meat grinder and add 10 ml of fireweed tincture. Apply the mass to the hair, wrapping the head. Wash off the mask after an hour or an hour and a half.
- Orange mask with Ivan-tea for hair. Grind the orange in a blender, pour 10 ml of Ivan-tea tincture into the resulting mass. Apply the mask on the hair and wash off after half an hour.
- For better hair growth, an almond milk mask with Ivan tea is recommended. Grind 0.5 cups of almonds and add 10 ml of fireweed tincture and milk to it. Knead until you get a creamy consistency. Apply the mask to wet hair and wash off after 1.5 or 2 hours.
- To give the hair more volume, use an egg-beer mask with Ivan tea. To prepare the mask, mix 10 ml of Ivan-tea tincture, 0.5 cups of beer, 1 egg and a small amount of champagne. Apply the mask to washed and damp hair and rinse with acidified water after 20 minutes.
- To achieve softer hair, you can use the following mask: mix Ivan tea tincture (10 ml) with 90 ml of cooled boiling water, cologne and lemon juice (15 ml each) and 5 ml of glycerin. The mixture is rubbed into the base of the hair, massaging. Wash off the mask after a couple of minutes.

## For all types of hair, the following masks can be recommended:

- *Oatmeal mask with Ivan tea*. Grind 0.5 cups of oatmeal into flour, combine with 3 tablespoons of honey, a couple of drops of lemon juice, one tablespoon of cucumber juice and willow-herb tincture (10 ml). Wash off the mask from your hair after half an hour.

- *Honey mask with Ivan tea* . Mix 2 tablespoons of honey and onion juice, a spoonful of cognac, a teaspoon of lemon juice and 10 ml of fireweed tincture. After applying the mask, carefully wrap your head. Wash off after an hour.
- *Kefir mask with Ivan-tea with yeast* . Dilute willow-herb tincture (10 ml) and 5 tablespoons of brewer's yeast with fat-free kefir until a paste is obtained. Apply the mask on the hair, wrap the head, wash off after 1-1.5 hours <sup>[13]</sup> .

### Facial masks with willow tea (for all skin types)

- *Mask with Ivan-tea based on apricot* . Wash 2-3 apricots, discard the pit, puree and mix with fireweed tincture (10 ml) and a tablespoon of lemon juice. Keep the mask for about 20 minutes and rinse with warm water.
- *Watermelon and Ivan tea face mask* . Mix 100 mg of watermelon puree with 10 ml of Ivan-tea tincture, add one tablespoon of cream and oatmeal and one teaspoon of honey. Wash off the mask after 15-20 minutes with cool water.
- *Grape mask with Ivan tea* . Mash a few grapes separately from the seeds and peel. Add a teaspoon of oatmeal and tincture of willow-tea (10 ml) to the grapes. Wash off with warm water after 20 minutes <sup>[6]</sup> .

### Other uses

The Eskimos use the processed and tough fireweed stalks to make fishing nets.

The fluff that the plant forms during flowering is used when stuffing pillows and mattresses.

Ivan-tea reduces cravings for alcoholic beverages, so it is advisable to use it in the complex treatment of alcohol dependence.

Fireweed is a highly productive honey plant. Honey from it is greenish in color, and after crystallization is completed, it becomes white.

### Dangerous properties of Ivan tea and contraindications

With prolonged and continuous use of Ivan-tea, disruptions in the functioning of the digestive tract are possible. Age restrictions on the use of fireweed products apply to children under the age of six years. Ivan-tea during pregnancy and lactation excludes self-medication and its use should be agreed with the doctor. Cases of individual intolerance are possible. Those suffering from thrombophlebitis and thrombosis should better refrain from treatment with Ivan tea <sup>[7]</sup> .

### Botanical description

This is a herbaceous perennial plant of the Cyprus family (Onagrovye).

### origin of name

In the language of botany, the grass is called "*chamerion* ", "*fireweed* " , and among the people it has received many names: **Koporsky tea, plakun, skrypnik, downy, willow grass, Mother of God grass, hoof grass, fire grass** . The name "ivan tea" is associated with the role of the plant in the history of trade, in an era when "*Russian tea* " made from fireweed herb was one of the most exported products from Russia to the countries of Albion and Europe. The traditional and popular Russian name



"Ivan", with the light hand of foreign businessmen and suppliers, was firmly entrenched in the name of the then demanded drink, which became famous on the world market.

## Kinds

Science knows 8 types of Ivan-tea. The most common ones are:

1. **Ivan-tea (fireweed) narrow-leaved** - has extensive medical use; a productive honey plant and a plant cultivated for decorative purposes; fireweed grass is used to make the famous Koporye tea. Grows in the temperate climate zone, in Siberia, in the coniferous forests of the European part of Russia;
2. **Ivan-tea broadleaf** is endemic to the North, found in the Arctic and subarctic parts of the Northern Hemisphere. One of the national symbols of Greenland;
3. **Colchis Ivan-tea (Caucasian)** is a creeping shrub whose habitat is the Alps, the subalpine region, the mountain slopes of the Caucasus;
4. **Ivan tea Dodonea** - grows in the temperate and subarctic regions of North America, Asia and Europe <sup>[1]</sup>.

Ivan-chai is a grass from 0.5 to 1.5 m high. The stems are straight, rounded, densely dotted with leaves. The rhizome is creeping and large. The leaf arrangement is alternate, the leaves are lanceolate, sessile, shiny, dark green above and bluish from the reverse, underside. The flowers are collected in elongated brushes, they come in different shades: from pale pink and fuchsia to rich purple, red. There is also fireweed with white flowers. The fruits are elongated capsules. The flowering period is the summer months. Ivan-tea grows in well-lit forest areas with dry and sandy soil, along crops and railway embankments, on the edges, on cut and scorched soils, on the territory of dried-up swamps <sup>[2]</sup>.

## Growing conditions

Ivan tea cannot be called a pretentious plant in terms of cultivation and care. But the most suitable for it will be loamy, sandy and sandy soils and an open area, as much as possible illuminated by sunlight. The plant produces seeds in huge quantities, the area of \u200b\u200bdistribution of which is very extensive by the wind. The best way to plant fireweed during cultivation is reproduction by dividing the creeping rhizome.

Harvesting herb willow-tea begins at the flowering stage. Cut off the tops of the stems with flowers and leaves, or just the leaves. Dry the grass in a room with sufficient ventilation, spreading it in a thin layer on a fabric or paper base. The drying process should not be long, since changes in the temperature regime degrade the quality of raw materials that are not collected in time in special paper bags and the herbal collection partially loses its healing properties <sup>[3]</sup>.

## Power circuit

Fireweed is often enriched in the composition of green fodder in the diet of pets.

## Literature

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An extended HTML version of the article is available on the [edaplust website . info](#) .

### **Blooming Sally - useful properties, composition and contraindications**

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**Abstract.** The article discusses the main properties of Ivan-tea and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of Ivan-tea in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of willow-herb on the human body under certain medical conditions and diseases are analyzed separately. Considered scientific basics diets With his application.



**Thyme (lat. Thymus)**

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**Abstract.** The article discusses the main properties of thyme and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of thyme in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of thyme on the human body under certain medical conditions and diseases are analyzed separately. The scientific foundations of diets with its use are considered.

**Keywords:** thyme, thyme, thyme, beneficial properties, potentially dangerous effects, side effects, beneficial properties, contraindications, diets

## **Beneficial features**

**Table 1.** Chemical composition of thyme (according to [Food+](#)).

### **100 g of dry thyme herb contains:**

#### **Main substances:**

Carbohydrates - 63.94 g

Dietary fiber - 37 g

Proteins - 9.11 g

Water - 7.79 g

Fat - 7.43 g

Sugar - 1.71 g

Kcal - 276

#### **Minerals:**

Calcium - 1890 mg

Potassium - 814 mg

Magnesium - 220 mg

Phosphorus - 221 mg

Iron - 123.6 mg

Sodium - 55 mg

Zinc - 6.18 mg

#### **Vitamins:**

Vitamin C - 50 mg

Vitamin E - 7.48 mg

Niacin - 4.94 mg

Vitamin K - 1.7145 mg

Vitamin B6 - 0.55 mg

Thiamine - 0.513 mg

Riboflavin - 0.399 mg

Folate - 0.274 mg

Vitamin A - 0.19 mg <sup>[7]</sup>

### **100 g of raw thyme leaves contains:**

#### **Main substances:**

Water - 65.11 g

Carbohydrates - 24.25 g

Dietary fiber - 14 g

Proteins - 5.56 g

Fats - 1.68 g

Kcal - 101

#### **Minerals:**

Potassium - 609 mg

Calcium - 405 mg

Magnesium - 160 mg

Phosphorus - 106 mg

Iron - 17.45 mg

Sodium - 9 mg

Zinc - 1.81 mg

#### **Vitamins:**

Vitamin C - 160, 1 mg

Niacin - 1.824 mg

Riboflavin - 0.471 mg

Vitamin B6 - 0.348 mg

Vitamin A - 0.238 mg

Thiamine - 0.048 mg

Folate - 0.045 mg <sup>[8]</sup>

### **What exactly is used and in what form**

Medicinal value has herb thyme, collected at the beginning of flowering (flowering stems, separated from woody, rough shoots). Freshly picked and dried thyme has a persistent aroma, and a slightly burning, spicy taste, with an admixture of bitterness. Thyme herb is used to make a liquid extract or decoction, infusion or tincture. It is also used for medicinal purposes tea with thyme. Outwardly, thyme is used in aromatic baths, compresses, lotions, rinses <sup>[3]</sup>.

