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CAPSELLA BURSA-PASTORIS (L.) MEDICAL. BIOECOLOGICAL FEATURES OF THE PLANT

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Abstract:

Planting and care. It prefers sunny or semi-shaded areas with soil rich in nitrogen and humus. If it has not yet spread in the garden, it can be planted without any problems. From March to April, in the open air, sow Capsella bursa-pastoris seeds over a large area, apply light pressure to the soil, and they will germinate within a week. It is easy to care for; the wildflower does not require additional watering or pruning. If the soil is at least moderately fertile, additional fertilizer is not required. Otherwise, the soil can be improved with plant nutrients that provide nitrogen for viable, lush green leaves and healthy plant growth[1]

Keywords: Planting and care

INTRODUCTION

Capsella bursa-pastoris (L.) Medic. It is an annual herbaceous plant, 25-80 cm tall, with an unbranched stem covered with simple, fine hairs. The leaves are oblong-lanceolate, surrounding the stem at the base. The flowers are yellowish. Pods are arranged in a raceme. *Capsella bursa-pastoris* is used in medicine as a hemostatic agent[1].

Planting and care. It prefers sunny or semi-shaded areas with soil rich in nitrogen and humus. If it has not yet spread in the garden, it can be planted without any problems. From March to April, in the open air, sow Capsella bursa-pastoris seeds over a large area, apply light pressure to the soil, and they will germinate within a week. It is easy to care for; the wildflower does not require additional watering or pruning. If the soil is at least moderately fertile, additional fertilizer is not required. Otherwise, the soil can be improved with plant nutrients that provide nitrogen for viable, lush green leaves and healthy plant growth[1]

RESEARCH METHODS: The duration of the experiment was determined using the laboratory experimental method and the field experimental method, phenological observation, comparison, mathematical measurement, and statistical processing of the obtained results.

In the laboratory experiment, seed germination was conducted in accordance with the methodological indicators. The seeds were grown in Petri dishes at different temperatures. Leaf growth was observed in seeds growing along hypocotyl clusters. The cultivation of seeds in the field area is established by the experimental plot, and seeds can be sown for various purposes and at established depths[1].

Phenological observations of the rhythmic development of the introduced plants were conducted according to the methodology of I.N. Baideman.

The morphological characteristics of the vegetative and generative organs were arranged using the methodological manuals of I.G. Serebryakov, A. Fedorov, and others. Observation of the propagation of plant seeds was carried out in the laboratory in Petri dishes with the seeds soaked in water in their natural state. In field conditions, under various conditions (black soil and humus-rich soil), the sowing of seeds was studied based on 4 repetitions. The following bioecological observations, measurements, and calculations were conducted at the field experimental site.

An annual herbaceous plant reaching a height of 20.0-60.0 cm. The stem is single, erect, and branched. The root forms the axial root system. Leaves are entire, acute-triangular; basal leaves are oblong-lanceolate, edge-edged; stem leaves are sessile, and basal leaves are petiolate and attached to the stem. The flowers are umbellate, white, gathered in a raceme, 0.25 cm long. There are 4 sepals, 4 petals, 6 stamens, 4 segments in one ring, and 2 segments in the second ring; the pistils are 1 and are formed by the fusion of 2 carpels[1,3].

Experiments conducted under laboratory conditions on the laboratory seeds of the Capsella bursa-pastoris plant (Table 2) 20. For day 03.2023, we began by determining the vegetation of the household plot on the experimental plot (20.04.2023) under field conditions (01.05.2023) (Table 5). To do this, first:

- Seeds of the Capsella bursa-pastoris plant (seeds harvested in 2023) were selected.

For the experiment, 4 Petri dishes were thoroughly cleaned, and labels were prepared and hung[1].

Then, 3-5 ml of water was poured into the Petri dish using filter paper. It is necessary to ensure that the volume of water does not increase.

In this case, seed germination was observed. The cups must not dry up.

