

VERBENA OFFICINALIS L. - MEDICINAL PROPERTIES AND CULTIVATION TECHNOLOGY

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Currently, herbal medicines, along with synthetic drugs, are widely used for the prevention and treatment of various diseases. Every year, their range in the pharmaceutical market is expanding. Due to their mild action, low toxicity and fairly high efficiency, herbal medicines can be used for long-term use, in the treatment of chronic diseases, and also as preventive measures.

A promising object of study in this regard is the medicinal verbena (*Verbena officinalis* L.) of the verbenaceae family. Traditional medicine in different countries uses this plant for medicinal purposes. *Verbena officinalis* is used as a means of normalizing the menstrual cycle, as well as for painful dysmenorrhea, absence of menstruation and postpartum bleeding. It has been proven that the iridoid glycoside - verbenalin has a coagulating effect [1]. Indian medicine recommends the use of verbena tincture as a contraceptive [2]. In folk medicine of different countries, *verbena officinalis* is used as a tonic, expectorant, diaphoretic, cardiotonic, lactogenic agent, for amenorrhea, menorrhagia, liver diseases, spleen, anemia, metabolic disorders, thrombosis, gastric colic, it is applied externally as a wound healing agent for skin diseases [3], as well as for stomatitis, gingivitis, pharyngitis [4].

In Bulgaria, an infusion of *verbena officinalis* flowers is used for exhaustion, loss of strength, anemia, scanty and short menstruation, liver inflammation, as a diaphoretic, antipyretic and sedative; an infusion for gargling and mouthwash is used for gingivitis and stomatitis, a decoction for compresses is used for skin rashes and furuncles [5]. In Slovak folk medicine, *verbena officinalis* is used as an analgesic for headaches and toothaches, as well as for rheumatic ailments [4].

In February-March, place the seeds on the surface of a moistened substrate for flowers in a container with drainage holes. We try to maintain a distance of 3-4 cm between the seeds.

Sprinkle with a thin layer of humus. Cover with film or glass, so less moisture evaporates, and the seeds germinate faster. Place the seedlings in a semi-shaded place. When the seeds begin to sprout (in about a week or two), add light and ventilate the plants daily for 10-15 minutes. It is important not to overdo it with watering, otherwise the plant may get sick with "black leg", water should not get on the tender sprouts. Water along the edge of the pot so that the water flows down the side straight to the bottom. When all the seeds sprout, remove the cover.

These are the gorgeous bushes that you end up with. They need to be carefully released from the container so as not to destroy the lump of earth and not to damage the roots. They are transplanted into a flower bed, having prepared shallow holes, with a depth reserve of 2-3 cm in relation to the height of our container. We take the distance between the holes at 25-30 cm so that the plants have enough space for active growth and development. We install the seedlings vertically, sprinkle with soil, and lightly compact them with our palms. Then we water them generously to thoroughly moisten the soil. But do not flood them, verbena does not tolerate excess moisture. Ideally, a film should not form on the surface, the soil should retain its loose structure. This method is usually used when you need to save a plant you like. Reproduction by 5-8 centimeter cuttings taken from the tops of the branches is carried out in August-September. They are planted in soil consisting of sand and peat taken in equal parts or simply placed in water with a solution of rooting agent. The cuttings should be covered with glass until they take root. As soon as new shoots appear, the glass or film is removed and the top is pinched. The following spring they can be transplanted into open ground.

