



# Hawthorn. Hawthorn flowers and fruits

## Product Images

## Short Description

Hawthorn. Hawthorn flowers and fruits

## Description

### Specification & Spread

Hawthorn flowers — flores crataegi

Hawthorn fruits — fructus crataegi

Crataegus laevigata (common hawthorn) — *Crataegus laevigata* (Poir.) DC. (= *C. oxyacantha* Pojark.)

Blood-red hawthorn — *Crataegus sanguinea* Pall.

Five-seed hawthorn — *Crataegus pentagyna* Waldst. et Kit.

Korolkov hawthorn – *Crataegus korolkowii* (L.) Henry

Green hawthorn – *Crataegus chlorocarpa* Lenne et C. Koch

Dahurian hawthorn – *Crataegus dahurica* Koehne ex Schneid.

Single-seed hawthorn – *Crataegus monogyna* Jacq.

German hawthorn – *Crataegus allemanniensis* Cin.

East Baltic hawthorn – *Crataegus orientobaltica* Cin.

*Crataegus pinnatifida* – *Crataegus curvisepala* Lindm.

Kurzeme hawthorn – *Crataegus x curonica* Cin.

Daugarian hawthorn – *Crataegus x dunensis* Cin.

Rose family — Rosaceae

Other names: mayflower, cockspur, thornapple.

Hawthorn is a large shrub, rarely trees, up to 5-8 m tall, with strong, straight or curved shoots, planted with thick, straight sparse spines of escape origin.

The branches are brown, shiny or grey.

The leaves are simple, petiolate, pinworm or pinnatilobate, rarely whole, more or less toothed.

The flowers are white, fragrant, gathered in corymbose inflorescences.

The fruit is an apple with 1-5 seeds, from yellow to black in different species.

Spreading. Blood-red hawthorn is the most widely spread species on the territory of Russia, has a Euro-Siberian type of habitat, grows in Siberia, the eastern regions of the European part of the country and East Kazakhstan.

*Crataegus laevigata* (common hawthorn) in wild form is found only in Transcarpathia, but it is often cultivated in the European part of the country.

Korolkov hawthorn and green hawthorn - Altai-Central Asian species.

Dahurian hawthorn is common in the southern part of central Siberia, in the Amur region and Primorye.

Single-seed hawthorn grows in Ukraine, the Caucasus and Belarus. In the Caucasus and Crimea, five-seed hawthorn is widespread.

*Crataegus pinnatifida* grows in steppe and forest-steppe regions of the European part of the CIS, in the mountainous regions of the Crimea and the Caucasus.

German, Eastern Baltic hawthorns and two hybrid species - Dahurian hawthorn and Kurzeme hawthorn are found in the Baltic States.

Blood-red hawthorn and common hawthorn are widely cultivated in the shelter belts, roadside plantations, parks as ornamental plants. It is propagated by seeds and shoots.

Habitat. It grows in sparse forests, along forest edges, along river banks, in forest and forest-steppe zones.

## Composition

The flowers and fruits contain:

- flavonoid glycosides, quercetin derivatives - hyperoside (main component) and quercitrin,
- as well as acetylvitexin, vitexin, pinnatifidine.

Of the other phenolic compounds there are marked:

- caffeic and chlorogenic acids,
- tannins.

It is also characteristic the presence of:

- triterpene compounds (ursolic and oleanolic acids),
- amines (choline, acetylcholine),
- carotenoids,
- alcohol - sorbitol.

## Harvesting and storage of raw materials

Harvesting. Flowers. The harvesting of flowers is produced at the beginning of flowering, cutting off corymbose inflorescences scissors. The flowers are harvested at the end of flowering darken when dried. The buds that come across during harvesting do not dry out for a long time and also darken. Hawthorn blossoms quickly, in hot weather for 3-4 days, which must be considered by the suppliers. Usually blooms plentiful, but fruits in significant quantities are not formed every year. It is better to harvest the raw materials in baskets and lay them out for drying no later than 1-2 hours after collection.

