

## SIGNIFICANT FEATURES OF SALVIA OFFICINALIS L. FOR MEDICINAL PURPOSES

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### ABSTRACT

Due to its composition, sage has various therapeutic and prophylactic properties, among which the most time-tested are antiseptic and anti-inflammatory. The antiseptic effect of sage is based on the components in its composition, which are called "plant antibiotics" - these are salvin and cineole, capable of restraining the proliferation of pathogenic bacteria and "disarming" them. The anti-inflammatory property of sage is due to the presence of flavonoids, tannins, which help strengthen cell membranes and vascular walls. In addition, sage has an astringent, fungistatic (stops the growth and reproduction of fungi), secretolytic effect (helps with dry cough), helps reduce sweating. Sage contains substances with estrogen-like properties, that is, close to female hormones.

**Key words:** sage, medicinal, property, characteristics, leaf, flower, seeds, planting depth, yield, harvest period

### АННОТАЦИЯ

Благодаря своему составу шалфей обладает различными лечебно-профилактическими свойствами, среди которых наиболее проверенными временем являются антисептическое и противовоспалительное. Антисептическое действие шалфея основано на компонентах в его составе, которые называют «растительными антибиотиками» — это сальвин и цинеол, способные сдерживать размножение болезнетворных бактерий и «обезоруживать» их. Противовоспалительное свойство шалфея обусловлено наличием флавоноидов, дубильных веществ, которые способствуют укреплению клеточных мембран и стенок сосудов. Кроме того, шалфей оказывает вяжущее, фунгистатическое (останавливает рост и размножение грибков), секретолитическое действие (помогает при сухом кашле), способствует уменьшению потоотделения. В состав

шалфея входят вещества с эстрогеноподобными свойствами, то есть близкие к женским гормонам.

**Ключевые слова:** шалфей, лекарственный, свойство, характеристики, лист, цветок, семена, глубина закладки, урожайность, период сбора урожая.

## INTRODUCTION

The homeland of sage is Italy and southeastern Europe (Greece, Albania, the republics of the former Yugoslavia). It has naturalized everywhere. It is not found in the wild in Russia; herbarium specimens are either cultivated or feral plants. It is cultivated in Greece, Italy, France, the Czech Republic, Slovakia, the republics of the former Yugoslavia, Moldova, Russia, Ukraine and other countries. It grows in fields, vegetable gardens, and orchards, both cultivated and feral. Sage is a heat-loving plant; it freezes in severe winters and with insufficient snow cover. It is drought-resistant and does not tolerate excess moisture.

Perennial plant 20-70 cm high. The root is woody, powerful, branched, densely fibrous at the bottom. The stem is straight, branched, heavily foliated, woody at the bottom, herbaceous at the top, tetrahedral, dying off in the upper part in winter, whitish-woolly from long wavy hairs. Leaves of vegetative shoots — stem oblong opposite, 3.5-8 cm long, 0.8-1.5 (up to 4) cm wide, blunt or acute, wedge-shaped or rounded at the base, finely serrated along the edge, wrinkled, lower and middle on long petioles, upper — sessile. Bracts — lanceolate, sessile, several times smaller than stem. Venation reticulate. Leaves densely pubescent, gray-green. Inflorescences are represented by a spike-shaped thyrus simple or branched, with six to seven spaced 10-flowered false whorls; calyx 9-10 mm long, almost halfway incised into two lips; corolla purple, twice as long as the calyx; the style protrudes slightly from the corolla; stigma with two unequal lobes. Fruit is a nut, 2.5 mm in diameter, almost round, dark brown, dry, with four lobes.

The raw material of medicinal sage is the leaf (lat. Folium Salviae) or flowering tops. The first collection is made in September in the year of sowing. In subsequent years, the leaves are collected 2-3 times during the growing season, starting with flowering and ending in September. Sage is harvested by mowing the above-ground mass.

