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Bioecological Properties of Salvia Officinalis L.

Qodirova Dilbar Normuminovna
Associate Professor of the Department of Primary Education of Termez State University, Candidate of Biological Sciences.
Fozilov Sherzod Musurmonovich\
Basic doctoral student of the National University of Uzbekistan

Abstract: Bioecological and morphophysiological features of Salvia officinalis L. in soil-climatic conditions of Surkhandarya region were studied.

Key words: Salvia officinalis L., growth, development, seed count, fertility, environmental factors.

The ability of Salvia officinalis L. to grow as a plant in Termez conditions indicates that it has a wide ecological range.

Salvia L. belongs to the most widespread family in the world. About 20 species have been identified in Uzbekistan. Dozens of species are used in folk medicine around the world for various diseases. In Latin, "Salvara" means to heal. Most species of the category are used for therapeutic purposes. Its chemical composition includes quinones, essential oils, palmitic, palmitoolein, stearin, olein, linoleic, linolenes and a number of other natural compounds from fatty acids [4]. This means that its wide distribution, wide application, adaptability to different regions and rich chemical composition give hope for the study and innovation of this object.

Growth properties of medicinal herbs. As a result of the growth process of the sapling, young shoots sprout forth from it, which in turn begin to branch, resulting in the formation of a branch of the plant. The rod consists of three parts, the place where the leaf joins is the rod joint, the space between the two joints, the angle formed between the leaf and the stem at the rod joint, the leaf axil is called [1].

The study of seed germination of Salvia officinalis L. was carried out under two conditions: 1. Seed germination under room conditions. 2. Seed germination in field conditions.

In a room environment, 20 mavrak seeds were planted on paper soaked in Petri dishes. The surveys were conducted in 3 different periods: February, March, and April (Table 1.1).

Table 1.1
Fertility of Salvia officinalis L. seeds%
(February, room conditions)

№	Observed days									
						6	7	8		10
germinated seeds,%			1	6	0	11	9	6		1

In February, at room temperature, the seeds began to germinate in 5 days. Seed germination decreased by 2% on the day of germination, maximum germination at 10 days (89%) and after 15 days (1%). Thus, a total of 89% of the seeds germinated under room conditions. Seed germination energy was 15.7%.

The value of the introduced plants is determined not only by the quality of the wood, the level of landscape, sanitary and biological properties, but also by its resistance to heat and cold. Therefore, the relationship of plants to environmental factors in different climatic conditions has been extensively studied. According to scientific sources, the cold tolerance of plants is a genetic trait of the species. The plant's resistance to cold or heat is usually more pronounced in extreme conditions. A number of studies have shown that a plant's resistance to cold or heat also depends on its age. Cold tolerance depends on the geographical origin of the plants. Plants with a wide natural range are also more adaptable and resistant to environmental factors. Frequent winter heat in Termez and cold spring evenings are a serious obstacle to climate change.

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Even in irrigated fields, seed germination rates were relatively consistent with room conditions. The germination rates of seeds sown in irrigated soils in the respective periods were 45%, 39% and 35%, respectively. The low seed germination in field conditions compared to room conditions can be explained by the influence of soil-climate. It is noted that the air and soil temperatures fluctuate sharply during the day. The average daytime temperature is 30-350C, and 12-180C in the evening. This prevents the seed from accumulating the temperature needed for germination in time and prevents the sprout from germinating.

Salvia officinalis L. root growth was checked every 5 days. 5 days after germination, the main root is 1.5 cm long and 0.2 cm in diameter, the seed is 0.3 cm and 0.2 cm, the hypocotyl is 0.3 cm and 0.2 cm, and 0.2 cm and 0.2 cm, respectively. Rapid growth of the root system was detected 20 days after germination.

Phenology of Salvia officinalis L. Seed germination in the field was studied in two different periods: in autumn (20.10.2018) and in spring (25.03.2019). These studies showed that seeds germinated in both variants, but the germination percentage of seeds when sown in the fall was higher than in the spring variant (45-55% and 25-35%, respectively). Variations in the number of flowers were observed in plants of different ages and under different conditions (Table 1.2).