### **Medicinal properties**

Creeping thyme grass contains phenolic derivatives of terpenes (thymol, carvacrol, pinene, cymol, borneol, linalool), thymic acid, tannins, flavonoids, triterpenes, organic acids and bitterness.

Common thyme herb contains volatile oils (which include terpenes linalol and terpineol, borneol, thymol, carvacrol), flavonoids, ursolic and oleanic acids, bitterness, gum and tannins <sup>[9]</sup>.

Thyme is used as an expectorant, analgesic, antibacterial, anthelmintic and as a means of stimulating gastric functions. It is used for bronchitis, pneumonia, bronchiectasis. As an analgesic - in the treatment of radiculitis and neuritis, in diseases of the joints, the muscular system and peripheral nerve trunks <sup>[3]</sup>.

### **In official medicine**

### Pharmaceutical preparations based on thyme:

- **Thymol** (in powder form), which *contains creeping thyme*. With ankylostomiasis (helminth infection), 1 g is prescribed every quarter of an hour in four doses, on an empty stomach. At the same time, a special diet that excludes fats and alcohol from the diet is strictly recommended, which must be followed before, during and after treatment. The course of treatment with thymol is 3 days. On the eve of the course and at the end, a saline laxative is used. Thymol destroys parasites (hairworm, hookworm, American necator, various fungal ones) and anesthetizes. The use of the drug "Timol" is contraindicated in case of decompensatory function of the heart, diseases of the kidneys and liver, stomach ulcers and duodenal ulcers, pregnancy. A weak solution of thymol disinfects the oral cavity. As an analgesic and antiseptic, thymol is used in dentistry.
- **Common thyme herb**, in packs.
- **Common thyme extract** (liquid). It is used as an expectorant and analgesic. It is also effective for radiculitis and neuroses.
- **Pertussin** (as syrup). Children are prescribed one dessert spoon for whooping cough, and adults - a tablespoon as an expectorant three times a day <sup>[9]</sup>.

### In folk medicine

- As an antibiotic gastric agent and as an expectorant, thyme is used for coughing as an infusion: pour a tablespoon of herbal raw materials into 400 ml of boiling water. Let it brew for 10 minutes and drink a tablespoon up to three times daily.
- With a reduced secretion of gastric juice against the background of bloating, in the absence of appetite and as an antihelminthic, *creeping thyme* is recommended in the form of an infusion, which is prepared in the same way as an infusion of common thyme <sup>[9]</sup>.
- Tea with thyme is prescribed for intestinal diseases, diseases of the lungs and genitourinary tract, with a slow digestive process, fermentation in the intestines, bloating and colic, atony of the stomach (disturbance of its motor function), with bronchial asthma, whooping cough, worm infestation, as a diuretic, with sleep disturbances, nervousness and alcoholism. To make tea from thyme, you need to steam one tablespoon of thyme flowers and leaves in 200 ml of boiling water. Let it brew and drink in small sips up to two glasses a day.
- For gastrointestinal catarrh, an infusion is prepared: a tablespoon of a mixture of thyme herb, lemon balm leaves, fragrant bedstraw herb and wild strawberry leaves (at the rate of 1:4:5:10) is infused in 300 ml of boiling water, strained and taken 100 ml three times daily.
- For catarrh of the respiratory tract, a tablespoon of herbal collection from thyme herb, fragrant bedstraw and strawberry leaves (in a ratio of 2.5: 2.5: 5) is brewed in 400 ml of boiling water, allowed to brew, filtered and taken two tablespoons with an interval of three hours.
- Thyme for alcoholism: in chronic alcoholism, a 7% decoction of thyme herb is effective, which is taken 50 g twice a day for 2-4 months <sup>[10]</sup>.
- Thyme for children (for whooping cough as a decoction or infusion) is given, based on the age of the child, a teaspoon or dessert spoon, in a warm form, up to 4 times a day. The infusion is prepared at the rate of: 10 g of thyme herb per 200 ml of boiling water <sup>[11]</sup>.
- With a wet cough, herbal tea is recommended: mix one tablespoon of anise seeds, eucalyptus leaves, chamomile and mullein flowers, Icelandic moss, thyme and 2 tablespoons of coltsfoot leaves. Steam a spoonful of the collection in 200 ml of boiling water, then cook for half an hour in a water bath. Cool and strain. Pour the resulting liquid with boiled water up to a volume of 0.2 liters and drink a quarter cup three times a day for at least a crescent.

- For bronchitis with prolonged wet cough, prepare a collection of one tablespoon of anise seeds, mullein flowers, licorice root and 1.5 tablespoons of thyme. Steam a spoonful of herbal material with boiling water (200 ml). Cook in a water bath for a quarter of an hour, then cool and strain. Dilute the concentrated broth to a volume of 0.2 liters with boiled water. Drink 50 ml three times daily, taking the infusion between meals.
- In case of sleep disturbances, tea is useful (it is also used as a sedative): prepare a decoction of hawthorn and wild rose fruits, lime blossom and thyme herb, in a ratio of 2:4:2:5 <sup>[5]</sup>.

### Externally:

- For toothache, a cotton swab soaked in an alcohol tincture of thyme is applied to the aching tooth.
- Napar from thyme is used for compresses on abscesses, boils, for rinsing with gingivitis and dental ulcers.
- Poultices of thyme herb are applied to the affected areas for paralysis, neuralgia and rheumatism.
- Steam from the flowers of thyme (a tablespoon per 200 ml of boiling water) wash the eyes with inflammation.
- The leaves and flowers of thyme, ground to a powdery state, are given a sniff in case of loss of consciousness.
- Children with rickets are prescribed water procedures: a handful of thyme flowers and leaves are infused in five liters of boiling water. The infusion is added to a bath filled with water. Such a font must be taken twice weekly <sup>[10]</sup>.
- For adults with pain in the joints, arthritis, myositis, rheumatism, neuritis, it is useful to take a bath with thyme: 200 g of herbal raw materials are brought almost to a boil over low heat in 4 liters of water. Insist and strained infusion is poured into a full bath <sup>[11]</sup>.

### in oriental medicine

Among the recipes of Avicenna, thyme is recommended as part of the collection, as a means for soft and gentle crushing and removal of stones from the kidneys. In equal parts, it is proposed to mix lavender, thyme, strawberry leaves and berries, lemon balm, mint and catnip. The mixture is brewed and drunk like tea <sup>[3]</sup>.

### In scientific research

Scientific interest in thyme and its properties has been preserved from ancient times to the present day.

work of researchers M. Hott, R. Nakata, M. Katsukawa and others <sup>[12]</sup> is devoted to a thorough study of the thyme essential oil component - *carvacrol*.

E. M. A. Dawkan and A. Abdullah have analyzed the medicinal value of the herb *thyme vulgaris*, emphasizing the antioxidant and antibacterial effects of the plant <sup>[2]</sup>.

Bubenchikova V. N. and Starchak Yu. A. assessed the anti-inflammatory effect that occurs when using the *Pallas thyme herb*. The same authors describe the mineral and amino acid components (in qualitative and quantitative characteristics) contained in *flea thyme*. Also in the work of V. N. Bubenchikova and Yu. A. Starchak, the issue of the pharmacological activity of various types of the thyme genus (namely, the expectorant properties of *flea thyme*, *Marshall thyme* and *Cretaceous thyme*) is highlighted <sup>[13], [14], [15]</sup>.

The description of thyme as an aromatic and spicy culture is the purpose of the study by Anishchenko I. E., Kucherova S. V., Zhigunova O. Yu. <sup>[16]</sup>

### **Weight regulation**

Thyme stimulates digestive processes, accelerates lipid metabolism. This makes the spice a valuable helper of the body when it comes to more fatty and heavy foods.