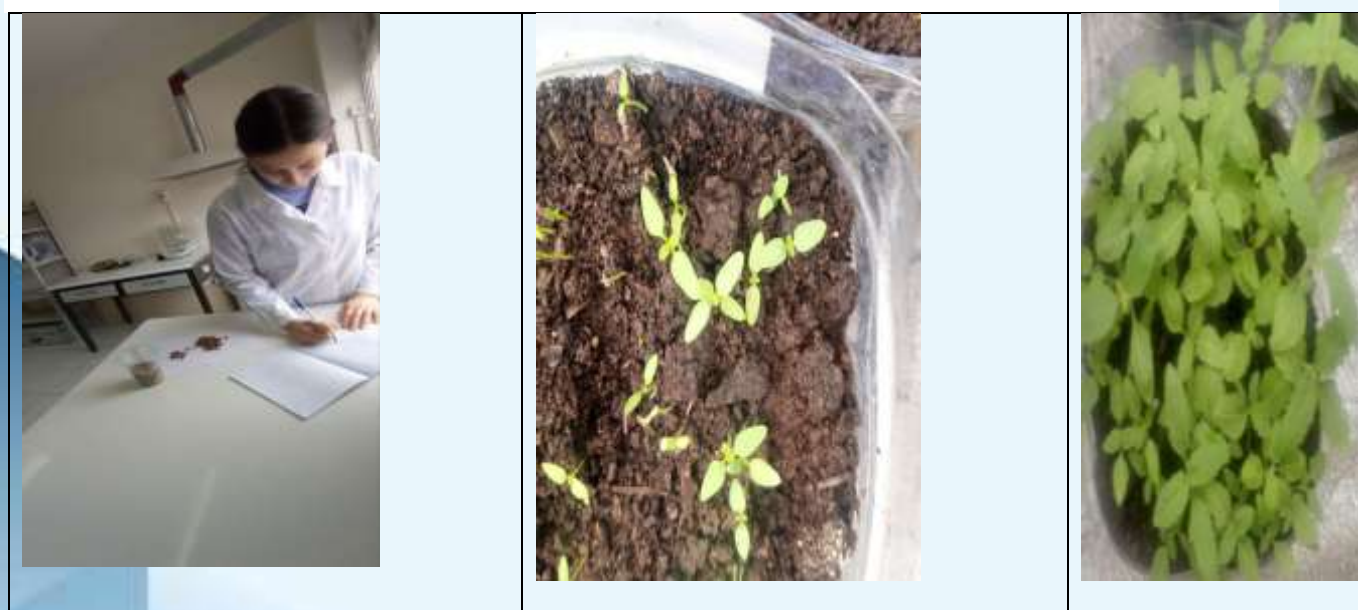
When transferring rooted cuttings to a permanent place, they are first hardened, gradually accustoming them to the open air.

Its chemical composition is rich in flavonoids, glycosides, steroids, tannins, alkaloids and carotene. It contains verbenalin and adenosine glycosides. In addition, it consists of substances such as flavonoids, diglucuronide, glucuronide, pedalitin, galactoside,

scutellaroin glucoside. The plant was planted on March 15. The plant was loosened to a depth of 10 cm before planting. The seeds were sown in a soil mixed with biohumus. Since the optimum temperature for the plant is 20C°, it was planted in a condition corresponding to the external temperature. The plant was rotated to ensure good germination.

The use of verbena dates back to the ancient Greeks and Romans. The herb has long been used in traditional European herbalism for its many beneficial properties, including its use as a bitter nerve. In addition, blue verbena has been used for centuries by Native Americans and later American herbalists for its beneficial properties. Blue verbena is a powerful cooling agent, it is drying in the long term but is generally recognized as a short-term moisturizer. Verbena has a very bitter taste and is often added to a wide range of herbal blends.

I planted the plant from seed in the greenhouse of the Faculty of Biology on 06.03.2025. It started to sprout on 24.03.2025. I watered and fertilized it on time. After it grew fully, I planted it outside on 20.04.2025, when the plant was 15-20 cm tall. At the same time, I carried out agrotechnical measures in the soil. I dug a 60x60 trench and planted my plants at a distance of 20 cm. Today, it is growing well and I continue my experimental work (Figure 1.).





Growing *Verbena officinalis* L.: - Choosing a location: Verbena prefers sunny locations where it receives at least 6-8 hours of light per day. It can also grow in partial shade, but in this case the flowering will be less abundant. - Preparing the soil: Verbena grows well in light, loose soil with good drainage. The soil can be fertilized with organic fertilizers such as humus or compost before planting. - Planting: Verbena seedlings are best planted in spring or early autumn. The distance between plants depends on the variety, but on average 20-30 cm is recommended. - Watering: Verbena should be watered moderately, especially in hot weather. After watering, loosen the soil so that air reaches the roots. - Fertilizing: Verbena should be fertilized several times a season, using fertilizers for flowering plants. - Weeding: Verbena does not like strong weeds, so it is important to remove weeds regularly. - Cleaning from faded inflorescences: Removing faded inflorescences stimulates the formation of new flowers and prolongs the flowering period. - Pruning: In spring, you can carry out sanitary pruning of verbena, removing damaged and dry shoots. - Protection from diseases and pests: Verbena is relatively resistant to diseases and pests, but if necessary, you can use appropriate preparations.

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