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SEEDS SIMILARITY OF KOCHIA SCOPARIA L. IN THE CONDITIONS OF KARAKALPAKSTAN

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Abstract:

In the literature, phytomeliorative works are carried out in order to improve both the natural pasture and fodder base in the desert conditions, the use of local plant resources for this purpose, and the cultivation of new plant species.The genus Kochia scoparia L. Schrad (sipse) has not been studied in our Karakalpakstan. The laboratory coagulation of the kochia we studied was 93.3%. The seeds of broom kochia (Kochia scoparia L.Schrad) germinate quickly due to their small size, they germinate 40% in 24 hours, and we found that they germinate completely in three days. According to the shelf life of seeds of Broom kochia (Kochia scoparia L. Schrad), their coagulation is 66.5 after 18 months, 80.2 after 12 months and 94.3 after 4 months.
With the decrease in temperature conditions, the blueness of the seed decreases. In 2021, the blueness of kochia seed harvested was 92-94% at 250S, the blueness of kochia seed at low temperatures (+ 7 + 90) was 80-84%, and the fat content was 10% lower. The seeds were bent in both October and December 2019. The germination differed little from each other in their lightness. Fruit bent seeds did not work. Through these studies, the left hemisphere was identified, with an average depth of planting of 0.5-1 cm.

Keywords: Germinating capacity, seed germination, embryo, cotyledon, root, shoots, fruit, seeds, scarification, seed stratification, growth and development, sowing, wild plants, ovary, seed viability, shelf life, at room temperature, percentage of germination, seed survival, soil germination, sowing time.

Broom kochia (Kochia scoparia L.) is a species of cochlea, a perennial herbaceous plant belonging to the genus Shenopodiaceae. [4].

Kochia grows wild in the Caucasus, in the south of Russia, in the south-western part of Siberia. It is widespread in China, India, Central Asia, the Mediterranean, Crimea, the Carpathians and elsewhere. Its homeland -China.

It is a very hardy annual plant. Straw and its limbs were bent and looked up. The upper bouts featured two cutaways, for easier access to the higher frets. The leaves are flat, lanceolate, obtuse, spreading on the stalks at the base of the leaves, with or without trichoma, and on one side trichoma.

Pastel is spread, spike-shaped. The flowers are small, usually 1-2-5 /, located in the forearms. The flower is covered with short, winged growths in front of the cerebellum, which are lined with lashes along the sides and have convex sections. The edges are not developed in the analytic flowers. The flower is covered with short, winged growths in front of the cerebellum, which are lined with lashes along the sides and have convex sections. The edges are not developed in the analytic flowers. The neck is 1.5-2 mm long and the brain is shaped [5]. The fruit is round, crushed, and arranged horizontally in a flowerbed. The cerebral cortex is thin and smooth. If the brain is not patchy, it is grayish-brown.

Broom kochia (Kochia scoparia L. Schrad) is found in gardens, on the sidewalks, and in semi-deserts [2]. It is widespread throughout the world and occurs in the GMA: the Caucasus, Crimea, Zavolzhye, Lower Volga, Don, Central Asia, western Siberia, the Far East; Occurs in Western Europe, Central Europe, Central Asia, Iran, Mongolia, China, Japan [5] and other countries.

Broom kochia (Kochia scoparia L. Schrad) is found in almost all regions of Uzbekistan [1].

In broom kochia, the root system grows into a white root, which grows deep into the ground. One of the distinctive features of kochia is that it has a strong beak. The seeds are very small, they are collected in a kochia ball flower. We set ourselves the goal of researching the medicinal, forage, forage and ornamental nature of the plant, along with the genus Kochia scoparia L. Schrad [6].

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In the laboratory, the growth and development of the breed were studied according to the methodological guidelines of MK Firsova, MG Nikolaeva [1] and others. The seeds were sown in a petri dish at any temperature. Studies have been conducted on the width and length of the hypocotyl, the proportion of seeds, and the shape of the leaves during the growth of the plant. The coagulation of the seed in soil conditions was studied at different times and at different depths.

In the desert conditions, phytomeliorative works are carried out in order to improve both the natural pasture and the fodder base, using local plant resources for this purpose, and the cultivation of new plant species. When cultivating wild plant species, it is necessary to study the greenness of the seed.