The fruits are harvested during the ripening period from the end of September to frosts, cut off the shields with the fruits, put into bags and baskets. The term of fruit harvesting is about a month.

Security measures. It is forbidden to break branches.

Drying. The flowers are dried in a dryer at a temperature not higher than 40 °C. Drying in air dryers, in attics, under sheds and in rooms with good ventilation is allowed, the flowers are laid out in a thin layer on paper. The raw materials are hygroscopic, so the room where it dries, must be closed at night. The fruit is dried in a dryer at a temperature of up to 70 °C. To separate the fruit from the stalk, the sepals and other parts of

hawthorn the raw materials are ground and sifted on sieves.

Storage. The flowers - in boxes, the fruits - in bags. It is stored in a dry, cool, well-ventilated area. The fruits are often eaten by pests.

## **External signs of raw materials**

### **Flowers**

A mixture of whole corymbose, less often umbellate inflorescences and its parts - individual flowers, buds, pedicels, petals, stamens and anthers.

The flowers are regular, with a double perianth, consisting of 5 oblong-triangular, triangular or narrow lanceolate greenish sepals and 5 oval brownish or yellowish-white petals; the stamens are up to 20, with red anthers, there are 1-5 columns; the pedicels are usually bare or slightly pubescent, up to 35 mm long. The diameter of blooming flowers 10-15 mm, the buds - 3-4 mm.

The smell is weak, peculiar. The taste is slightly bitter, slimy.

### **Powder.**

A mixture of particles passing through a sieve with holes of 2 mm diameter. The colour is greyish green with whitish yellow and brown patches.

The smell is weak, peculiar. The taste is slightly bitter, slimy.

### **Fruit**

Apple-shaped fruits, globular to ellipsoidal, hard, wrinkled, 6-14 mm long, 5-11 mm wide, with an annular rim formed by dried sepals, 1-5 woody stones with irregular triangular, oval or laterally compressed form. The surface of the pits is fossa-wrinkled or striated along the back.

The colour of the fruit varies from yellow-orange and brownish-red to dark brown or black, sometimes with a whitish bloom of crystallized sugar.

The smell is absent. The taste is sweet.

### **Powder.**

A mixture of particles passing through a sieve with holes of 3 mm diameter. The colour is from yellow-orange and brownish-red to brown with black or brownish splashes.

The smell is absent. The taste is sweet.

## **Properties and application**

The pharmacological properties of hawthorn

Hawthorn preparations have:

- stimulating effect on the heart and
- however, reduce the excitability of the heart muscle.

Galenic forms of hawthorn possess

- antiarrhythmic activity on various models of experimental arrhythmias.

The preparations of hawthorn in high concentrations expand:

- peripheral vessels and
- vessels of internal organs.

Ursolic and oleanolic acids in hawthorn:

- increase blood circulation in the vessels of the heart and brain,

- lower blood pressure.

In experiments, hawthorn detects cholesterol-lowering properties:

- lowers blood cholesterol,
- increases the amount of lecithin.

### **Application of hawthorn**

Hawthorn preparations are used for:

- palpitations,
- insomnia,
- high blood pressure.

Ischemic heart disease improves:

- functional state of the myocardium and
- coronary circulation.

As a cardiotonic and blood circulation regulating agent, hawthorn preparations are recommended:

- with the initial phenomena of circulatory failure in people in old age,
- in menopausal diseases, thyrotoxicosis,
- with atherosclerosis and neurosis of the heart,
- for the prevention and treatment of disorders of the cardiovascular system.

For insomnia and heart neurosis, a mixture of hawthorn and valerian preparations works well.

### **Contraindications**

Hypersensitivity to the preparation, pregnancy (I term), children's age (up to 12 years).

## **Additional Information**

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| Influence | Antiarrhythmic, Cardiotonic, Hypocholesteremic, Hypotonic, Vasodilatory |
| Apparatus | Cardiovascular  |
| Organ     | Heart, Vessels  |