The leaves are dried in dryers, attics, under a canopy. The yield of dry mass is (%): at the first summer harvest - 25, at the last autumn harvest - up to 35. Well-dried leaves are packed in bales and stored in a dry room. Sage is harvested for seeds when the seeds in the lower cups turn brown.

All parts of the plant contain essential oil, the amount of which in the leaves is 1.3-2.5%. The essential oil consists of D- $\alpha$ -

pinene, cineole (about 15%),  $\alpha$ - and  $\beta$ -thujone, D-borneol and D-camphor. The leaves also contain alkaloids, flavonoids, tannins, oleanolic and ursolic acids. The fruits contain 19-25% fatty oil, represented mainly by glycerides of linoleic acid. The yield of essential oil from the tops of stems with leaves and flowers for Crimea is indicated as 0.46%, for Sukhum - 0.32%; it has been established that the yield of oil increases before flowering.

Preparations from the above-ground part (leaves and flowers) of sage have a disinfectant, anti-inflammatory, astringent, hemostatic, emollient, diuretic effect, reduce sweating.

Sage is used in the form of a decoction or tincture - for rinsing the mouth as an astringent and antiseptic for stomatitis, bleeding gums, tonsillitis; in the form of douches - for gynecological diseases.

Inhalation of decoctions or aromatherapy essential oil is recommended for inflammation of the respiratory tract.

Sage is a drought-resistant plant. It is not demanding to the soil, it grows well on dry and loamy soils. Sage is propagated by seeds, seedlings, division of the bush and cuttings. The seeds are sown before winter in November-December, planting to a depth of 2 cm, the width between rows is left 60-70 cm. With the appearance of 4-5 permanent leaves, thinning is carried out, leaving plants at a distance of 40-50 cm. To obtain a high yield in the second and subsequent years, "rejuvenation" is carried out by cutting off last year's shoots in early spring. When sowing in spring, it is necessary to use sprouted seeds [7]. In the first year, the plant develops slowly, in subsequent years the number of shoots increases, they become woody in the lower part, to increase branching, "rejuvenating pruning" is carried out. Caring for sage comes down to regular weeding, loosening the space between rows and fertilizing.

Plantations of medicinal sage used for harvesting leaves give a good harvest for three to four years; under favorable conditions and proper agricultural technology, plantations can be used for up to 5-8 years.

Sage reproduces quite easily, using air layering and semi-woody cuttings. A lush branch fixed to the ground will put out new roots in a couple of months. A branch with roots can be transplanted to a new location by cutting it off from the mother plant. Sage easily crosses, so different types of sage must be planted separately from each other.

In Russia, the leaves of common sage are used as a medicinal raw material. Harvesting is carried out during the summer from cultivated plants. The leaves can be collected manually, 2-3 times during the growing season. During the first two harvests - the lower, most developed leaves, and in the fall - all and even the tops of the leaf-bearing stems. More

often, the collection is carried out mechanically. The grass is mowed with mowers, dried on threshing floors or in dryers, then threshed, the leaves are separated from the stems by sifting through sieves. When using artificial drying, the temperature should not exceed 35-40 °C, to prevent loss of essential oil.

The first collection of leaves from the plant is made in September in the year of sowing. In subsequent years, leaves for drying are prepared during the period of active growth, starting with the flowering period and ending in September, 2-3 times per season. Shoots with leaves and inflorescences are cut at a height of 15 cm from the ground and dried in dryers or under a canopy.

## CONCLUSION

Due to its composition, sage has various therapeutic and prophylactic properties, among which the most time-tested are antiseptic and anti-inflammatory. The antiseptic effect of sage is based on the components in its composition, which are called "plant antibiotics" - these are salvin and cineole, capable of restraining the proliferation of pathogenic bacteria and "disarming" them. The anti-inflammatory property of sage is due to the presence of flavonoids, tannins, which help strengthen cell membranes and vascular walls. In addition, sage has an astringent, fungistatic (stops the growth and reproduction of fungi), secretolytic effect (helps with dry cough), helps reduce sweating. Sage contains substances with estrogen-like properties, that is, close to female hormones.

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