Temperature is an important factor in seed germination, which is closely related to the biological and ecological characteristics of the plant and is of great importance in the formation of life forms. The temperature requirements of wild-growing plant species may vary, and the greenishness of the seed may not be the same in all species distributed in the wild. Indicators of freshly harvested seeds from the cultural zone are slightly higher than those of seeds collected from desert areas, because the amount of fat in the cultural zone is relatively high, ecologically high.

The genus Kochia scoparia L. Schrad (broom kochia) has not been studied in Karakalpakstan. First of all, we studied the laboratory coagulation of broom kochia (Kochia scoparia L. Schrad) in the first stage.

Our study is aimed at determining the temperature dependence of seed germination, which is of great importance, firstly, in the cultivation of kochia, and secondly, in determining the optimal time for sowing.

Sprout in the laboratory. In order to determine the laboratory viability of broom seeds in the laboratory, we collected broom seeds growing in the autumn of 2020 around the town of Nukus (in the gardens, on the sidewalks, from the growing places along the road). On April 5, 2021, we experimented three times by placing 100 seeds in a Petri dish at a room temperature of 18-23^0 C (Fig. 1), its velocity, along with the number of times the temperature and heat demand were monitored, the laboratory temperature was 93.3%.

Figure 1. Germination of broom kochia (Kochia scoparia L.Schrad).

The seeds of broom Kochia scoparia L.Schrad) are small, germinate quickly and have the ability to germinate, germinate 40% in 24 hours, and we found that they germinate completely in three days.

Germination in the field. We have conducted experiments in different years to determine the greenness of the kochia plant. In October-December 2019, as well as in March 2020, experiments on the study of the coagulation of seeds collected from the cultural zone (from the sown area) in 2019 were carried out on a side plot. Of the seeds harvested in 2020, the fall yield was 94.2 percent, while the spring yield was 90 percent. From the number of seeds in the field, it is possible to determine their norm, the amount of seed sown and the number of seeds per unit area.

We studied the effect of broom kochia (Kochia scoparia L. Schrad) on the survival of the species in February 2021, during the duration of each species.As the duration off storage of broom kochia (Kochia scoparia L. Schrad) seeds increased, their coagulation decreased, reaching 66.5% after 18 months and 80.2% after 12 months, and 94.3% after 4 months (Table 1).

With the decrease in temperature conditions, the germination of the seed decreases. In 2021, the sprout of broom seed harvested was 92-94% at 25^{0}C, the germination of broom seed at low temperatures (+ 7 + 90) was 80-84%, and the fat content was 10% lower.

The longer the seed germination of broom kochia (Kochia scoparia L. Schrad) is maintained, the lower its germination rate as with other plants.The

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sprout of the seed, which was collected from different places each year, shone from one to another. In the 2019-2020 studies, we studied the effect of sewing in depth on seed germination. We planted the seeds by hand with a rake.

Table 1
Influence of seed retention times of seeds of Kipia (Kochia scoparia L. Schrad)

Collection place	The date of the experience	Duration of storage	% of germination
The city of Nukus, from different places	2-II -2021	18	66,5
The city of Nukus, from different places	2-II-2021	12	80,2
The city of Nukus, from different places	2-II-2021	4	94,3

In the experimental plot, we studied the effect of planting in hand on seed germination (0.5-1.0 cm, 1.5-2 cm, 2.5-3.0 cm) (Table 2). The seeds were bent in both October and December 2019. The seeds differed little from each other with their germination process.Fruit bent seeds did not give result which was sewn in spring. Through these studies, the left hemisphere was identified, with an average depth of germination of 0.5-1 cm.

Table 2.
Field productivity of broom kochia (Kochia scoparia L. Schrad) in the condition of Karakalpakstan

Depth of sowing, cm	Planting dates	Number of seeds bent to 1m² of land	% of germination
0,5-1,0	20.10. 2019	100	91-93
1,5-2,0	20.11. 2019	100	92-94
2,5-3,0	16.03. 2020	100	8-10

The best results were obtained at such depth at all planting periods. The optimal sowing period is October and December (data from 2019 have been confirmed).

Our research confirms the data of a number of authors, proving that the autumn-winter period of sowing seeds in wild plants is predominant. The duration of the spring sowing season is not appropriate, because they grow only once a year when the weather is favorable. Depending on the best germination of seeds in the autumn-winter period, it is possible to say about the convincing result of natural stratification.

We observed that some of the seeds that did not grow during the experiment and remained in the soil sprouted in the following years. But they can be in very small numbers.

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