### **In cooking**

Thyme essential oil is used in the canning and alcoholic beverage industry. In cooking, it is a spice widely used in pickles, marinades, meat and fish dishes. Thyme as a seasoning gives a spicy note to both snack culinary products and main courses.

### **Cheese baked with thyme**

To prepare such an original snack, you will need: one package of soft dessert cheese (lightly salted varieties), a tablespoon of chopped fresh thyme, half a tablespoon of olive oil, salt and freshly ground black pepper, half a red hot pepper, crushed and de-seeded, fresh white bread for serving.

Preheat oven to medium temperature. Lay cheese on parchment paper and sprinkle with chopped thyme. Drizzle with olive oil and add salt and ground black pepper to taste. Bake the cheese in the oven for about 10 minutes (until the mass begins to melt). Serve with sliced red peppers and slices of white bread <sup>[17]</sup>.

### **In cosmetology**

Thyme essential oil is used in hair strengthening shampoos. It has a beneficial effect on problem skin prone to rashes and inflammation, which makes it an indispensable component in creams and lotions. Thyme oil is used not only in the perfume and cosmetic industry, but also in soap making. Thymol is a component of therapeutic toothpastes and elixirs, which have pronounced bactericidal properties <sup>[4]</sup>.

### **Other uses**

The plant is a productive honey plant.

Thyme is sown to strengthen the soil on steep or sliding slopes <sup>[4]</sup>.

### **Dangerous properties of thyme and contraindications**

Thyme can cause complicated allergic reactions in people with individual intolerance. Before using the plant for medicinal purposes, you need to do a simple test: rinse the popliteal cavity with thyme infusion. If no irritation occurs on the skin within an hour after applying the liquid, procedures with external or external use of thyme can be continued.

Thyme during pregnancy is contraindicated, as well as dangerous for people with pathologies and diseases of the kidneys, stomach ulcers and 12 duodenal ulcers. "Most doctors believe that thyme, when used correctly, is significantly more effective than other anti-inflammatory drugs, but it should not be used indefinitely, as this can provoke hypofunction (weakening of activity) of the thyroid gland" <sup>[11]</sup>.



## Botanical description

This is a semi-shrub perennial of the Lamiaceae (Lyasnotkovye) family.

## origin of name

Other names for thyme, attached to the plant in the folk tradition: *incense*, *savory*, *zhadobnik*, *Bogorodskaya grass*, *lemon odor*.

The generic scientific name of thyme is “ **thyme** ” (lat. “ *Thymus* ”). One of the versions of the origin of the word is the ascent to a derivative form from the Greek verb meaning "to fumigate with incense (incense)".

## Kinds

Modern botany has over 200 species of the thyme genus. The following types of thyme are common and most studied:

1. **Creeping thyme** is widely represented throughout Eurasia. A plant with significant medicinal potential, used both in folk and official medicine. Highly productive honey plant;
2. **Thyme ordinary** - the area of growth is the northwest of the Mediterranean, the French south, Spain, certain regions of Russia. Used in medicine as a source of medicinal raw materials;
3. **Hill thyme** is the birthplace of the Transcaucasian plant. Efironos, used in the perfume industry, cooking, canning industry;
4. **Callier thyme** is an endemic of the Crimean peninsula, a honey plant, which also has a fodder value;
5. **Early thyme** - found in the European, Caucasian regions. The view has a decorative value <sup>[1],[2]</sup>.
6. **Thyme Kochi** - grows in the Middle East region and Transcaucasia. Used as a medicinal plant and spice;
7. **Thyme Marshall** - found in Europe, Central Asia and the Far East. The species is threatened with extinction;
8. **Timyan Taliyeva** - grows in the northeastern part of Europe, in the Urals. Listed in the Red Books of individual Russian regions;

**Creeping thyme** is a low shrub (about 20 cm high), with creeping shoots and straight thin stems extending perpendicularly from them. The leaf arrangement is opposite, the leaves are ovate, on short petioles. Small flowers of lilac-pink or purple color are collected in an inflorescence head. The flowering period is mid-summer. Fruits (nuts) are formed in August. Thyme grows in forest glades, on dry sandy soils, in pine forests, on hills, slopes, in the steppes <sup>[3]</sup>.

## Growing conditions

The plant is classified as heat-loving. The method of reproduction is seed, the main condition for obtaining seedlings is high soil moisture. Mature plants do not adapt well to moisture. The lack of lighting and heat negatively affects the rate of seedlings, and leads to a further decrease in the essential oil in the raw material. The site for thyme is plowed to a depth of 0.3 m. In the autumn months, the plowed land is cultivated. In early spring, the soil is re-treated and thyme seeds are sown (sowing depth 1 cm), maintaining a row spacing of up to 0.5 m. The sowing rate is about 70 g of material per

100 square meters. m. Before sowing, the soil is fed with organic fertilizers. Flowering and fruit formation occurs in the second year of the plant's life. Crops must be regularly cleaned of weeds, the soil on the site should be softened and plowed up <sup>[4]</sup>.

Thyme perfectly tolerates wintering under snow, requires moderate watering and takes compost and bone meal well as fertilizer. When the plant has faded, it is advisable to cut the bushes by 2/3. In hot weather, watering is best done at the root. Throughout the growing season, thyme can be propagated by dividing the bush <sup>[5]</sup>.

Thyme is harvested at the time of flowering (mid-summer). Beveled fresh raw materials are immediately processed to obtain essential oil or dried. You need to dry thyme in places with sufficient access to fresh air, under a canopy, spreading the grass in a thin layer and stirring from time to time. Properly dried thyme is determined by the degree of fragility of dry stems. Dry grass is threshed and the resulting mass is cleaned of coarse stems. Shelf life of raw materials up to 2 years <sup>[6]</sup>.

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## Thyme - useful properties, composition and contraindications

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**Abstract.** The article discusses the main properties of thyme and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of thyme in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of thyme on the human body under certain medical conditions and diseases are analyzed separately. Considered scientific basics diets With his application.



### **Clover (lat. Trifólium)**

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**Abstract.** The article discusses the main properties of clover and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of clover in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of clover on the human body under certain medical conditions and diseases are analyzed separately. The scientific foundations of diets with its use are considered.

**Keywords:** clover, beneficial properties, potentially dangerous effects, side effects, beneficial properties, contraindications, diets

### **Beneficial features**

### **Chemical composition and presence of nutrients**

#### **100 g of young clover sprouts contains:**

#### **Main substances:**

Proteins - 3.53 g

Carbohydrates - 3.53 g

Fats - 0.59 g

Kcal - 29

**Minerals:**

Calcium - 4 mg

Sodium - 6 mg

Iron - 0.85 mg

**Vitamins:**

Vitamin C - 7.1 mg

Vitamin A - 0.04 mg <sup>[6]</sup>

**What exactly is used and in what form**

*mountain clover, red clover* ) and plant grass ( *creeping clover* ) are most often used as raw materials <sup>[2]</sup>.

In the treatment of various diseases, infusions and decoctions from clover inflorescences are used. Outwardly, poultices with clover decoction are practiced (for burns, joint problems). Crushed clover leaves are applied to ulcerative skin lesions and festering wounds. Fresh clover juice is used to treat allergic manifestations in the eye area. Clover flowers are brewed and drunk as tea. An alcohol tincture is prepared on the basis of clover <sup>[2,7]</sup>.

**Medicinal properties**

Inflorescences of red clover (meadow) contain glycosides trifolin and isotrifolin, tannins, essential and fatty oils, organic acids, including salicylic acid, carotene, vitamins B1, B2, C, E, K. The antimicrobial component trifolirizin is formed in clover roots. Ascorbic acid and tocopherol are formed in the leaves during the flowering period.

Red clover has an expectorant, diaphoretic, diuretic, anti-inflammatory and antibacterial effect on the body. This remedy is used as an expectorant for inflammatory processes in the upper respiratory tract. Red clover is prescribed for anemia, cystitis, bronchial asthma, painful menstruation and rheumatism "with experience".

Tincture of clover inflorescences is recommended for atherosclerosis (subject to normal and stable blood pressure). With edema of cardiac and renal etymology, the carminative effect of clover is used. A strong decoction of mountain clover is taken on an empty stomach with a hernia. Sitting baths with mountain clover are prescribed for hemorrhoids. Infusion of plowed clover herb is useful for pulmonary tuberculosis, gastritis with high acidity, diseases of the kidneys and bladder, migraine and nervous disorders <sup>[2]</sup>.

**In official medicine**

- The pharmacy assortment offers the drug " *Cleverol* " - a product created on the basis of an extract from red clover. " *Cleverol* " is prescribed in the complex treatment of vegetovascular and emotional and mental disorders that occur against the background of the development of a premenopausal or menopausal state. The tool has a positive effect on insomnia, irritability, hot flashes, characteristic of menopause. How does clover work in menopause? This effect of the drug is explained by the content of phytoestrogens in *Cleverol*, active substances that compensate for the reduced level of estrogen in a woman's body during menopause, or after removal of the ovaries.

