



## **Thyme (lat. Thýmus)**

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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 (Liasnotkovye) 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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*Received 10/20/17*

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