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Prospects and problems of the revival of a medicinal plant in the Aral Sea region.

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Abstract: It is necessary to create a single base of scientific research on the cultivation and processing of medicinal plants in the territory of our republic, to study the advanced scientific developments of foreign countries, to establish cooperation with leading scientific institutions, to introduce modern technologies and scientific developments to the republic, and to strengthen the effective use of existing opportunities. For this purpose, scientific research was conducted on this topic.

Key words: Medicine, alkaloids, agrotechnology, healing, mineral fertilizers, introduction, soil-climatic conditions, gray soil.

Introduction

In order to create a unified base of scientific research on the cultivation and processing of medicinal plants in the archipelago region of our republic, study advanced scientific developments of foreign countries, establish cooperation with leading scientific institutions, introduce modern technologies and scientific developments in the republic and strengthen the effective use of existing opportunities - the President of the Republic of Uzbekistan On measures to expand the scale of scientific research on the cultivation and processing of medicinal plants, development of their seed production. Decision PQ-4901 dated November 26, 2020 in order to create a favorable environment for the further development of cultivation and processing of medicinal plants, increasing the export potential of the industry, as well as integrating education, science and production processes Resolution of the President of the Republic of Uzbekistan PQ-4670 dated April 10, 2020 On measures for the protection, cultivation, processing and rational use of available resources of medicinal plants growing in the wild, meeting the needs of the pharmaceutical industry and the population for medicinal plant raw materials and In order to expand the production of modern medicines based on raw materials, it is indicated in paragraph 3 of the minutes of the meeting of the Cabinet of Ministers of the Republic of Uzbekistan No 222 dated August 5, 2013 "Plantations of medicinal plants on an industrial scale for the organization of enterprises for the production of medicinal plants and new medicines" to create and ensure the implementation of paragraph 1.12 Minutes of the meeting of January 20, 2015 No 5, On measures to further expand the development of the system of forestry, cultivation, harvesting and processing of raw materials of medicinal and nutritious plants in 2015-2017.

As you know, medicines from medicinal plants with medicinal properties are in increasing demand due to their harmlessness to the human body. However, since the ranges of medicinal plants in nature are shrinking, it is important to reproduce them culturally, study their biomorphological properties and chemical composition, introduce them, and develop agricultural technologies for their cultivation based on science.

In order to protect flora and fauna, preserve their rare and endangered species, many scientific studies are carried out and positive results are achieved. Plant biodiversity and large production of biologically active substances are due to the creation of favorable conditions for plant growth in the process of caring for them.

Currently, according to the Food and Agriculture Organization (FAO), more than 50,000 medicinal plants are used for medicinal purposes worldwide. The use of native flora for medicinal purposes is high in the countries of Southeast Asia, this figure is 20% in India and 19% in China. In the pharmacopoeia of Japan, Germany and other European countries, a large place is occupied by preparations made on the basis of raw materials of medicinal plants.

According to the research of N.G. Andrianova, due to the fact that medicines made from medicinal plants are harmless to the human body, the population's need for them increases, and the ranges of medicinal plants in nature are decreasing. For this reason, the cultural reproduction of food and medicinal plants, the study of their biomorphological, ecophysiological properties, chemical composition, and the development of scientifically based cultivation technologies can be of great importance.

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At present, in the Ural region, new species of essential oil plants are widely grown from crops with medicinal properties. Changes in the quantity and quality of essential oil in the plant depend on many factors, such as the type of crop, soil condition, the use of mineral fertilizers, cultivation methods, the duration of the development period, temperature and humidity.

Analysis of literature on the topic

According to O.A. Akhmedov, A. Ergashev, A. Abzalov, Arolboyi made a great contribution to the study of alkaloids contained in medicinal plants. His students, academicians O. Sodikov, S. Yunusov, N. Abubakirov, created a school of biochemical study of medicinal plants in our republic. The study of medicinal plants in our republic was carried out on a large scale in the XX century. Research work, such as the search for medicinal plants rich in glycosides, alkaloids, flavonoids, saponins, coumarins and other biologically active substances growing in the regions of our republic with different climatic and soil conditions, the study of their composition, the determination of the possibilities of their use in medicine. A. Akhmedov, Kh. Kholmatov, A. Conducted by such scientists as Kasimov, O.A. Khmedov.

In the scientific studies of E. Akhmedov, E. Berdiyev, land plots with different planting conditions can be allocated for the cultivation of medicinal plants. This situation requires the use of agrotechnical measures suitable for certain growing conditions. When placing medicinal plants on land, it is necessary to take into account the biological and ecological characteristics of medicinal plant species. It is also important to choose a plantation site where medicinal plants are grown. To select a place, special research work is carried out, agrochemical, hydrological, entomological characteristics of the place are carefully studied, after which a decision is made.

Research methodology

For many years, I. Belalipov and A. Islamov studied the medicinal plants of Aralboy and got acquainted with some of their species and families. In the end, they showed how unsurpassed the place of medicinal plants in folk medicine is.

Analysis and results

Y. Mlechko conducted research on Ethiopian sage (Salvia aethiopis L.) in soil and climatic conditions of the agrobiological station of Volgograd State University. This is a biennial plant with a height of 25-100 cm. This plant is not picky about the soil, loves heat, the optimal temperature for seed germination is 24-28 0C. Withstands frost down to -30 0C. This plant is demanding on nitrogen and phosphorus, -20-30 g/m2 (in the form of saltpeter) and phosphorus fertilizers (superphosphate) are applied at the rate of 15-20 kg/m2. In August-September, the seeds are collected, dried for 10-12 days and planted in the soil to a depth of 3-4 cm. It is reported that the distance between the rows is from 45 cm to 70-80 cm, and the distance between plants is 30-40 cm.

In scientific studies conducted by U.I. Ruzmetov and others, the effect of the application of all agrotechnical measures and various rates of mineral fertilizers to promising medicinal plants of the Asteraceae family in various soil and climatic conditions of the republic on plant growth, body diameter, and biomass was studied. Branching, leaf area, raw materials and seed yield were studied.

The use of the 15N isotope in agrochemical studies has revealed previously unknown aspects of nitrogen in the fertilizer-soil-plant system. As a result of the widespread use of nitrogen in agrochemical research, it became possible to penetrate deeply into the essence of nitrogen fertilizers. Nitrogen release was preliminarily determined in the experimental (NPK) and control (PK) variants of nitrogen use by the plant. It was assumed that all additional nitrogen uptake by plants occurs due to fertilizers, which bind to the soil mainly by biological immobilization.[1]

[1] Ruzmetov U., Safarova N., Muksimov N., Ulugova S., Khaitov J. Recommendation. ,,Agrotechnics of intensive cultivation of promising medicinal plants of the family Asteraceae (caterpillar, chamomile, exinatseya). Tashkent, 2021. B. 45.

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Summary

Thus, on the territory of the Aral Bay of Uzbekistan, about 4500 species of tall plants are widespread in nature, of which about 1200 species have medicinal properties. Currently, 112 species of medicinal plants are allowed to be used in the official medicine of our Republic, 80% of which are plants growing in their natural form. In Uzbekistan, research is also being carried out on the cultivation of medicinal plants in various soil and climatic conditions, the study of their bioecological features.

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