- Clover is also present in the system of developed dietary supplements. Dietary supplement " *Red Clover* " is useful and used to strengthen the immune system, with general depletion of the body caused by frequent infectious diseases, as an addition to a balanced menu.
- Alcohol tincture of red clover " *Red Clover* " is also available.
- Flowers and grass of red clover are offered on the drug market in the form of filter bags for brewing.

### **In folk medicine**

- For coughs and complicated colds, a decoction of clover is useful: pour a tablespoon of inflorescences with 200 ml of boiling water, let it boil, leave for at least two hours in a warm place. Strain and take a third cup three times a day half an hour before meals.
- For anemia, an infusion of clover is recommended: 3 teaspoons of inflorescences are steamed with 200 ml of boiling water. Let it brew for 60 minutes, strain. Take a quarter cup 4 times a day 20 minutes before meals.
- For headache attacks, pour a tablespoon of inflorescences with boiling water, leave for half an hour and squeeze. Take 100 ml three times a day for 14 days.
- With dysmenorrhea, steam two tablespoons of clover in 200 ml of boiling water, let it brew in a thermos for half a day. Strain, drink 50 ml 4 times a day half an hour before meals.
- For cystitis: pour a tablespoon of inflorescences into 0.5 liters of water. Bring to a boil. Drink 2 tablespoons with an interval of two hours <sup>[5]</sup>.
- With atherosclerosis, accompanied by headache and tinnitus (under the condition of normal blood pressure), clover tincture is useful: 40 g of dry raw materials are infused in 0.5 liters of alcohol with a strength of 40 degrees for 10 days. Strained tincture drink 20 ml before lunch and in the evening, before going to bed. Duration of treatment 90 days, with a break of 10 days <sup>[3]</sup>.
- To improve digestion, prepare a mixture of red clover inflorescences, peppermint leaves and centaury grass (all herbs in a tablespoon). Raw materials pour 300 ml of boiling water, let it brew and take 100 ml three times a day for half an hour before meals.

### **Externally:**

- To prepare lotions and poultices, use a decoction of clover inflorescences (20 g of flowers per cup of boiling water).
- In case of rheumatism, three tablespoons of plowed clover grass are wrapped in gauze and dipped in boiling water, then squeezed out, and, not scalding hot, are applied to the affected area of the body <sup>[2]</sup>.

### **in oriental medicine**

Tibetan healers use lupine clover in the treatment of diseases of the liver and biliary tract, with jaundice.

Avicenna prescribed fresh clover grass juice in the treatment of bronchial asthma. A decoction of clover was recommended for healing wounds and ulcers in scrofula, and used it as a diuretic in kidney pathologies.

In Central Asian countries, clover decoction is used to treat colds, malarial fever, and is used for weakened and reduced digestive functions as an astringent <sup>[7]</sup>.

## In scientific research

P.B. Clifton-Bly, R. Beiber, J. Fulker, M. Neri, T. Moreton studied the effect of isoflavones contained in red clover on lipid metabolism and metabolic processes in bone tissue <sup>[8]</sup>.

Nestel P. J., Poumroy T., Kay S. note the effect of isoflavones isolated from red clover associated with changes (improvement) in the walls of blood vessels in menopausal women <sup>[9]</sup>.

The pharmacokinetic aspect of red clover is highlighted in the work of Howes J., Waring M., Huang L., who analyze the rate of absorption of isoflavones in the body <sup>[10]</sup>.

The use of red clover as a remedy for postmenopausal women was studied by S. Eksanpour, M. S. Salehi, B. Solfagari <sup>[11]</sup>.

Wong I., V. Man Guo, S. Chen also determined the role of substances contained in red clover in the appointment of estrogen replacement therapy <sup>[12]</sup>.

Novikova O., Pisareva D., Zhuravel M. <sup>[13]</sup>

## In cooking

All parts of the plant are suitable for culinary experiments: **clover sprouts** are eaten fresh, or lightly boiled in salted water, the **flowers** are used raw, dried, for preparing various desserts and drinks. **Both seeds and flowers** can be ground into flour.

- clover tea

Ingredients you will need to prepare a fragrant and healthy drink: one cup of clover flowers, two tablespoons of dried or fresh mint, four cups of water, honey or sugar to taste. Rinse the clover flowers thoroughly under running water. Steam mint and clover in boiling water. Insist 10 minutes. Then strain and add honey or sugar <sup>[14]</sup>.

- Clover Cookie

To make these cookies, you will need: 2 cups wheat flour, 1/2 cup almond flour, 1 tablespoon baking powder, 1/3 cup room temperature butter, 2 eggs, 1/2 cup plain yogurt, vanillin on the tip of a knife, 1 cup chopped dry or fresh flowers. clover. Combine flour, baking powder and butter and mix until smooth. Separately beat eggs with yogurt and vanilla. Add clover flowers to the egg mixture and gradually introduce the resulting mass into the dough base of flour, butter and baking powder. Roll out the kneaded dough on a floured surface. Cut out cookies with cookie cutters. Bake until golden brown. Serve the finished cookies with jam or hot chocolate <sup>[15]</sup>.

- Mousse with white clover

To create this delicious dessert you will need: 2 cups of white clover inflorescences sorted into flowers, one tablespoon of gelatin (or one sheet of gelatin), a cup of water, half a cup of freshly squeezed orange juice, 4 tablespoons of honey, a cup of whipped cream, a pinch of salt.

Dissolve gelatin in a quarter cup of water. In a saucepan over low heat, gradually bring the mixture of clover flowers, water, orange juice, honey and salt to a boil. Remove from heat, add gelatin, stirring

until completely dissolved and allow to cool. Leave in the refrigerator until it starts to harden. Beat a cup of cream and gently mix with a slightly seized jelly mass. Transfer to a glass bowl and refrigerate until the mousse is completely set <sup>[16]</sup>.

### **In cosmetology**

Does clover help with wrinkles? Care cosmetics based on clover extract covers products intended for mature, aged skin with pronounced signs of aging. The active components released from clover are characterized not only by a rejuvenating effect. They effectively heal the skin affected by acne, soothe sensitive and irritated skin. Clover is also useful for hair: clover extract is part of the means that prevent hair loss <sup>[17]</sup>.

### **Other uses**

Clover is a highly productive honey plant. Fresh clover honey is transparent, with a delicate smell; during crystallization, the honey clover mass turns white and hardens.

Clover is used by farmers as a plant that improves soil composition. The plant not only positively affects the structure of the soil, strengthens it, but also leads to an increase in the number of earthworms and various beneficial microorganisms that inhabit the land. The clover root system contains specific bacteria whose function is the accumulation of nitrogen. As a result, the soils on which clover grows are always enriched with this mineral fertilizer. This feature of clover is actively used by agronomists when sowing fields.

### **Dangerous properties of clover and contraindications**

Clover is contraindicated during pregnancy, lactation. Clover is not recommended for those who are taking any hormone therapy (the isoflavonoids contained in it create an additional hormonal load in this case). Given that clover is a source of phytoestrogens, you should refrain from using any drugs based on clover when taking oral contraceptives, estrogens, progesterone drugs, anticoagulants, aspirin.

With uncontrolled and excessive use of clover, the following side effects may occur: headache, muscle weakness, nausea, allergic reactions.

It is dangerous to take clover at the same time as any blood-thinning drugs in order to avoid damage to the liver and the occurrence of internal bleeding <sup>[19]</sup>.

### **Botanical description**

This is a member of the legume family.

### **origin of name**

Among the many folk names-analogues of the plant: *redhead*, *red porridge*, *honey color*, *meadow shamrock*, *trinity*, *scrofulous grass*, *fever grass*, *trojan*. The Latin generic name for clover **Trifolium** translates to " *shamrock* ".

### **Kinds**



Botanists know 244 species of clover, including:

1. **Red clover (red)** - grows almost everywhere in Europe, in the Far East, Kamchatka, in the Siberian region, in northern Africa, in Central Asian countries. Widely used in traditional medicine recipes, in homeopathy, in the culinary tradition, the species has justified itself as a popular food culture. Forage pasture plant and productive honey plant.
2. **Mountain clover** is a perennial, a representative of the mountain flora of Europe, the Asian part of Russia, and some Asian countries. For the preparation of medicines, grass and inflorescences of this species are used. Mountain clover extract has found active use in the creation of cosmetics.
3. **White clover (creeping)** - the habitat of this perennial is unusually wide: Europe, the Caucasus region, Siberia, northern Africa, Asian countries, the American continent, Australia and New Zealand. Popular fodder crop. White clover is used in medicine and is an excellent honey plant.
4. **Plowed clover** is an annual plant common in the European region, on the territory of Western Siberia. Has medicinal value.
5. **Alpine clover** - grows on ledges and in rock crevices, is found on rubble and in river valleys. Distributed in the Alps, the mountainous Crimea, the Caucasus and Altai. <sup>[1,2]</sup>.

