

**BIOLOGICAL CHARACTERISTICS OF ORIGANUM VULGARE L.**

Boboeva Kh. B.

Samarkand State University of Veterinary Medicine,  
Livestock and Biotechnology 77 Mirzo Ulugbek Street, Samarkand

Begmatova M. Kh.

Samarkand State University of Veterinary Medicine,  
Livestock and Biotechnology 77 Mirzo Ulugbek Street, Samarkand  
Maloxat\_begmatova@mail.ru**ANNOTATION**

The Samarkand region is part of the Dalian family of Hypericaceae (Morphological characteristic of *Hypericum perforatum* L) and synergism of seeds in Akdarya region of Samarkand at the experimental of Samarkand Agriculture Institute and ecology, botany and plant physiology laboratory, and the following results achieved.

**Keywords:** Perennial, fragrant, erect, branched, hairy, quadrangular, oblong, ovoid, sharp-pointed, flat-edged, thyroid inflorescence, rhizome, walnut.

**INTRODUCTION**

Currently, more than 100 species of medicinal plants are used in medical practice, which is 2.5% of the species present in the flora of Uzbekistan, while in the territory of the republic there are at least 1557 species of medicinal plants. Large growths are known and have been used in medical practice in Central Asia and neighboring nations. Every year, about 121 wild medicinal plants are included in quota orders by pharmaceutical companies and other nature users, including Red Book and endemic species.. Therefore, inventory of common medicinal plants, registration of their reserves, search for ways to use them sustainably is a very topical issue [4,5].

The leadership of the republic is taking measures to effectively use medicinal plants. For example, the Decree of the President of the Republic of Uzbekistan No. PF-4947 of February 7, 2017 "On the Strategy of Actions for the Further Development of the Republic of Uzbekistan", PF-5032 of May 3, 2017 Decree on the Establishment of Free Economic Zones "Kus-Farm", "Zomin-Farm", "Kosonsoy-Farm", "Syrdarya Farm", "Baysun-Farm" and "Parkent-Farm", No. PF-5229 of November 7, 2017 Management of the pharmaceutical industry Decree "On measures to radically improve the pharmaceutical industry", No. PP-2911 of April 20, 2017 "On measures to create favorable conditions for the rapid development of the pharmaceutical industry of the Republic" Resolution of the Government of the Republic of Uzbekistan dated April 10, 2020 No. PK-4670 "On measures for the protection, cultivation, processing and rational use of available resources of wild medicinal plants" No. PP-4901 of November 26, 2020 "On measures to expand the scope of scientific research on the cultivation and processing of medicinal plants, the development of their seed production" It was accepted [1,2,3].

This decision is aimed at conducting research on the development of rare and endangered wild medicinal plants in the country and their reproduction in order to increase the number of existing species. aimed at expanding the death toll.

Uzbekistan's natural climate and soil conditions are favorable for the growth of this unique coca. This plant, which has unique medicinal properties, is declining in nature. Studying and preserving its features is one of the important tasks facing industry professionals.

There are many types of medicinal plants in our nature. One of such promising plants is *Origanum vulgare* L. Unfortunately, there are not enough scientific researches in the field of studying the biological properties of this plant, its cultivation technology, chemical composition. *Origanum vulgare* L. Peppermint belongs to the family Labiatae. A perennial herb, 30-60, sometimes up to 90 cm tall. The stems are several, erect, the upper part is branched, hairy and four-sided. The leaf is simple, oblong-ovate, with a sharp tip, straight-edged, and is located opposite the stem with a band. The flowers are small, 2-3 in the axils of the leaves, forming a thyroid inflorescence. Thyroid inflorescences form a peduncle at the end of the stem. The fruit is four nuts combined with a corolla. It blooms from June to September [7,8].

### GEOGRAPHICAL DISTRIBUTION

Occurs in the Caucasus, in the southern districts of Siberia, and partly in some districts of Kazakhstan and Kyrgyzstan. It grows in dry, open meadows, on dry forests and forest edges, on hills, cliffs, rocks and bushes. Tograikhan, in particular, grows and prepares in Ukraine, Belarus, the North Caucasus, in the central districts of the Volga region.

