GALAXY INTERNATIONAL INTERDISCIPLINARY RESEARCH JOURNAL (GIIRJ)
ISSN (E): 2347-6915
Vol. 10, Issue 6, June (2022)

DETERMINATION OF SAMARKAND HELICHRYSUM MARACANDICUM POPOV EX KIRP SEED GERMINATION IN LABORATORY CONDITIONS AND IN OPEN FIELDS

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ANNOTATION

In the state presented the results of research on the development and use of immortality of Samarkand in medicine. This article presents the results of determining the germination of plants seed. According to the latest data on the distribution of Samarkand in nature, the plant grows in Uzbekistan on the territory of Surkhandarya

Keywords: immortelle, pharmaceuticals, seed germination, seedlings, plantation, plants seed, exogenous, temperature, humidity, light, storage conditions, structure of seed coat, physiological state during germination.

INTRODUCTION

In world practice, seed propagation methods are widely used in the reproduction of perennial plants and in the restoration of natural cenoses. Seed germination biology involves multifactorial processes and consists of exogenous (temperature, humidity, light, storage conditions) and endogenous (structure of seed coat, physiological state during germination) factors. Based on these components, exogenous, endogenous, and combined dormant states are distinguished in seeds[1-3].

There are more than 600 medicinal plants in the country, of which 112 species are currently cultivated in natural resources and plantations and used in scientific medicine. At the same time, Ajuga turkestanica (Regel) Brig., Helichrisum maracandicum Popov ex Kirp., Glycyrrhiza glabra L., Cistanche salsa (C.A.Mey) G.Beck., Ferula tadjikorum Piminov, Ephedra eqiuisetina Bunge of medicinal plants in the Republic is growing[4].

OBJECT AND METHODOLOGY OF RESEARCH

The object of the study was selected Samarqand Helichrisum maracandicum Popov ex Kirp. On the basis of the growing demand for plant products and the sharp decline in natural resources, the study of the fertility of its seeds, further research is being conducted on the establishment of cultivated plantations.

According to the latest data on the distribution of Samarkand in nature, the plant grows in Uzbekistan on the territory of Surkhandarya (Machay and Kyzylnaur villages, Sangardak), Kashkadarya (Kaltakul and Vori villages, around the Kyzylsu River), Samarkand (around the Takhtakaracha pass in the village of Omonkoton), Jizzakh and Zaamin National Park. : Uriklisay, Almalysay, Suvsizsay), Tashkent (around Ugom and Pskom ridges of Bostanlyk district, Khumson, Sijjak, Nanay, Burchmullo, Ispay, Pskom villages), Ahangaron district (around Ertosh village). Occurs around the villages of Nanay, Varzukh, Balikchi, Gova in Namangan region at an altitude of 1000-2500 m above sea level (Khojanov A. 2020)

H.maracandicum medicine uses mainly dry and liquid extracts in the treatment of cholecystitis and hypotoxocystitis. Guli contains flavonoids (3,72%), isohexyrizine, helixrizin [5], glycosides, coumarins, cerins, vitamin K, wax and bitter tannin, essential oil (0,08-0,11% at flowering) [6]. In addition, Japanese scientists have conducted phytochemical studies on anticancer compounds of the plant [7]. In folk medicine, tinctures are used in diseases of the liver, biliary tract, as a bile driver, against diseases of the stomach and kidneys.

Data on seed germination of representatives of the genus Helichrysum L. are not sufficiently covered in the literature. The study of seed germination of a species is one of the main criteria in the analysis of the early stages of ontogeny, the restoration of natural plant cenopopulations and the creation of their plantations. H.maracandicum Popov ex Kirp. in seed germination experiments, seed germination under laboratory and field conditions was studied. It should be noted that as the shelf life of seeds increases, their germination decreases. In our experiments, the seeds of the plant were harvested in the fall of 2020, and this year they were found to be fertile in the laboratory. In determining the germination of seeds, M.K. To study the effect of temperature on the germination of freshly harvested seeds using the Firsova method, experiments were carried out on Petri plates at different temperatures from 100S to 300S, with 5 seeds in each plate, 5 repetitions while maintaining constant humidity. The average amount of germinated seeds (in%) was determined.

RESEARCH RESULTS AND THEIR DISCUSSION.

The results of the determination of seed germination in the laboratory are given in Table 1.1.

Table 1.1 Laboratory seed germination of Helichrysum maracandicum (p = 100)

t⁰C	Days										%
	1	2	3	4	5	6	7	8	9	10	
	8.02	12.02.	16.02.	20.02	24.02	28.02	3.03	3.03	7.03	10.03	
10⁰C	0	0	1	6	9	14	16	23	38	50	50
15⁰C	0	0	3	9	14	20	24	31	44	57	57
20⁰C	0	1	4	15	24	30	37	43	59	85	85
25	0	0	3	4	11	19	22	29	37	47	47
30	0	0	2	5	9	15	20	25	32	45	45

At the end of our experiment, it was found that the optimum temperature for seed germination is 20⁰C. At the same time, this year's seed germination rate was 85% (Picture-1.1).

(Picture-1.1).Samarqand Helichrisum maracandicum Popov ex Kirp.

DETERMINATION OF PLANT SEED GERMINATION IN LABORATORY CONDITIONS

Seed germination was also studied by sowing in field conditions, on special plots. In the laboratory, seed germination was 85%, while in the field it was relatively low, ie 80% (Figure 1.2). It should be noted that when sowing the seeds of H. maracandicum it is recommended to select well-ripened seeds.

Picture-1.2. Samarqand Helichrisum maracandicum Popov ex Kirp determination of plant seed germination in open areas.

CONCLUSION

The conservation of rare and endangered medicinal plant species and the study of the status of their current populations (distribution, number, density, especially age composition) will allow not only to assess their current status, but also to draw clear conclusions about these species in the future.

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