Volume 1, Issue 9, December 2023
ISSN (E): 2938-3781

Web of Agriculture: Journal of Agriculture and Biological Sciences
webofjournals.com/index.php/8

Calendula Officinalis L. in the Conditions of the Khorezm Oasis, Organization of Plantations

Xudayberganov Norbek Atabaevich1
Otayev Odilbek Yuldashevich1
Sultanova Shahnoza Yulchi qizi2
1xorazm Ma'mun Academy. 220900. Khwarezm Region, Khiva City, Center-1
2Urganch State University. 220100, Khorezm Region,
Urgench City, Hamid Olimjo Street, 14.
E-mail: xudayberganov12@mail.ru

Abstract
In the modern economy, medicinal plant resources are strategic in nature and are used as raw materials for the production of medicines that ensure public health and life. The production of medicinal plant raw materials provides opportunities to preserve its natural resources by collecting wild plants, growing them on an industrial scale, and creating large plantations [3].

Introduction

According to statistics, the annual demand of enterprises of the food and pharmaceutical industries for dry medicinal and spicy aromatic raw materials is 696.4 tons, which is provided by only 54.5 percent with local medicinal plant raw materials, which confirms the need to increase the cultivation of medicinal and essential oil plants. [4].

Therefore, a number of decisions have been made by our state and our government on the cultivation of raw natural medicinal plants and the organization of their plantations. Decisions of the president of the Republic of Uzbekistan dated April 10, 2020 PQ-4670 and "measures to expand the scope of scientific research on the development of the cultivation and processing of Medicinal Plants, their seed production" dated November 26, 2020 PQ-4901 [1, 2] as well as the strategy of Action for the further development of the Republic of Uzbekistan[3] "to convey the share of medicines and Medical has significant importance at the level.

Analysis within the subject area

Medicinal nail as an object of study (C. officinalis) species were used. The mainstay of the study is to establish this medicinal plant in the saline and loamy soils of the Khorezm Oasis, establishing industrial plantations, creating a reserve of raw materials and determining its economic efficiency.

On the basis of the results of studies, the saline soil of the Khorezm region-medicinal C, selected separately in climatic conditions. with the organization of plantations of officinalis on large areas, the basis for the creation of a raw material base of the pharmaceutical industry is developed.

Despite the fact that this medicinal plant has been studied in other regions of the Republic, there is very little data on the growth, development and yield of medicinal cloves in the conditions of Sandy saline soils of the Khorezm region. The research was carried out in a

Volume 1, Issue 9, December 2023
ISSN (E): 2938-3781

small area in the Khiva District of the Khwarezm region, the experimental experimental base of the Khwarezm Ma'mun Academy, and in a large area in the soil-climatic conditions of the experimental field “Karakum” scientific Experimental Station.

Scientific experiments prepared in the autumn(October)season of 2021 on an area of 1.5 ha , in the early spring of 2022 (the first decadence of March), an experimental base of the Khorezm Ma'mun Academy was planted at a depth of sowing seed 2-3 cm.

During scientific experiments in the plantation practical work, the planting period in the spring season for the medicinal nail polish was selected as the most optimal option, in a row (60 cm) in the field according to the planting procedure, and optimal agrotechnical measures were used. Practical work on the plantation scale was carried out in the fields of the Karakum scientific Experimental Station of the Scientific Research Institute of Forestry in the Khiva district.

Murdakhaev (1991), Tukhtaev (2009)have carried out a lot of scientific research on the cultivation and establishment of plantations of this plant in Uzbekistan. On the basis of their work, large-scale plantations were established in the fertile and saline soils of our republic [1.5].

Observations through scientific template techniques in the study of seasonal stages of development, C. the main development phases of officinalis were spent between the start and end times. Statistical analysis of the results of phenological observation V.N.Implemented on Nilov's recommendations [6]. The mutual correlations of the data obtained were also determined [7].

