

RASTOROPSHA (SILYBUM MARIANUM L.) THE USE OF BIOPREPARATIONS IN CULTIVATING

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Abstract

The article scientifically establishes a biotechnological strategy for using microbial preparations that increase resistance to the conditions of Khmer Rouge and help in the development and growth of medicinal plant *Silybum marianum* L. The use of "Earth-M" and "Earth ointment" biopreparations is shown to be good, and at the end of the article the conclusions are presented.

Keywords: microbial preparation, Earth ointment, Earth-M, *Silybum marianum* L., medicinal plant, biological fertilizer, soil, mineral boys.

Introduction

Worldwide, approximately 50% of pharmaceutical products are made from medicinal plant raw materials. Strengthening the synthesis of secondary metabolites by using local biologically active tools to cultivate ecologically pure medicinal plants is a pressing issue. Some work is being done on earth in this regard. For example, the use of biological products in Europe is 80%, in the US - 50%, in Russia - 2%¹. Among the secondary metabolites of the plant, flavonoids are central polyphenol compounds that participate in many basic physiological processes of plant ontogenesis, playing a major role in protecting plants from a variety of environmental negative factors: ultraviolet light, temperature increases, xenobiotics, bacterial, viral and fungal infections. A broad spectrum of biological activity of flavonoids is important in the manufacture of pharmaceutical preparations from plants.

In recent years, consistent reforms have been undertaken in the world to protect medicinal plants, use natural resources wisely, and to establish and process plantations for medicinal plants. However, the analysis shows the need to protect medicinal plants, organize their plantations, create an additional chain of value through processing.

¹ <https://propozitsiya.com/biologicheskie-preparaty-v-zashchite-rasteniy>



As the republic gains independence, a number of researches are being undertaken and certain achievements are being undertaken to improve the yield of medicinal plants, improve the meliorative state of the land, and improve soil fertility.

The emphasis on the development of medicinal and scenic vegology is increasing year after year. One of the most important aspects of the development of the pharmaceutical industry is the cultivation of medicinal plant raw materials in further development of effective medicinal products that replace imported medicines into our country. In order to satisfy the pharmaceutical industry's demand for medicinal plant raw materials and expand the production of modern medicines based on plant raw materials, For more information, please contact the Treasurer's Office by writing to the address noted above or by telephoning (718) 560 - 7500. on comprehensive measures to improve the system of biological safety, referred to² in THE PQ-4899 programme, protecting plants from phytoplasmas, stimulants and biofufts that promote plant growth, the production of new safe ecologically clean products, It aims to solve the task of conducting theoretical and experimental research on the creation of biotechnology to supply the pharmaceutical, perfume and food industries with local raw materials using biopreparations in the cultivation and plantation of medicinal plants.

Purpose of the study: To strengthen plant growth and development using biopreparations based on strains of local rheumating in the cultivation of rastoropsha growth in Khmer Rouge.

Results:

Silybum marianum L. is a year-long or multi-year diploid plant and belongs to a family of complex species (Asteraceae).

To carry out research on medicinal herbs, *silybum marianum* (L), which grows in a variety of conditions and grows naturally, has been selected and monitored. During observations, we had the following information about this plant: *Silybum marianum* (L) is a thorny plant 1-1.5 m high. The foundation is unpretentious or branched, without feathers. The leaves are alternately arranged, with an ellipse, pinnate cut or pinnatsimon cut, large with yellowish thorns on the edge of the leaf and along the veins below (up to 80 cm in length); green leaf plate with white spots, shiny. The flowers are purple, pink or white, and are collected in large single spherical baskets with plate wrapping consisting of thorny green leaves. The flower is covered with feathers. All flowers are of two sexes. It blooms from July to August.

One of the main requirements for growing medicinal herbs today is the use of bio fertilizers, which are separated on the basis of local strains in reducing and growing chemicals. The main advantage of bacterial fertilizers is that they are environmentally friendly. Bacterial fertilizers are formed from beneficial microorganisms, and these microorganisms are usually located around the root and help to absorb nutrients in the process of living together with the plant.

² On November 11, 2020, the President of the Republic of Uzbekistan announced the "Biotechnological Revolution of the Republic of Uzbekistan and the Implementation of the Biotechnology Framework for the Implementation of the Biotechnology Framework for the Development of Biological Technologies.