### APPEARANCE OF THE PRODUCT

The finished product consists of a mixture of leaves and flowers. The leaves are short-banded, elongated, ovate, sharp-edged, smooth-edged, or indistinctly toothed, dark green on the upper side, gray-green on the lower side, 1-4 cm long. The petals are ovoid and dark purple. The flowers are small, bright red, the petals are bell-shaped, five-toothed, with white hairs in the mouth, the petals are two-lipped, the father is 4, the maternal node is four-lobed, located at the top.

The leaves and petals have essential oil glands. According to XI DF, the moisture content of the product is 13%, total ash is 10%, dark and brown plant fragments are 7%, stem and side horn fragments are 40%, organic compounds are 1%, mineral compounds are 1% and for shredded products Large parts that do not pass through a sieve with a diameter of 7 mm should not exceed 10% and small parts that pass through a sieve with a diameter of 0.5 mm should not exceed 10%. The product has a unique fragrant smell and a more pungent pungent taste.

### CHEMICAL COMPOSITION

The product contains 0.12-1.20% of essential oil, additives, ascorbic acid (166 mg% in flowers, up to 565 mg% in leaves) and phenolic carboxylic acids. According to XI DF, the content of ether oil in the product should not be less than 0.1% (0.08% in the shredded product).. The essential oil contains up to 44% of phenols (thymol and carvacrol), 12.5% of bicyclic and tricyclic sesquiterpenes, 12.8-15.4% of pure alcohols and 2.63-5% of geranylacetate.

To be used. In medicine, drugs made from turmeric are used in diseases of intestinal atony (loosening, weakening of the intestine), as well as as an appetite suppressant and digestive aid. In addition, it is also used as an expectorant and diaphoretic agent. Essential oil is used to relieve toothache.

Medicinal products. Infusions, products are included in teas, which are used in diaphoretic and chest diseases [7].

## RESULTS AND ANALYSIS

Seed germination in laboratory conditions N.N. Kuleshov (1963) identified the method [6,9]. To determine the germination energy and efficiency of the seeds, 100 seeds were sown in petri dishes and grown at 5-10, 15, 20, 25, 30° S. Each experiment was set in 4 repeats. It is recommended to study the biology of seed germination, as E.I.. According to Proskoryakov (1952), the optimum temperature for the germination of the seeds of each plant is of great importance. Scientists studying the origin biology of Ryan, Keuruk, and Saxaul seeds have also come to the same conclusion. *Origanum vulgare* L. Plant seed germination biology in the laboratory laboratory. T.. Rabotnov (1960) turned to the methodology. *Origanum vulgare* L. 100 seeds from the plant and grown in a petri dish. The experiment was repeated four times. According to the data (2020, I.Khamdamov, H. Boboeva), the results are presented in Table 1. It is important to study the laws of its individual development (ontogenesis) in order to grow each new plant that is introduced.

The seeds of *Origanum vulgare* L. are dark brown in color, very small elongated, 1.1-1.3 mm long and 0.4-0.5 mm wide. The weight of one thousand seeds is 0.11-0.12 g.



Figure 1 . *Origanum vulgare* L. germination of seeds

The study of the ontogenesis of *Origanum vulgare* L. revealed that their seeds have high germination properties and do not require scarification or stratification before sowing. Our experiments show that the seeds begin to germinate in 10-12 days under laboratory conditions. On days 14-16, the leaves of the seed pods stick together and appear yellow (Figure 3.1).. To determine the germination capacity of *Origanum vulgare* L. seed, the experiment was placed on a petri dish on 20 October. 100 seeds were planted on each petri dish. The experiment was



performed in four repetitions. Seed germination capacity was studied at 5, 10, 15, 20, 25, 30, and 35°C temperatures