The results obtained and their analysis

An important role in the cultivation and cultivation of each plant species is played by agrotechnical activities. That is, the use of agrotechnical measures leads to quantitative and qualitative changes in crop yield and improvement.

Selected field C. officinalis seeds are sown in an improvised style on a pedestal of rows of 60 cm between the rows.

To agrotechnical measures developed in research C. the establishment of a wide range of cultivated field plantations of officinalis was followed.

At the time of the first passage, the only one was also made, leaving 1-2 plants in each hive at a distance of 15-20 cm between the cathores. The weeds in the row were cleaned in the hoe, and the stem of seedlings was loosened, and in the middle of the row they were loosened in a tractor cultivator.

During the season, C. the crop of officinalis was watered 13 times (May-1, June-July-August-2-3 Times, September-2 times). After every 2-3 watering, the ground is loosened until the branches are adjacent to each other, the rows are cleaned of foreign plants.

The plant developed well with the extension or branching of the main stem and side stems, to ensure that its inflorescences are dense, as well as to grow a high yield, twice natural manure was given juice during watering: the first fertilizing - 15-20 days after the formation of the lawn, the second fertilizing was carried out during the beginning period of flowering.

The flowering phase of plants in the plantation initially to the Yoppa is observed in 45-50 days after sowing the seed. This time falls on the 2nd decad of April.

Web of Agriculture: Journal of Agriculture and Biological Sciences
webofjournals.com/index.php/8

Volume 1, Issue 9, December 2023
ISSN (E): 2938-3781

During the growing season (mid-November), the medicinal fingernail blooms and is picked up up to 9-10 times. C. the flower baskets of officinalis are initially much larger and dark red. With an increase in air temperature, the color of the flower turns light, the reason is that the essential oils of the flower fly quickly with an increase in temperature.

During the period of observations, it was found that each Bush contains 3-5 flowers and 7-8 humps in a medicinal fingernail.

To determine the yield, 5 plots were allocated on the plantation, or the calculations were carried out on the basis of 5 returns(Table 1).

Table 1 Yield indicators on the plantation of a medicinal fingernail

Separated fields	Flowers picked during growing season weigh, 1m2 / gr		Yield on account to 1, kg	
	Wet	Dry without	Kg while wet	Dry kg without
1	130	16,25	11700	1462,5
2	170	21,25	15300	1912,5
3	120	15,00	10800	1350,0
4	140	17,50	12600	1575,0
5	150	18,75	13500	1687,5
Medial			12780	1597,5

Generally speaking, the average yield on the plantation was 12,780 kg in wet, 1,597.5 kg in dry, or 15.98 centners in average hectares.

In order to quickly dry the collected flower baskets of a medicinal nail polish, it is necessary to dry them in a special hangar with good wind circulation. The drying process is in moderation for 3-4 days, when the flowers are under a temperature of 24-25 oS, up to 13% humidity in the shade exposure. In special hangars,1.5 -2.0 kg per square meter. spread on account.

C. when calculating the economic efficiency of the crop obtained from officinalis, the cost and income indicators were obtained, namely the existing narhs in sharaoiti (pharmacies, raw materials of medicinal plants sold in the markets) of the Khorezm region. Today of 1 kg C. the raw materials of officinalis amounted to 35,000. This species is used for the organization of the plantation of medicinal plants in the account of 1 hectare of expenses(preparation of the field, for the application of agrotechnical measures, the use of mineral fertilizers, harvesting and preliminary processing, compensation of raw materials was calculated (Table 2).

