

**GROWTH AND DEVELOPMENT OF SALVIA OFFICINALIS L AT  
DIFFERENT PERIODS OF ONTOGENY**

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**Abstract:** in the article, the seed structure of the essential oil plants belonging to the *Lameaceae* family (*Salvia officinalis* L.), the time taken for seed germination and ontogenesis stages are described.

**Keywords:** latent, yuvinil, flower, leaf, salvia, twig, hypocotyl.

*Lameaceae* Lindl. - among the plants of the mint family, which are distinguished by the quantity and quality of essential oil, medicinal lavender and thin-leaved lavender plants do not occur naturally in the flora of the Republic of Uzbekistan. However, in recent years, scientists of our country have been conducting a number of scientific researches on acclimatizing these plants and organizing their plantations. In particular, the growth and development, bioecology, biomorphology, antecology of the *Salvia officinalis* plant were studied in the northern and southern regions of Surkhandarya region. [1,2,3].

The dormant period of the seeds is called the latent period, and the seeds of the medicinal mavrak retain their germination properties for 7-8 years. Fertilization of seeds is high in the first 3 years, and decreases from 4 years.

The virginal period includes grass, juvenile, immature, and mature virginal stages.

The grass stage is the stage from seed germination to the full set of cotyledon leaves and to the formation of the initial stem. The seeds planted in the open ground in the third ten days of February 2022 began to grow on the surface of the earth after 7-8 days. The hypocotyl of the grasses is dark green in color and

8.6±0.4 mm long. The seed coat comes out of the ground along with the seed coat (Fig. 1).



**Figure 1. 1-3 day old plants of *Salvia officinalis***

Grass consists of two types of green leaves and a root system. The length of a one-day seed leaf is 3.3±0.4 mm, width is 2.9±0.2 mm. The length of the main root is 1.5-3 cm, and the first side root begins to form. The roots formed from the day of germination of the seeds grow quickly and help the lawns to be firmly established in the soil and to provide them with moisture. The grass stage lasted 8-10 days in the plant's life.

In the vegetative stage of medicinal plant development, the height of a week-old plant reaches 3±0.5 cm, and a real leaf is formed in the plant. The length of the main root is 2.5–4.2 cm, and it produces up to 3–4 lateral roots (Fig. 2).



**Fig. 2. 1-week-old plant and initial leaves of Medicinal Mavrak**

The cotyledon leaf stops growing when it reaches 7 mm in width, 5.5 mm in length, and 5 mm in girth. The juvenile stage included 20-25 days of plant life. Immature stage - a 20-day-old plant reaches a height of  $9.9 \pm 0.2$  cm and has 5 pairs of leaves. At first, from the first and soon from the second joint, the first-order branches begin to form, and the plant passes into the immature stage. By this time, the length of the main root reaches 10-11 cm, and secondary lateral roots begin to develop [4].

The generative period is the period from the budding of the plant to the ripening of the fruit, and it enters the generative phase from the second year of the plant's vegetation (Fig. 3).

In plants, the generative phase begins in the second decade of March of the second year of life. In the second year, a flower is formed at the tip of the main stem and at the tip of the initial first-order branches, and in the third year at the tip of the second-order and initial third-order branches. Two-year-old plants produce 6-12 inflorescences, three-year-old plants produce 80-160 inflorescences.



**Fig. 3. The generative phase of medicinal mavrak**

## **REFERENCES**

1. A.M. Begmatov, B.S. Oralov "Determination of the fertility of *Lavandula angustifolia* Mill and *Salvia officinalis* L. seeds in laboratory conditions" Khorezm Mamun Academy, 2022. - 222 p
2. A.M. Begmatov, M.N. Bachchaboyeva Growth characteristics of salvia (*salvia officinalis* l.) and nutmeg (*salvia sclarea* l.) / International scientific-online conference: Intellectual education technological solutions and innovative digital tools / Vol. 1 No. 5 (2022): pp. 423-425
3. B. Yo. Tokhtaev, E.T. Ahmedov Cultivation and breeding of medicinal plants, book 41, 2021. 112 p
4. M.R. Nasriddinova. "Lamiaceae lindl in Karshi oasis. introduction of some medicinal plants belonging to the family". Abstract. Against - 2023

## **РОСТ И РАЗВИТИЕ *SALVIA OFFICINALIS* L. В РАЗНЫЕ ПЕРИОДЫ ОНТОГЕНЕНИЯ**

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