

Growing Clots (*Calendula Officinalis* L.) Between Rows in Rose Plants (*Rosa Canina* L.)

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Abstract: The article presents the results of scientific research on the construction of a new (10x2m) scheme for planning and rational use of the row spacing. The scheme also provides information on the benefits of land use, good tillage, disease and pest control and harvesting, planting of medicinal plants in the plowed area, agronomic management and cost-effectiveness from the first year.

Keywords: Agrotechnics, planting scheme, bioecology, economic efficiency, *Rosa canina* L., *Calendula officinalis* L., Asteraceae, Iran-Turan, Mediterranean, Uzfarmsanoat SJSC "Shifobakhsh" DOE and KIM

1. Introduction

Currently, the development of the pharmaceutical industry and the production of natural medicines based on medicinal plant materials is one of the most pressing problems in the world. Among medicinal plants, rosehip and medicinal clove are valuable natural raw materials included in the Pharmacopoeias of the CIS countries due to their medicinal properties and practical application [7]. In particular, the annual demand for peanuts in the CIS countries is 6-8 thousand tons, but this demand is satisfied by 50-60%.

These issues are also given special attention in the Action Strategy of the Republic of Uzbekistan for 2017-2021 years [1]. In this regard, it is important to expand scientific research on the cultivation of medicinal and food plants, taking into account their biological properties, as well as the development and implementation of new technologies.

Most scientists believe that the traditional method of plant construction in the construction of industrial plantations, taking into account the life form of the plant, f.e. 3x1.5m.; 3x1m.; 4x2.5m.; 3x1.5m. 3x4m.; 4x2m.; 4x3m. preferable landings in schemes [6].

Many years of experience have shown that when planting rosehip seedlings according to the above schemes, due to the rapid development of plants in width and height over the years, the average yield is 1-1.5 t / ha as a result of a decrease in row inter-cultivation and complete harvesting of rose hips. [3,4]. Has shown that this, in turn, requires the development of new planting schemes when creating industrial plantations of plants in specialized state forestry enterprises, based on the set goals.

M. Allayarov, M. Kholmatov [3] noted that it is possible to build rosehip plantations according to the scheme of 10x2 m and grow medicinal herbs in the aisles for many years. Continuing this research, M.U. Allayarov, A. Mamatkarimov, E. Akhmedov [4] have developed guidelines and recommendations for the organization of industrial plantations of rose hips according to a new scheme of 2x10 m in specialized state forestry and the cultivation of medicinal plants in the area.

The object of the research: rosehip plant (*Rosa canina* L.) and medicinal carnation - *Salendula officinalis* L. Common rosehip (*Rosa canina* L.) - belongs to the family Rosaceae, perennial 2 m high shrub. Rosehips are mainly distributed in the northern part of Europe, their range extends eastward to the Urals, Siberia, the Caucasus and East Asia [5; 232-235 p.].

Medicinal carnation - *Salendula officinalis* L. Astradoshlar is a biennial herb belonging to the Asteraceae family. The natural distribution of the plant is found mainly in the oases of the flora of Circumboreal, Iran-Turan and the Mediterranean. As an ornamental plant is grown in Moldova, Ukraine, Russia and the Caucasus, and as a medicinal plant - in the Krasnodar Territory, Poltava and Moscow regions [5; 86-87 p.].

2. Research Methods

Scientific research on the cultivation of wild rose on industrial plantations and the study of agronomic technologies for planting medicinal plants in the area were carried out in the "Chodak" department of the specialized state forestry named after Abu Ali ibn Sino under the auspices of DOE and KIM "Shifobakhsh".

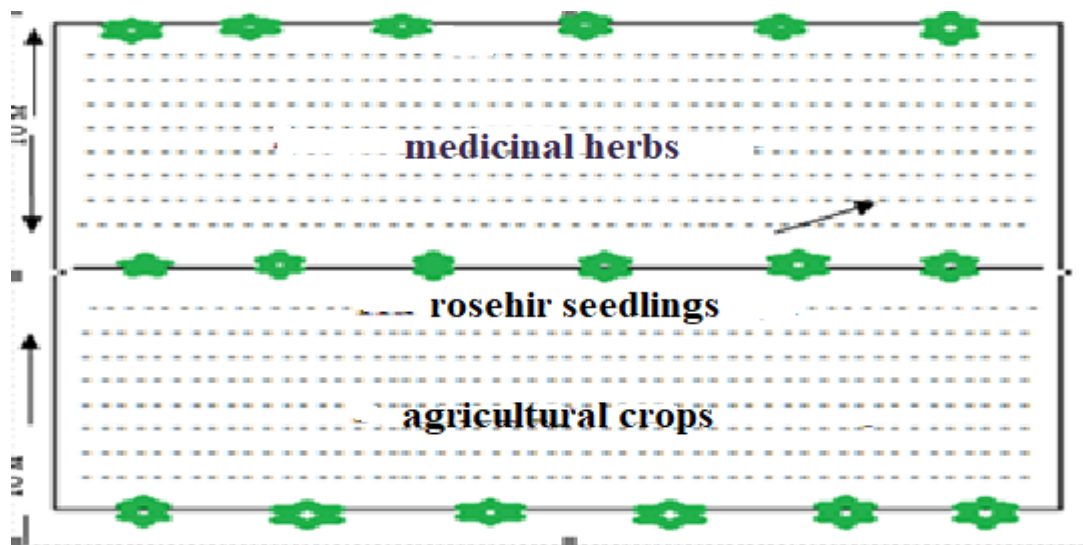
In field experiments, open fields and lands with moderate fertility were selected for planting rose hips and medicinal carnations.