*Red clover (meadow)* is a herbaceous plant with a height of 15 to 40 (sometimes 60) cm, with a woody rhizome, ascending stems and trifoliate leaves characteristic of all clover. The flowers are dark pink, dirty purple, ash pink, red-purple or white, collected in rounded heads. Fruit type - bean. The flowering period of clover is from May-June to September. You can meet the plant on forest edges, along the road, on slopes, glades, meadows with soils of medium moisture and among shrubs <sup>[3]</sup>.

### Growing conditions

Clover is a typical representative of temperate crops. The plant prefers moist soils, drought affects clover negatively. During the growing season, clover is best suited for cooler temperatures. Germination of seed material occurs at a positive temperature of 2 degrees. The emerging plant is able to adapt to light frosts. Clover also tolerates wintering with severe frosts well, provided there is a dense snow cover. The preferred time for sowing clover is early spring. Before sowing, the soil is treated to eliminate possible pests and fed with micronutrient fertilizers <sup>[4]</sup>.

The collection of clover inflorescences should be started in dry and sunny weather. When harvesting, the inflorescences-heads are cut off along with the apical leaves. Clover is preliminarily dried in the sun, then dried in a room with good ventilation. When drying, the inflorescences should not be vigorously shaken to prevent mass scattering of raw materials into small flowers. It is necessary to store clover in a dry place, because at a certain level of humidity in the inflorescences, enzymatic processes are launched that spoil the medicinal properties of the plant and even contribute to the formation of toxic and harmful substances. The shelf life of clover is up to 2 years. At home, small armfuls or bunches of clover are wrapped in thick paper and kept hanging <sup>[3]</sup>.

If fresh clover inflorescences are used, it must be remembered that between the flowers of each plant there may be a significant number of insects attracted by the aroma and nectar of clover. To clean clover from insects, you need to soak the inflorescences in salted water for about a quarter of an hour. Salt water at the rate of: a teaspoon of salt per liter of liquid. Then the inflorescences should be washed under running water <sup>[5]</sup>.

### Power circuit

Clover is an important **source of protein food** for animals. Numerous species of clover are grown as fodder pasture crops intended for cattle and small cattle. The fodder value of clover is very high: the plant is used for fortification of feed for farm animals, for grazing, for the preparation of hay flour, silage and hay.

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## Clover - useful properties, composition and contraindications

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The article discusses the main properties of clover and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of clover in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse

effects of clover on the human body under certain medical conditions and diseases are analyzed separately. Considered scientific basics diets With his application .



### **Rhodiola (lat. Rhodiola)**

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**Abstract.** The article discusses the main properties of Rhodiola and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of Rhodiola in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of Rhodiola on the human body under certain medical conditions and diseases are analyzed separately. The scientific foundations of diets with its application are considered.

**Keywords:** rhodiola, red brush, beneficial properties, potentially dangerous effects, side effects, beneficial properties, contraindications, diets

### **Beneficial features**

#### **What exactly is used and in what form**

In folk recipes, in herbal medicine, rhizomes and the root of the red brush are used. In crushed and dried form, the roots are part of herbal tea, fees, are used to prepare decoctions, infusions. Red brush root extract is used as the basis for creating alcohol tinctures, phytosuppositories, herbal syrups.

### **Medicinal properties**

Among the biologically active substances contained in the red brush: tannins of the pyrogallol group, anthraglycosides, essential oil, organic acids, sugars, proteins, fats, waxes, sterols, tertiary alcohols, phenols, tannins, glycosides (tyrosol, tricetin), flavonoids , volatile oils, tannins, trace elements - manganese, zinc, chromium, cobalt, copper, nickel, silver, molybdenum <sup>[3]</sup> .

**Does the red brush have indications for use?** In folk medicine, Rhodiola fourfold is prescribed for prostatitis, prostate adenoma and diseases of the genitourinary system. A red brush is used in the complex treatment of neoplasms (tumors); as an adaptogen and as a means of rejuvenating the body <sup>[4]</sup>.

The main medicinal properties of the red brush include: adaptogenic, immunostimulating, hemostatic, tonic. **The red brush is successfully used in gynecology** : red brush preparations are used in the treatment of endometriosis, fibroids. The main active component of Rhodiola tetrafidus is salidroside, which explains the medical potential of the plant in the complex therapy of cancer. The red brush has also been credited with being an anti-allergen <sup>[5]</sup>.

In the treatment of diseases of the thyroid gland, adrenal glands and hormonal imbalance, the red brush has a positive effect. In complicated diseases of fungal, bacterial and viral etymology, the red brush is used as an additional therapy <sup>[3]</sup>.

### In official medicine

- **Phytocandles** with red brush extract. They give an anti-inflammatory effect in gynecological diseases. They are prescribed for hormonal disorders in women.
- **Herbal tea** "Red brush (Rhodiola four-membered)". The composition includes crushed roots and rhizomes of the plant.
- **Syrup** "Red brush". Herbal syrup with a restorative effect, also used as an additive in tea, drinks, confectionery.
- **Biologically active additive** "Red brush".
- **Drops** "Red brush" (water-alcohol extract of the root of the red brush).

### In folk medicine

- **How to make red brush tea?** Pour a glass of boiling water over a teaspoon of crushed rhizomes of Rhodiola four-fold, let it brew for a quarter of an hour, strain. Drink 100 ml twice a day before meals.
- **In case of problems with conception** , a combined treatment with herbs of the red brush and boron uterus is prescribed. Tincture of the red brush and boron uterus is prepared according to the recipe: pour 25 g of red brush and boron uterus into 500 ml of vodka. Infusion withstand 2 weeks. Take a teaspoon, diluting in a small amount of water, three times a day, before meals. <sup>[6]</sup>.
- **With reduced immunity, sexual impotence, male and female infertility, unstable menstrual cycle, polycystosis, mastopathy, hormonal imbalance , red brush decoction is recommended** . To prepare a decoction, pour a tablespoon of crushed red brush root into 0.3 liters of water, boil for about 5 minutes in a container under a closed lid, let it brew for an hour, strain and add boiled water until the volume increases to 0.3 liters. Drink 100 ml of decoction three times a day half an hour before meals, you can with a spoonful of honey.
- **The tincture of the red brush** is prepared as follows: add 0.5 liters of an alcohol solution with a strength of 40% to 50 g of crushed Rhodiola root. Insist in a dark place, in glassware, for a month, shaking from time to time. Strained tincture take 30-40 drops three times a day for half an hour before meals <sup>[7]</sup>.

### in oriental medicine

Plants of the genus *Rhodiola* have traditionally been used in China, Tibet, and Mongolia as natural adaptogens and antidepressants, anti-inflammatory and tonic agents. The red brush, long before the botanical description in official sources, was also actively used in the folk medicine of Altai, as part of all kinds of potions and decoctions.

### **In scientific research**

For the first time, *Rhodiola* four-parted was described in the 18th century, during a scientific expedition initiated by the naturalist P. S. Pallas. N. Sokolov, a student and follower of the theories of Pallas, exploring the flora of the Altai char Sokhondo, collected a valuable herbarium. The representatives of the alpine flora included in the herbarium also included the red brush, later also called by Pallas "*Sedum quadrifidum*" (another synonym for *Rhodiola* four-parted).

At this stage, the red brush plant is being actively studied in the developments of modern medicine and biology.

In the field of experimental immunology, scientists E. Skopinskaya-Rozhevskaya, M. Buchavskaya and others analyzed the effect of *Rhodiola tetrafidus* extract on the circulatory system of mice <sup>[8]</sup>.

The value of salidroside, the active substance contained in the red brush, is highlighted in the work of E. Skopinskaya-Rozhevskaya, M. Malinowski, A. Vasyutinski. It is salidroside (or rhodioloside) that is a natural oncoprotector and has an antitumor effect <sup>[9]</sup>.

Rhodioloside isolated from *Rhodiola tetrafidus* is also the object of research by A. T. Troshchenko, G. A. Kutikova <sup>[10]</sup>.