Table 1.2

Growing up in all ages and all walks of life Number of vegetative and generative buds on 1-year-old twigs age (year)	Growing conditions	Average stem length (cm)	Average diameter of stem (mm)	Number of generative buds (1m per branch) Number of vegetative buds (1 m per branch)
5	Not watered regularly gan in soil conditions	87,3+1,93	8,0+0,09	6,3+0,55 38,7+0,71
6	Not watered regularly gan in soil conditions	74,0+0,93	8,1+0,07	15,9+1,04 9,9+0,54
7	Not watered regularly gan in soil conditions	74,1+0,82	8,2+0,32	22,8+0,78 8,1+0,35
8	Not watered regularly gan in soil conditions	84,6+2,56	8,3+0,31	48,5+0,88 5,5+0,42
9	Not watered regularly gan in soil conditions	67,9+2,86	8,6+0,22	51,3+0,94 3,9+0,23
10	Not watered regularly gan in soil	62,7+2,69	8,6+0,25	98,3+1,08 6,9+0,56

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	conditions			
10	Not watered regularly gan in soil conditions	66,0+1,81	8,8+0,16	120,8+0,87 18,0+0,39

Phenological observations are important not only in determining the transition periods of different phases, but also in determining the durability, productivity, landscape of plants, as well as the rhythm of life processes in them. Species from different geographical locations begin the growing season in a specific sequence, depending on how spring arrives. It will be saved no matter what. While temperature is a major factor, this process is governed by genotypic traits that are established in the plant's natural habitat. The rhythmic seasonal development of a plant reflects the historical development of the species under the influence of the external environment. Annual meteorological factors (heat, precipitation, relative humidity, etc.) affect the seasonal development of the plant. Introduction has been noted to be well-adapted to the plant's natural habitat. Different plants start spring vegetation at different times. In many scientific sources, the seasonal growth of plants of one species or another is determined by the sum of the beneficial temperatures.

Healing properties of Salvia officinalis L. The juice from fresh fruits is prescribed for gastric and duodenal ulcers, hypoacid gastritis, spastic colitis, mixed with honey in diseases of the upper respiratory tract. In diabetes, rheumatism, gout, lymph node tuberculosis, cystitis, kidney stones, colds, as well as as a diuretic, currant leaves are prescribed instead of tea. If you drink Salvia officinalis L. with its buds and fruits in wine, you will get rid of it. Sprinkled with sugar, it cheers up and refreshes the soul. [2,3]

Liver disease, hemorrhoids, gynecological diseases, decoction of the flowers of Salvia officinalis L. in the bull is also rubbed. In medicine, currant leaves and fruits have been shown to have anti-inflammatory, diuretic, anti-diarrheal (because they contain astringent) effects, as well as paktins to form mucus and replace the exfoliation. An infusion of the leaves of Salvia officinalis L. helps to remove excess uranium and oxalic acids from the body. Salvia officinalis L. stimulates the cardiovascular system, gastrointestinal tract, increases the body's defenses, reduces capillary permeability and slows down the excitatory processes in the central nervous system. [6]

The leaves and fruits of Salvia officinalis L. are included in various teas. Salvia officinalis L. is often prescribed to people recovering from peptic ulcer disease during various infectious diseases, hypoacid gastritis, hypertension, and even washing the fruit and eating it wet to 100 gm [3] from the leaves of currant and its young branches Children suffering from skin tuberculosis, syphilis and diathesis are immersed in the prepared decoction. Salvia officinalis L. Fruits or fruit decoctions are useful in heart, kidney, gastrointestinal diseases, as well as a diaphoretic and diuretic [5].

A tincture made from the leaves of Salvia officinalis L. relieves urinary drive and kidney stones. In medicine, black currant fruit and leaves are used to treat eczema, joint pain, boils, kidney stones, cystitis, colds. In case of vitamin C deficiency, anemia is regularly consumed in enterontolitis Patients with hypertension are advised to consume 200-250 g of fresh fruit of black Salvia officinalis L. daily. In anemia anemia it is recommended to consume fruit and juice regularly. are given. Patients with diabetes are advised to consume as follows: 1 tablespoon (20 g) of dried black currant leaves in the shade soak in 1 cup boiling water for 15-20 minutes and consumed 3-4 times a day before meals.

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