These bacteria perform several important tasks. They help not only to assimilate a particular element, but also to absorb other elements, reduce diseases, improve soil composition, stimulate plant growth, increase the quantity and quality of products, and strengthen the environmental impact of plants. In view of this, we have found that biopreparations should be used in our experiences. Among such bacterial preparations is the drug "Earth-M" (dry and liquid forms), recommended by S.S. Murodova and others, whose content consists of a complex of strains called *B.subtilis* SKB-309, *B.megaterium* SKB-310, *P.stutzeri* SKB-308. The drug "Earth-M" is an environmentally friendly biological drug designed to reduce chemical pressure in the soil and increase plant yields. "Earth-M" improves the transition of nutrient elements from the soil to the plant, strengthens the development of plants, reduces their damage with phytopathogenic microorganisms, which contributes to increasing plant yield. It is possible to use "Earth-M" along with herbicides, fungicides, insecticides and mineral fertilizers. Biopreparations "Earth-M" and "Earth ointment" can be used to process before planting in seeds, during plant vegetation, to accelerate the breakdown of organic residues, to sanitize the soil, and to biologically modify mineral fertilizer granules. Soil processing is carried out in order to stop the development of disease-causing microorganisms and to enrich the soil with useful microorganisms.

When planting materials are treated with preparation, artificially useful microflora is infected on the surface of the seed. When seeds treated with "Earth-M" are planted, bacteria located on its surface begin to develop rapidly and multiply actively occupy the plant's rhizosphere and synthesize substances that disrupt the development of pathogenic microorganisms in its vital activity and have a positive effect on the development of beneficial microorganisms.

The effect of the Earth-M biopreparation on the vegetative phase of the development of medicinal plants is that the suspension of microorganisms and their metabolism products fall to the surface of the plants that are growing and developing, helping them to manage their vital functions and protective-adaptation reactions. During our studies, *Silybum marianum* L was the dominant bacterioids (5.8%) of bacterial flora on the soil of the earth's surface. Among all the soil physico-chemical variables mentioned in the article, there was a strong positive link between phosphorus (AP) and the diversity of the *Silybum marianum* L rhizosphere bacterial community. In addition, soil physicochemical and chemical factors together explained 24.28% of the variability in the content of the *Silybum marianum* L rhizosphere bacterial community. Among them, the pH mainly explained the change in the structure (5.58%) of the *silybum marianum* L rhizospheric bacterial community, followed by general salt (TS, 5.21%) and phosphorus (TP, 4.90%).

Based on the above information, the seeds of Khorezm region are being sown and multiplied. *Silybum marianum* L plant was divided into experimental and control options. Variants of experiments are used in a variety of rhizospheric fertilizers. Their phenological observations are under way to distinguish between bio fertilizers that effectively affect the development of plants.



Conclusion:

One of the main requirements for the cultivation of medicinal plants is the use of biological fertilizers "Earth-M" and "Earth ointment", which are separated on the basis of local strains in reducing and growing chemicals. The main advantage of bacterial fertilizers is that they are environmentally friendly. Bacterial fertilizers are formed from beneficial microorganisms, and these microorganisms are usually located around the root and help to absorb nutrients in the process of living together with the plant.

Since silybum marianum L was a year-long plant, shortly passed through the generative period, and it is difficult to grow these plants under the influence of anthropogenic influences. In order to prevent this, it is possible to organize plantations, to make it possible to further increase the growth and development of plants by using effective biologies on them, to obtain quality raw materials.

References

1. Resolution of the President of the Republic of Uzbekistan Dated November 11, 2020 NO-4899 "On comprehensive measures to improve the system of biotechnology development and ensuring the biological safety of the country".
2. Abd El-Fattah A.E. Effect of bio and mineral phosphate fertilization on growth and productivity of globe artichoke (*Silybum marianum* L.) under newly reclaimed calcareous soil conditions. //Assuit Journal of Agricultural Science, -1998. -29 (3): -P.227-240.
3. Abdul J.C., Kishorekumar. A., Manivannan. P., Sankar. B., Gomathinayagam M. Alterations in carbohydrate metabolism and enhancement in tuber production in white yam (*Dioscorea rotundata* Poir.) under triadimefon and hexaconazole applications. //Plant Growth Regul, -2007. -53: -P. 7-16.
4. Abo-Baker A.A., Mostafa G.G. Effect of bio-and chemical fertilizers on growth, sepals yield and chemical composition of *Hibiscus sabdariffa* at new reclaimed soil of south valley area. //Asian J. -2011. Crop Sci., 3: 16-25
5. Abzalov A.A., Belolipov I.V., Tulaganov R.T., Ulugmurodov N.X., Nomozova Z.B. Prickly artichoke - *Silybum marianum* L. is a perspective plant for the pharmaceutical industru of Uzbekistan. // The journal «international journal of applied and fundamental research». - 2016. № 6, 13-13-b.
6. Adak T., Singha, A., Kumar, K., Shukla, S.K., Singh, A., Kumar Singh, V. Soil organic carbon, dehydrogenase activity, nutrient availability and leaf nutrient content as affected by organic and inorganic source of nutrient in mango orchard soil. //Journal of Soil Science and Plant Nutrition. -2014. -14(2): -P.394-406.