The germination of the seeds of the jaw-jaw plant was observed at various temperatures. In a Petri dish, 50 seeds were counted for each analysis and repeated 4 times (Table 1).
In this case, the seeds were placed in a Petri dish in two variants (in their natural state and soaked in water).
In each variant, the initial and final germination of seeds and the number of seeds were determined separately, and then the average was recorded as a percentage.
The optimal temperature for seed germination in Petri dishes is +20...+22°C, where the seeds begin to germinate in their natural state within 6–10 days, and after soaking in water, within 3–8 days[1,2].

1-Table

Seed germination of the *Capsella bursa-pastoris* plant under laboratory conditions (2023)

№	Variants	number of seeds	Time	Germination %	
			planting	sprouting	
1	Seed in its own form (control)	40	20.03.	25	62,5 %
2	Soaked in water	40	20.03.	31	77,5 %

In the experimental field on April 30, 2023, it was moved to a depth of 25–30 cm using specialized equipment. On May 5, 2023, an experimental plot was prepared for sowing seeds (Table 1).
On May 8, 2023, seeds were sown with a distance of 60–70 cm between the stems and 20 and 30 cm between the plants. Sowing depth is 1–1.5 cm.
Seed germination was studied under various plant conditions. At the same time, seeds sown on the experimental plot on April 24, 2023, sprouted on May 15.
In this case, budding occurred on 22.06.2023, flowering on 03.07, and fruiting on 23.07.2023, with a total vegetation period of 90-95 days.

I planted it on May 1, 2023, to study it on the household plot, and it sprouted five days later. Budding occurred on July 18, while flowering occurred on June 26, 2023, and some fruits were observed on July 30, 2023. The vegetation period of the entire plant lasted 90-95 days.

The height of the jaw-jaw plant is 60-70 cm, and the root system can reach a soil depth of up to 10-15 cm (Fig. 9). If it is necessary to plant a plant on a large area, it is advisable to take into account the plant planted on that field before it. The fields are cleared of all weed roots, and a plowing depth (20-30 cm) is established, taking into account the root system (Capsella bursa-pastoris does not tolerate weeds). In Uzbekistan, one species (Capsella bursa-pastoris (L.) Medic.) are found. Hairy, sometimes glabrous, with a simple or branched stem, Achambiti is very widespread in the wild (not found only in the northernmost and arid regions—desert, Arctic); it grows in meadows, gardens, roadsides, in populated areas, as a weed in fields, and on other lands.
In spring, our people cook green samsa and dumplings from the young leaves of Capsella bursa-pastoris with the leaves of mint, spinach and other wild plants.For three months after winter, when the body needs vitamins, organic acids, minerals, enzymes and other substances, it is important to use Capsella bursa-pastoris leaves in food. Biologically active substances necessary for the body can be obtained from the young leaves of early spring-grown plants, including the Capsella bursa-pastoris leaf. St. John's wort stimulates appetite, improves gastric juice secretion, and has a mild laxative and choleretic effect. St. John's wort seeds are used as a food spice instead of mustard and pepper. The aerial part contains sugars, flavonoids (diosmine, etc.), organic (lemon, apple, fumaric, tartaric) acids, essential oil, saponins, vitamins C, B2, and K, carotene, inositol, choline, acetylcholine, tannins, and other substances. The seeds contain up to 28% fat and a small amount of the glycoside synyrin. The Capsella bursa-pastoris plant has long been widely used in folk medicine to treat various diseases. Ibn Sina also used it in his time.

Capsella bursa-pastoris is mainly used for various types of bleeding (maternal, gastric, pulmonary, kidney, nasal, and wound bleeding, hemorrhoids). To stop bleeding from wounds, scratches, and the nose, a freshly picked leaf is crushed and applied to the bleeding area. The herbal infusion stops internal bleeding. For this purpose, as well as for fever and diarrhea, the infusion is given to drink. Because it contains choline and acetylcholine, Capsella bursa-pastoris has a hypotensive effect that lowers blood pressure, and because it contains vitamin K, it accelerates blood clotting and, as a result, stops bleeding.

Therefore, an infusion and liquid extract prepared from the jaw-jaw plant are used in scientific medicine as a hemostatic agent in obstetric (to stop postpartum bleeding) and gynecological (for severe and prolonged menstruation) practice.

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