*Origanum vulgare* L. Study of the germination power of seeds shows that seeds sown in laboratory conditions begin to germinate in 10-12 days. Germination capacity depends on the temperature, the lowest temperature was observed at 5°C, and on the 15th day 7.5 seeds germinated. It was found that this indicator changes in a positive direction with increasing temperature.. For example, at 10°C, germination was observed on the 14th day after sowing at 10.8%. This figure is 11.7% on the 10th day at 15°C, 52.7% on the 8th day at 20°C, 28.4% on the 12th day at 25°C, 15.7% on the 13th day at 30°C and 14 days at 35°C. , Was equal to 7%. Thus, the germination period of *Dalachai* seeds was 10-12 days, and the maximum germination capacity was observed at a temperature of 20°C.

The germination of *Origanum vulgare* L. seeds was studied under the influence of different temperatures. Production temperature is an important environmental factor in seed germination. In a Petri dish, 100 seeds were separated to produce quality seeds. The experiment was performed in 4 repetitions. Of seeds 5°C, 10°C, 15°C, 20°C, 25°C, 30°C and 35°C at room temperature. It took many days for the seeds to germinate at 5°C, and on the twenty-fourth day they began to germinate, and out of a total of 100 sown seeds, only 11.3 sprouted at the end. The resulting tumor was also weak. In the following days, no seed germination was observed at all. As the temperature rose, so did the number of seeds sprouting. In other words, the maximum germination rate at 10°C was observed on the thirteenth and fourteenth days, and 10.1 and 6.3 seeds, respectively, were observed. At the end of the experiment, the total number of germinated seeds was 30.5 or 30.5%.. At a temperature of 15°C, this figure was 11.3 on the tenth day after sowing and 9.1 on the twelfth day, for a total of 56.3 or 56.3% of the seeds germinated. When the temperature increased and the number of germinated seeds increased and they were sown at 30 °C, 8.3 seeds germinated on the thirteenth day, while on the fourteenth day 15.2 seeds germinated and did not germinate in the following days. *Origanum vulgare* L. It was determined that the optimum temperature for seed germination was 20°C. In this variant, 6.4 seeds were sown on the sixth day, 52.3 on the seventh day, 9.3 on the eleventh day, and 6.7 on the thirteenth day. he said. At 35°C, 9.3 seeds germinated on the fourteenth day and 1.3 on the fifteenth day.. At this level, the seed germination process was not observed in the following days. At 35°C, on

the fourteenth day, 9.3 seeds germinated, and in 7-8 days, the seeds germinated and rotted. Thus, it was found that even high temperatures have a certain physiological effect on the germination of seeds. It should be noted that at a temperature of 35°C, mold was observed in the seeds. At the above temperatures, the seeds germinated completely within 8-16 days after sowing (Table 1).

In general, the experiment showed that the average germination of *Origanum vulgare* L. seeds was at an average temperature of 20° - 25° S, and the optimum temperature was 20°C, and when below or above this temperature, the rate of germination decreased.

## CONCLUSIONS

Therefore, our conclusion from the experimental results is that the gross germination of *Origanum vulgare* L. seeds reached a peak of 88.9% at 20°C *Origanum vulgare* L. is a promising

medicinal plant.. Therefore, we aimed to find ways to cultivate this plant as a cultivated plant while conserving its natural resources and using it effectively in improving public health. Currently, experiments are being conducted in Samarkand region to determine the biological properties of the seeds of this plant and the technological elements of cultivation

#### 1-thirs Fertility of *Origanum vulgare* L. seeds (%) (n = 4)

Sowing time	Days of seed germination	Temperature ° S						
		5° S	10° S	15° S	20° S	25° S	30° S	35° S
20.10.2020й	2.10.2020	-	6,1	31,7	67,1	13,7	5,5	-
	12.10.2020	10,6	24,4	24,6	21,8	49,6	35,2	10,6
	Jami	10,6±0,66	30,5±1,87	56,3±1,87	88,9±2,10	63,3±1,48	40,7±1,78	10,6±1,56
	%	10,6	30,5	56,3	88,9	63,3	40,7	10,6

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