Phytochemical analysis of the extract of *Rhodiola rosea* and *Rhodiola* four-parted is the goal of the scientific work of H. Wiedenfeld, M. Malinowski, M. Furmanova et al. <sup>[11]</sup>

The use of cold *Rhodiola* in the complex treatment of breast cancer is described in a study by V.T. Loo, M. Wong et al. <sup>[12]</sup>

Biologically active substances of *Rhodiola tetrafidus* are studied in a scientific article by A.K. Boshkaeva, R.A. Omarova, A.L. Akhelova and others <sup>[3]</sup>

### **Dangerous properties of *Rhodiola* and contraindications**

Does such a unique plant as a red brush have contraindications? First of all, the red brush is contraindicated for women during pregnancy and lactation, for individuals with individual intolerance to the constituents of the plant, suffering from high blood pressure.

It is also forbidden to take any hormonal drugs at the same time as the red brush, which itself is a phytohormone.

### **Botanical description**

This is a perennial herb, a species of the genus ***Rhodiola***, ***Crassula*** family.

### **origin of name**

Otherwise, the plant is called *Rhodiola four-part*, *Rhodiola four-part*, *Rhodiola four-membered*, *Rhodiola four-cut*, *Siberian ginseng* .

its popular name - " *red brush* " - because of the appearance of the root system, resembling a brush. And the generic definition of grass - **Rhodiola** (lat.) - translates as " *little rose* " and goes back to diminutive forms from the Greek word **rhodia** (or **rhodon** ).

The red brush is a rare species, a representative of the flora of the Altai Mountains, which has unique healing properties. *Rhodiola four-part* is listed in the Red Book of Transbaikalia.

The red brush is a dioecious plant, from 8 to 15 cm high. Male and female flowers grow on different bushes. The method of pollination is cross. The root system is pivotal, numerous hollow and tubular stems ascending from the rhizome, densely leafy. Finely toothed and sessile leaves, rich green, turn red in autumn. The flowers are collected in corymbose inflorescences, the petals are yellow with a reddish border in the upper and outer parts. Red brush blooms in early summer. The fruit is a leaflet. Seeds ripen in late summer - autumn.

Grows in alpine regions, on rocks and screes, on rocky soils of mountain ranges, on alpine lawns, in mountain clefts. Grass rarely grows in the form of massive thickets, more often in small groups <sup>[1,2]</sup> .

### Growing conditions

The red brush is a plant that has adapted as much as possible to extreme climatic and environmental conditions (wind in the mountains, unstable temperature conditions). The root system of *Rhodiola four-part* is powerful, the root is voluminous, going deep into the distance, sufficient to keep the plant in the moving high-mountain soil and extract water. The grass belongs to the so-called "cushion-shaped": the tops of frequent stems-shoots ascending from the rhizome grow at the same level, forming an "island". Old stems do not fall off, but remain on the plant for years, trapping fallen leaves, small particles of soil between themselves and, thus, provide protection to new stems and contribute to the active formation of adventitious roots. <sup>[1]</sup> .

The roots and rhizomes of *Rhodiola four-part* are harvested on a small scale, in spring or autumn. The dug roots are cleaned from the ground, washed thoroughly, crushed and dried. Raw materials are stored in paper packaging, in a dark and dry place. The optimal shelf life is 2 years.

### Literature

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2. Red Book of the Altai Territory. Rare and endangered plant species. - Barnaul: OAO IPP Altai, 2006. - 262 p.
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10. Rhodioloside from Rhodiola rosea and Rh. Quadrifida, [source](#)
11. Phytochemical and analytical studies of extracts from Rhodiola rosea and Rhodiola quadrifida, [source](#)
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An extended HTML version of the article is available on the [edaplust website . info](#) .

### **Rhodiola - useful properties, composition and contraindications**

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**Abstract.** The article discusses the main properties of Rhodiola and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of Rhodiola in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of Rhodiola on the human body under certain medical conditions and diseases are analyzed separately. Considered scientific basics diets With her application .



### **Plantain (lat. Plantágo)**

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**Abstract.** The article discusses the main properties of plantain and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of plantain in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially



adverse effects of psyllium on the human body under certain medical conditions and diseases are analyzed separately. The scientific foundations of diets with its use are considered.

*Keywords:* plantain, useful properties, potentially harmful effects, side effects, beneficial properties, contraindications, diets

## **Beneficial features**

### **Chemical composition and presence of nutrients**

#### **100 g of fresh plantain stalks contain <sup>[4]</sup>:**

Proteins 1.6 g

Dietary fiber 1.6 g Vitamin C 33.3 mg Potassium 382 mg Magnesium 22 mg Calcium 241 mg Iron 5.6 mg Phosphorus 41 mg

#### **100 g of fresh plantain leaves contains:**

Water 84 g

Proteins 2.5 g Fats 0.3 g Carbohydrates 14.6 g Calories 61 Kcal Calcium 184 mg Manganese 1.2 mg Vitamin PP 0.8 mg Vitamin C 44.9 mg Vitamin B2 0.28 mg Vitamin A 0.08 mg

#### **100 g of psyllium seeds contains:**

Carbohydrates 59.5 g

Proteins 17 g Dietary fiber 13.7 g Fats 7.6 g Water 11 g

### **What exactly is used and in what form**

For medicinal purposes, the leaves and seeds of psyllium are used. The juice from fresh plantain leaves is used to relieve inflammation. Decoctions, infusions, tinctures, syrups are prepared from the leaves. On the basis of plantain, medicinal ointments are created. Seeds are part of the official preparations. For the preparation of medicines, an aqueous or alcoholic extract of plantain is also used. Outwardly, poultices are made from freshly picked leaves. Decoctions are used for rinsing. Essence from a fresh plant is used in homeopathy <sup>[5]</sup>.

### **Medicinal properties**

- The leaves of plantain large and lanceolate plantain contain aucubin glycoside, flavonoids (baicalin, scutellarin), polysaccharides, tannins, mucus, carotenoids (xanthophylls), silicic, oleanic, citrine and ascorbic acids, vitamin K, salts of minerals, zinc, hydroxycinnamic acids <sup>[6]</sup>.
- Psyllium seeds contain mucus, fatty acids and plantose carbohydrate <sup>[3]</sup>.
- Among the biologically active substances contained in plantain leaves are pectin, iridoids, flavonoids and saponins. Pectin has healing properties. The glycoside aucubin and its decomposition products exhibit a pronounced anti-inflammatory effect. Saponins, pectins, flavonoids and hydroxycinnamic acids help lower blood cholesterol and have a hypocholesterolemic effect <sup>[7]</sup>.

- The internal purpose is explained by the expectorant, antibacterial, hemostatic properties of plantain. Also, plant-based preparations improve the secretory gastric function, have an enveloping effect <sup>[6]</sup>.
- Preparations and fresh plantain leaves (juice) have a bacteriostatic effect on pathogenic microbes of wound infections, on hemolytic streptococcus and staphylococcus aureus, Pseudomonas aeruginosa, Proteus, E. coli. Under the influence of fresh plantain juice, the surface of wounds is cleaned faster from suppuration, the inflammatory process is suspended and granulation is accelerated <sup>[7]</sup>.

Along with this, preparations based on plantain leaves are used in medicine as anti-inflammatory, hypnotic, analgesic, anti-allergic agents. A decoction of plantain is used in the treatment of diseases of the respiratory system, an alcohol-based plantain extract reduces blood pressure.

Plantain is an integral part of various breast fees. Traditional healers recommend an infusion of plantain leaves for diarrhea, hay fever, inflammatory processes in the bladder, hemorrhoids, fever. Ointment with the addition of dried plantain powder is effective for pustular lesions of the skin.

Psyllium seeds are useful for men and women with reproductive problems. Plantain root extract is recommended for coughs of tuberculous etymology, for fever, as an analgesic, for insect and reptile bites. In the form of wet compresses, plantain is used in folk medicine in the treatment of cancerous tumors, infusion on plantain leaves is used to treat cancer of the stomach and lungs <sup>[5]</sup>.

### The use of plantain in official medicine

Plantain-based preparations that can be found in a pharmacy:

1. Plantain leaves.
2. Plantain juice. Liquid in vials, which is a juice remedy. It is prescribed for gastritis with low acidity, three times a day a quarter of an hour before meals. The course of treatment is a month.
3. Granular agent for the preparation of the solution "Plantaglucid". With **hypoacid gastritis**, gastric ulcer with normal or low acidity, half or a whole teaspoon of granules diluted in a quarter cup of heated water is prescribed up to 3 times a day for half an hour before meals <sup>[6]</sup>.