Web of Agriculture: Journal of Agriculture and Biological Sciences
webofjournals.com/index.php/8

Volume 1, Issue 9, December 2023
ISSN (E): 2938-3781

Web of Agriculture: Journal of Agriculture and Biological Sciences
webofjournals.com/index.php/8

Table 2 ***M. chamomilla and C. officinalis L economic efficiency***

Indicators of economic efficiency		***C. officinalis***
Medium yield, s / ga		15,98
1 kg raw materials shopping price		35000
Money received from the sale of the crop, soum/ha		55930000
Total costs, soum/ha		30970918
Including soum/ha	**For fertilizer**	1715000
	For seeds	1 200 000
	wages	20000000
	mechanization and additional costs	8 055 000
net profit, soum/ha		**24950082**

Scientifically based suggestions and recommendations. The results of the carried out scientific study were concluded as follows: planting methods affect the yield indicators on the plantation of a medicinal Nail plant;

It should be noted that, according to the results of our scientific research, for the first time, the possibility of planting, growing and organizing plantations in large areas of the Khorezm region on moderately saline soils as a medicinal plant, as well as providing the pharmaceutical production network with local raw materials was justified by scientific results.

References

1. PQ-4670 of the president of the Republic of Uzbekistan dated April 10, 2020 “on the protection of wild-growing medicinal plants, cultivation, processing and rational use of available resources”. // Halq word newspaper, April 11, 2020, No. 75 (7577). – B.3.
2. PQ-4901 of the president of the Republic of Uzbekistan dated November 26, 2020 “on measures to expand the scope of scientific research on the cultivation and processing of Medicinal Plants, the development of their seed establishment”. // Halq word newspaper, November 27, 2020, No. 250 (7752). – B. 1-2.
3. Decree of the president of the Republic of Uzbekistan No. PF-60 of January 28, 2022 "on the progressive strategy of New Uzbekistan for 2022-2026".
4. R.E.Pochupaylo, Formirovanie mexanizma regulirovaniya predprinimatelskoy deyatelnosti in the sphere of proizvodstva lekarstvennogo rastitelnogo sьirya (the materialax Respubliki Krьm) / R. E. Pochupaylo // Vestnik Evraziyskoy the teachings of jesus. – 2019. – № 1.
5. E. V. Karachevskaya, tasks as defined territorialnogo razmeщeniya lekarstvennoy otrasli systems agropromьshlennogo at the Respubliki uzbekistan Russian / E. V. Karachevskaya // Vestn. Belarusian. goose. s. - / / ACAD. – 2019. – 3-C. 25-30.
6. V. N. Nilov, 1980. Metodы statisticheskoy obrabotki materials fenologicheskix

Volume 1, Issue 9, December 2023
ISSN (E): 2938-3781

nablyudeniy. Jurnal botanists. 65, №2. s. 282-284.
7. B. A. Dospe Alutions, 1985. Methods of light-polev-light experiments (on the basis of statistichesko-light-sound results issledovani-light). Agropromizdat. 351 pp.
8. Jumaniyazov J., Tukhtaev B., Abdullaev I., Khudayberganov N., Iskandarov A. (2021) Assimilation dynamics of saline soil areas by cultivating biomeliorant herbal plant in the lower Amudarya region // IOP Conference Series: earth and environmental Science. IOP Conf. Series: earth and environmental Science 939. pp.1-
9. Khudayberganov N. A., Tuxtaev B.YO., Abdurakhimov U.K.(2019) Vliyanie srokov poseva semyan na produktivnost kalenduli lekarstvennoy v pochvenno-klimaticheskix usloviyax Khorezmskoy Oblast // Khwarazm Ma'mun Academy newsletter. 2019-6/1 B. 37-41
10. Khudayberganov Norbek Atabaevich, Tukhtaev Bobokul YOrkulovich, Babadjanova Sayyora Khoshnutovna, Khabibullo Hoji Hojarbibi Alisher qizi (2021). The Bioecological Properties of Medicinalpot Marigold (Calendula Officinalis L) In Soil-Climate Condition of Khorezm Region // Annals of the Romanian Society for Cell Biology ISSN:1583-6258, Vol. 25, Issue 4, 2021, Pages. 9265 - 9273 Received 05 March 2021; Accepted 01 April 2021.

Web of Agriculture: Journal of Agriculture and Biological Sciences
webofjournals.com/index.php/8