Field experiments were carried out on the basis of the methodology developed by Shifobakhsh DOE and KIM in 2014, and methodological recommendations developed in 2015 by specialists of the Main Department of Forestry of Uzbekistan, the Botanical Garden of the Academy of Sciences of the Republic of Uzbekistan, the Uzbek SSR. Pharmaceutical Industry Development Agency. To determine the productivity of plants, selective and diagonal methods were used. In this case, plant material in an area of 1 p / m was measured and labeled as wet based on 3 returns. Then the dried product was re-measured and the average yield was determined in terms of GA.

3. Research Results

In the course of scientific research (2012-2014) In the “Chodak” department of specialized forestry named after Abu Ali ibn Sino (April 5-6) industrial plantations were

established according to a scheme of 10x2 m from 30-35 cm of the first grade and 50-60 cm. High-grade rosehip seedlings. In the interval, seeds of the medicinal plant clove were sown (diagram).



Rosehip plantation construction scheme and the use of row spacing's

It should be noted that this scheme includes effective use of land, inter-row tillage, control of diseases and pests and complete harvesting, sowing of medicinal and other seasonal crops on arable land, as well as agro technical measures. For example, efficient use of irrigated land by growing rosehip seedlings.

Carnation officinal is 2-3 years in rows of 70 cm in the spring (April 6) in the experimental field as a biennial medicinal plant planted from seeds to a depth. The sowing rate of seeds was 8-10 kg per HA, and the germination rate was 86% under field conditions (Table 1). Sowing seeds germinate in 7-10 days every 10-12 cm. Leaves were removed, leaving 1-2 plants at a distance, and lightly crushed to remove weeds. In order to save working time and increase the efficiency of loading, the plants planted in large areas were grown using cultivators. The first watering of the plants was carried out 3-4 times in April and May, after which the lawn was mowed once. After each watering, the aisles of the cloves were softened and cleaned of weeds.

Table 1: Cultivation of medicinal carnations in the aisles of a rosehip plantation

Name	Between the rows, (m)	Sowing time, (spring)	Storage and germination (%)	Between shoots in a row, (m)	Number of shoots per hectare, (pcs)
Rosehip	10	05.04.	83	2	500
Medical cloves	0.7	06.04.	86	8-10 kg (10-12cm)	1 191 667

It should also be noted that from June the plant bush is fully formed, it is difficult to process between the rows, and as a result, the plant bushes are damaged. Therefore, all agro technical measures (weed control and aisle spacing) basically continued until June. In June-July, the plant

produces a large amount of blue mass and is very demanding on water and nutrients. The main watering was carried out in the summer months (during the flowering period) and at this time it was watered once every 7-8 days. During the season, the carnations were watered 9-10 times, taking into account the air temperature and soil moisture, and from November they stopped watering. In the first year of cultivation, flower raw materials were harvested 16-18 (20) times.

The duration of the growing season for the plant lasted until snowy days (November-December), depending on the climate and soil conditions, and remained so until the spring months. Observations also showed that sometimes three-quarters of non-woody green branches of the third and fourth orders were partially damaged by the winter cold.

In the 2nd year of life, the beginning of the growing season in plants coincided with the first days of April, the flowering process was noted in late April - early May. This year, developments and all agro technical measures (one-time sanitization and weed control and row spacing) basically continued until May. This is due to the fact that since May the plant has been preparing raw materials for flowers. In the second year of cultivation, flower raw materials were harvested 20-22 (24) times.

Watering was carried out in the summer months (during the flowering period) and during this time it was watered once every 7-8 days. Sowings of carnations were watered 8-10 times per season; in November, watering was stopped. To ensure the growth and development of plants and eliminate weeds, weeds are removed 2 times in the spring months during the growing season and 2 times 7-10 cm each. They were grown with light mowing and in large areas and in small areas at a depth. In them, the growing season lasted until snowy days (November-December), and thus they are

stored until spring. Medicinal cloves can be used for 1-2 years on industrial plantations.

From the third year of vegetation, they showed signs of aging and a decrease in the number of bushes of plants, during the observations there was a decrease in field yield by 200-220 centners / ha. With this in mind, we believe cloves can be introduced into rotation fields. Once the plant is harvested from the field, it must be plowed immediately. This measure will help clear these areas of weeds, and plant debris will fall to the ground and rot.

Floral raw materials are prepared as soon as the plant begins to bloom. Flower baskets are picked up every 2-3 days. The collected raw materials are dried in a specially selected shade (at a temperature of 30-35°C) for 4-6 days and stored in special 20 kg paper bags without printing. The shelf life of the product in dry warehouses should not exceed 2 years.

Yu. M. According to Murdakhayev (1990), in plants grown in the Botanical Garden, the raw material for flowers is 1.00–1.20 t / ha, the seed yield is 0.10–0.12 t / ha [8;41-42 p.]. In saline soils, the flowering of medicinal cloves in the 1st growing season was 0.69–0.10 t / ha, and the seed yield was 0.09–0.03 t / ha [9; 49p.]. In our experiments, the flower yield in the first year was 700-750 kg / ha, the seed yield was 120-130 kg / ha, in the second year the flower yield was 500-550 kg / ha, and the seed yield was about 200 kg / ha. 110-120 kg / ha. That, these indicators correspond to the data of B. E. Tukhtaev [9].

Thus, 10x2m from rosehip seedlings. The scheme allows for efficient use of land by planting industrial plantations and planting medicinal and other seasonal agricultural crops in the area. This scheme is based on efficient land use, intercultural sowing, disease and pest control, full-scale harvesting, growing medicinal and other seasonal crops in the arable interval, and agronomic measures. Rational use of land, as well as the achievement of economic efficiency from the earliest years.

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