### In folk medicine

- With gastric achilia, subacute and chronic diseases of the digestive system with associated minor bleeding, as a weak expectorant for children and externally, the following decoction is used to make compresses on poorly healing wounds: half a tablespoon of plantain leaves is poured into 200 ml of water. Boil over low heat for about 10 minutes, let it brew. Take in small sips, half a glass up to three times a day <sup>[6]</sup>.
- Plantain juice is used for asthma, cough, whooping cough, malaria, to cleanse the blood - they drink a tablespoon of juice three times a day. Plantain juice canned as follows: 1 kg of pre-washed and dried plantain leaves is passed through a meat grinder. The juice extracted at the same time is mixed with 1 kg of granulated sugar and 1 liter of water (sugar can be replaced with 1.5 kg of honey). The mixture is boiled over low heat until a thick consistency is obtained, then poured into jars and stored in a cool place. Plantain juice prepared in this way is also useful for a weak bladder, hemorrhoids, anemia and pulmonary tuberculosis.
- For catarrhs of the throat, rinsing with juice from the lanceolate plantain, flowers of forest rolls (Althea officinalis) and larkspur root (1: 1: 1) is used. A tablespoon of a mixture of these juices is diluted with one third of a glass of warm boiled water. Rinse 4 times a day <sup>[8]</sup>.

- As a restorative tea, saturated with vitamins, the following drink is recommended: mix 300 g of plantain leaves and licorice root and 400 g of coltsfoot leaves. Pour a tablespoon of this collection with 400 ml of boiling water, let it brew for a quarter of an hour and take it warm, 100 ml every three hours.
- For the stomach, a collection is useful: combine 100 g of knotweed grass and goose cinquefoil and 200 g of plantain. Pour two tablespoons of this herbal mixture into 400 ml of boiling water and let it brew for 60 minutes. Strained drink is taken three times a day, 100 ml 40 minutes before meals.

In the treatment of chronic bronchial diseases and bronchial asthma, tea is advised: 4 tablespoons of herbal collection from elder flowers, sundew grass, plantain leaves and tricolor violet grass (take 100 g of each ingredient), pour 200 ml of boiling water and infuse for 60 minutes. Strained infusion drink three times a day for a third of a glass <sup>[9]</sup>.

Plantain tea: To make this tea, you will need a cup of crushed plantain leaves, 2 cups of water. Wash the leaves thoroughly and dry. Boil water, pour plantain, leave in a container with a tight-fitting lid and let it brew until completely cooled. Store this tea in the refrigerator. You can add honey to taste. Tea is an excellent tonic. Helps with diarrhea, relieves cold symptoms. It can be used for washing wounds, boils, burns, for treating skin affected by eczema, rashes.

- Plantain ointment: you will need a small bunch of plantain leaves (washed and dried), 120 ml of coconut oil, 15 g of beeswax, a glass jar (1 liter volume). Coarsely chop the plantain leaves, fill the jar with them halfway. Pour the coconut oil into the jar, filling to the brim. Cook the mixture in a water bath, over low heat, for 2 hours. After strain. Add melted beeswax to the filtered light green liquid. To stir thoroughly. Coconut oil and wax help to moisturize the skin, while psyllium helps to heal it. This ointment heals cracks, softens burned and chapped skin. <sup>[10]</sup>.
- In stomach cancer, plantain juice is effective inside: finely chopped fresh plantain leaf is mixed in equal proportions with granulated sugar, insisted in a warm place for 14 days. The resulting juice is taken in a tablespoon three times a day 20 minutes before meals.
- In case of peptic ulcer, an infusion is prescribed: two tablespoons of a mixture of plantain leaves and sage officinalis pour 400 ml of boiling water. Let it brew, drink one-third of a glass three times a day before meals for the first 10 days of treatment. Then 0.5 cups during a course lasting one or two months.
- For constipation and chronic colitis, take a decoction of Indian plantain seeds: pour 10 g of seeds with a glass of boiling water. Drink a tablespoon a day, always on an empty stomach <sup>[11]</sup>.

### Externally:

For the treatment of malignant tumors, compresses are applied from the juice of the plantain large. For rinsing, washing, lotions and compresses, an infusion is prepared at the rate of 50 g of raw materials per glass of boiling water. For purulent skin diseases and skin lesions, an ointment is recommended: 10 g of large plantain leaves ground into powder are mixed with 90 g of petroleum jelly.

Poultices from crushed psyllium psyllium seeds soaked in hot water are used for inflammation of the mucous membrane of the eyes, for skin ulcers, and for cracked nipples of the mammary glands in nursing mothers (poultices are applied to cracks after each feeding) <sup>[11]</sup>.

With inflammation of the eyes and purulent discharge from them, compresses from an aqueous infusion of psyllium lanceolate leaves are recommended.

With a toothache, cotton wool soaked in an alcohol tincture of plantain is put into the hollow of a diseased tooth <sup>[7]</sup>.

### **in oriental medicine**

In China, plantain has long been used as a remedy for intestinal disorders in children. They also used it as a birth aid and attributed to it the power to change the incorrect position of the fetus (with breech presentation, etc.)

In Burma, plantain is used to treat high blood pressure and manifestations of tropical fever.

Avicenna in his practice used both wound healing and hemostatic properties of the plant. He used parts of plantain in the treatment of tumors, non-healing ulcers of a malignant nature, in inflammatory processes in the kidneys and liver, and in eye diseases. The healer recommended psyllium seeds for intestinal disorders and for deep focal lesions of the lungs <sup>[5]</sup>.

### **In scientific research**

In the 18th century, the British explorer and physician, author of the famous "Botanology" (1710), William Salmon wrote about plantain in the Herbal of England ("History of Plants") : *remedy for debilitating cough, lung diseases. It is believed that plantain can be used for epilepsy, dropsy, jaundice, diseases of the liver, spleen ... It relieves the inflammatory process in the eyes ... Plantain juice, buried in the ears, alleviates pain and restores damaged hearing ... Powdered plantain root in equal parts with chamomile relieves toothache. Crushed psyllium seeds stop vomiting, stop epilepsy attacks and convulsions ... An ointment made from psyllium juice and rose oil relieves headaches ...* <sup>[12]</sup>

The Podorozhnikov family is a topical object of study for scientists representing modern medicine.

A comparative analysis of the chemical components and nutrients of the large plantain, lanceolate plantain and medium plantain (growing in the southeastern regions of Spain) is given in a study by J. L. Gil-Guerrero. <sup>[13]</sup>

The work of F. Hassan, A.S. Mansur et al. <sup>[14]</sup>

Hepaprotective and anti-inflammatory functions of the substances contained in the large plantain are described in the article by I. Turel, H. Ozbek, R. Erten and others <sup>[15]</sup>

Biologically active substances, the chemical composition and the use of plantain in medicine are the subject of research by A. B. Samuelsen. <sup>[16]</sup>

I. Stanisavlevich, S. Stozhievich, D. Velikovich and others studied the antimicrobial and antioxidant properties of the extract obtained from the leaves of the plantain. <sup>[17]</sup>

The question of the chemical composition, pharmacological effects, medicinal properties of Asian plantain is covered in the article by K. Liu, K. Wu, H. Huang. <sup>[eighteen]</sup>

The use of plantain in traditional medicine is analyzed in the scientific work of K. Haddadian, M. Zakhmatkash. <sup>[19]</sup>

The study of Olennikova D., Samuelson A.B., Tankhaeva L.M. <sup>[20]</sup>

### **In cooking**

- Plantain smoothie

You will need: one cup of young, freshly picked plantain leaves, two sprigs of mint, a little honey, two cups of almond milk, one banana and one apple. Puree all ingredients in a blender and drink chilled.

Sauce a la "pesto" of onion arrows and plantain

200 g of onion shooters, one small bunch of plantain leaves, half a cup of olive oil, a small handful of walnut kernels. Puree all ingredients and season with salt to taste. You can add some grated cheese. Serve with pasta, fish or use as a sandwich spread <sup>[21]</sup>.

- Pizza with plantain

For the test you will need: 1.5 cups of warm water, 2 cups of flour, 1.5 teaspoons of sea salt, 0.5 teaspoons of dry yeast.

To fill the pizza, you need products: 150 g of mozzarella cheese, 1 tomato, a few plantain leaves, a little olive oil and tomato sauce.

Dissolve yeast in water, mix flour with salt. Combine yeast diluted in water with flour and knead for a long time. Shape the dough into a ball and keep in a warm place for 4 hours. Divide into 2 parts.

Cut the mozzarella into thin slices, slice the tomato, chop the plantain leaves.

Preheat the oven to 280 degrees, roll out half of the dough into a thin layer, bake for 5 minutes, then grease the pizza with olive oil, tomato sauce, put cheese, tomatoes, sprinkle with plantain and bake for another 3 minutes <sup>[22]</sup>.

- plantain salad

To prepare this amazingly tasty dish, you will need: a bunch of plantain leaves, a tablespoon of sesame oil and soy sauce, a clove of garlic and sesame seeds. Rinse the plantain, boil the leaves in salted water for 4 minutes, then dip them in very cold water for a couple of seconds. Season the leaves with soy sauce, sesame oil, sprinkle with crushed garlic and sesame seeds.

- Plantain leaves stuffed with meat and rice

Required ingredients: 400 g ground beef, two cups of boiled rice, one clove of garlic, a bunch of plantain leaves, 1 egg, salt, pepper to taste. Blanch plantain leaves. Mix ground beef, rice, beaten egg, salt and pepper. Wrap the filling in plantain leaves (one tablespoon per leaf), bake in the oven at 160 until cooked.

- Plantain chips

To prepare chips you will need: 2 cups of fresh young plantain leaves, 2 teaspoons of sesame oil, 0.5 teaspoon of ground fennel seeds, 0.5 teaspoon of ground cumin, 0.25 teaspoon of ground ginger, 0.5

teaspoon of salt. Mix all the ingredients, spread plantain leaves, oiled and sprinkled with spices, in a single layer on a roasting pan covered with baking paper and bake for 6 minutes at a temperature of 220 degrees <sup>[23]</sup>.

### **In cosmetology**

Plantain is popular for cosmetic purposes: on the basis of the plant, masks are created for facial skin, decoctions for washing hair, and various cosmetic care products are produced.

Herbal ice tones and rejuvenates the skin: a decoction of plantain is frozen in molds and pieces of such ice are rubbed on the face.

For problematic skin, steam baths with plantain are useful.

Plantain for the face is used in the form of masks. The following mask is suitable for owners of normal skin: steam a tablespoon of finely chopped plantain leaves with boiling water. Squeeze out the infused plantain, mix with a tablespoon of sour cream and egg yolk. Apply the mixture to the face and neck area. Wash off after a quarter of an hour.

Dry skin will favorably accept a mask based on plantain, aloe and sunflower oil: heat 65 ml of oil in a water bath, add two teaspoons of finely chopped plantain leaves, boil for a couple of minutes, pour 0.5 tablespoon of aloe juice into the decoction. Apply the mask with a cotton swab to the face and décolleté. Keep the mask for 20 minutes, then gently wipe your face and wash off the remnants of the mask with warm water.

### **Plantain-based masks for oily skin**

- Face mask of plantain, wild rose, nettle and mint: steam the herbal mixture with 50 ml of boiling water and leave for half an hour in a thermos. Take 2 teaspoons of plantain leaves, rose hips and nettle herb - one teaspoon each, mint - 0.5 tablespoons. Squeeze out the infused gruel and apply on the face and neck. Remove the mask after 20 minutes.
- Plantain helps with comedones (black dots): pour a tablespoon of a mixture of equal parts of plantain leaves, dandelion and sorrel with a small amount of boiling water. Mix the cooled mixture with egg white and apply on the face. Remove the mask from the skin after 20 minutes.
- A mask of plantain, oatmeal and lemon juice cleanses problematic oily skin well. Pour a teaspoon of crushed plantain leaves with one third of a glass of boiling water. Insist for half an hour. Strained infusion pour a tablespoon of oatmeal. Mix softened flakes with a teaspoon of lemon juice. Apply to a cleansed face for a quarter of an hour, then rinse with warm water.
- With increased work of the sebaceous glands, a mask of plantain, starch and kefir is useful. Pour a teaspoon of plantain leaves with 0.3 cups of boiling water. Let it brew, strain. In 0.5 cups of kefir, dilute 1.5 tablespoons of starch. Heat over low heat until thickened. Add strained infusion of plantain to the kefir-starch mixture, mix. Apply the mask to your face with a cotton swab. Wash off with warm water after 25 minutes.

### **Plantain for hair**

The plantain mask strengthens the hair: two tablespoons of plantain leaves pour 0.5 cups of milk in a state of boiling water. Insist plantain in milk for 20 minutes. Rub the paste-like mass into the scalp.

Wrap your head with polyethylene and a towel. After an hour, wash off the mask, thoroughly rinsing the hair with warm water.

Psyllium is used in body lotions, body wraps, whitening and softening cosmetics <sup>[9]</sup>.

### Other uses

Plantain is in demand in the veterinary business: based on the leaves of the plant, preparations are made that accelerate the time of blood clotting in animals, to heal open and festering wounds in them <sup>[3]</sup>.

### Dangerous properties of plantain and contraindications

Patients taking lithium should be aware that the simultaneous use of this drug with psyllium significantly slows down the absorption of lithium, reducing its effectiveness <sup>[24]</sup>.

When using psyllium, the following side effects may occur: a feeling of tightness, squeezing in the chest, an allergic reaction - sneezing, tearing, asthma development <sup>[25]</sup>.

Plantain also has contraindications **for gastritis resulting from increased secretory function of the gastric glands (hyperacid gastritis)**; gastric and duodenal ulcers, **accompanied by hyperacid gastritis** (gastritis with high acidity); and with increased blood clotting and a predisposition to the formation of blood clots <sup>[26]</sup>.

### Botanical description

It is a perennial herb of the Plantain family.

### origin of name

Among the people, the plantain received the names: *traveler*, *tripartite*, *rannik*, *roadside*, *cutter*. The official name of the genus in Latin is **Plantago** (from *planta* - "*sole of the foot*", "*foot*"), referring to the shape of the leaves of the plant, resembling a footprint. It is noteworthy that the American Indians also called the plantain "*white man's footprint*", since this plant was not found there before the arrival of Europeans on the American continent.

### Kinds

Botanists count **158 species of plantain**, among which the most common are:

1. **Plantain large** - the area of growth is very wide. A plant with numerous healing properties, used both in official and in folk medical practice.
2. **Plantain flea** - the species is common in Transcaucasia. Has medicinal value.
3. **Indian plantain (sandy)** - grows in Europe, in northern Africa, in India, in the temperate zone of Asia. The seeds of the plant are used for the preparation of medicinal material.
4. **Plantain lanceolate** is a representative of the flora of the temperate climatic zone of the Northern Hemisphere. Widely used in medicine.
5. **Plantain average** - found in the European region, Siberia, Central Asian countries. Medicinal properties are similar to those of the plantain.



6. **Plantain ovoid** - grows in the Mediterranean regions, in India, Pakistan, Iran, Afghanistan, in the Canaries. Used in medicine.
7. **Kornut 's plantain** is a rare species that can be found in the east of Europe, in Central and Asia Minor countries, in the Caucasus, in the Siberian regions. It is included in the Red Books of a number of regions.
8. **Sea plantain** is a species with an extensive habitat, has found application in cooking <sup>[1]</sup>.

**Plantain is a** perennial herbaceous plant. The rhizome is short, vertical, with multiple filiform roots extending from it. The stems are bare, arrows separated by furrows, from 15 cm to almost 0.5 meters high. The leaves are broadly ovate, with veins-arcs, connected in a basal rosette. The inflorescence is a simple spike on a long petiole. The flowers are small, dim, the fruit is a box. Plantain blooms from late spring to early autumn. The fruits are formed in August, ripen until mid-autumn. Plantain grows in yards, in abandoned areas, in areas planted with weeds, along roads, in clearings, in meadows. One plant produces several thousand seeds, which are distributed in the atmosphere over long distances <sup>[2]</sup>.

### Growing conditions

The method of reproduction is seed. Plantain does not take root well on heavy, structureless, floating soils. With the onset of winter, the plot is plowed to a depth of 0.27 m. The optimal depth for sowing is 5 cm. If sowing occurs in the spring, the seeds must be stratified, and dry seed material can be sown in summer and autumn <sup>[3]</sup>.

Harvesting the leaves of plantain large falls on the flowering period. Leaves are torn off by hand, or harvested with sickles, knives. It is forbidden to pluck the entire outlet, along with the rhizome, since this is a direct path to the "extinction" of the plant in this area. The collected raw materials are placed in a loose, light layer in portable devices. Dry the plantain, spreading it in a thin layer, shaking from time to time. A sufficient degree of dryness is determined by the fragility of the petioles. Plantain leaves can be stored for up to 3 years (if the raw materials were not crushed) or up to 2 years (if the leaves were cut during processing) <sup>[2]</sup>.

### Power circuit

The nutritional value of plantain is that the plant is a food product for numerous species of butterflies.

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### **Plantain - useful properties, composition and contraindications**

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**Abstract.** The article discusses the main properties of plantain and its effect on the human body. A systematic review of modern specialized literature and relevant scientific data was carried out. The chemical composition and nutritional value of the plant are indicated, the use of plantain in various types of medicine and the effectiveness of its use in various diseases are considered. The potentially adverse effects of psyllium on the human body under certain medical conditions and diseases are analyzed separately. Considered scientific basics diets With his application.