

## THE EFFECT OF SOWING PERIODS AND MINERAL FERTILIZER RATIOS ON PINK CATARANTHUS (CATARANTHUS ROSESUS) GROWTH AND PRODUCTIVITY

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**Abstract.** *In this article, information is given about the planting dates, fertilizer standards, cultivation technology and medicinal properties of the Pink catharanthus plant in our republic.*

**Keywords:** *medicinal plants, pink catharanthus, Apocynaceae, planting dates, mineral fertilizer standards, stem, leaf.*

Catharanthus roseus L. Apocynaceae is an upright perennial herb belonging to the cannabis family. Evergreen shrub with stems 30-60 cm tall. The root is an arrowroot, the stem is round. The leaves are banded, elliptical or oblong-elliptical. Flowers pink, solitary. The fruit consists of two leaves, the seeds are dark, wrinkled, egg-shaped. The weight of 10,000 seeds is 1.16 grams. Pink catharanthus - Catharanthus roseus (L.) G. Don. Apocynaceae - belongs to the cannabis family. It starts to bloom when 9-10 pairs of leaves are formed (60-65 days), blooms in 70-75 days.

The lateral branches emerge on the 80th day and the fruits mature completely after 125 days. In the analysis, it was observed that the nitrogen in the flower of the pink carnation plant was 1.90%, 0.60% phosphorus, 2.7% potassium, and on the contrary - 1.70 per leaf. ; Potassium uptake of 0.65% and 2.80% was found. Pink catharanthus is a light-loving plant that requires fertile soil and mineral fertilizers.

It is recommended to be grown in the wet typical and meadow soils of Uzbekistan. Since the plant is a perennial, its seeds can be sown in autumn and spring. Seeds are sown in warm rooms and prepared as seedlings.

The pink catharanthus plant is recommended to be planted on plowed and weed-free land.

Before plowing, 15-20 tons of local fertilizer and phosphorus fertilizer are given per decare to ensure that the soil fertility is in the same condition and for the plant to develop well. 27 cm. When 3-4 true leaves are formed on the plant, 1-2 plants are left in each nest at a distance of 15-20 cm. It is recommended to work carefully between the rows without damaging the root system of the plants. Depending on the soil moisture and the development of the plant, irrigation should be done gradually. The Catharanthus plant is watered 10-12 times during the vegetation period. The pink catharanthus plant was planted on the no-crop and weed-free land on April 8, 18, 28, 2021.

The land where the plant will be planted was prepared in autumn, and 15-20 tons of local fertilizer and phosphorus fertilizer were applied per decare to keep the soil fertility at the same level before planting. Breeding season %. and plowed to a depth of 25-27 cm.

In early spring, weeds are removed from the roots and the ground is leveled twice with a rake and trowel.

**Obtained results.** On 8, 18, 28 April, when the soil temperature was 18-25 °C, the seeds were sown at a depth of 0.5-1 cm on the soil surface with 50-60 cm rows and 4-5 rows in vegetable planting equipment. The amount of seeds extracted per kg per hectare used. The seeds were mixed with rotted manure, sand and other products so that they evenly fell on the surface of the soil.

The seeds were taken to the planting aggregates by tractors to irrigate. The seeds were removed so that the planted seeds would not remain under the ground. Seeds were frozen and watered until germination. Grass appeared after 20-25 days. Since this is a subtropical plant, it is necessary to try to increase the soil temperature above 20-25 °C. The soil surface is kept moist for the grass to germinate.

When 3-4 true leaves are formed on the plant, 1-2 plants are left in each nest at a distance of 15-20 cm and transferred to the yagan. It is recommended to work carefully between the rows without damaging the root system of the plants. Depending on the soil moisture and the development of the plant, irrigation should be done gradually. During the vegetation period, the clove plant was watered 10-12 times.

Pink borigula begins to bloom when it forms 9-10 pairs of leaves (60-65 days) and blooms in 70-75 days. Side branches grow on the 80th day, after 125 days the seeds are fully ripe.

The above-ground part of the plant is harvested in mid-August, when the fruits begin to ripen. The harvested product is transported to the barns, crushed to 3 cm in the "Volgar" apparatus, covered and dried.

When the mother plants in the field reach 10-15 cm in height, the true leaves are newly formed on the seedlings (April 10-15).

After planting the plant, the soil was loosened and cleared of weeds. Due to the formation of clods in the spring months, it was sprayed with the help of light softeners 4-6 days after planting. In the first 2-3 weeks, the main attention was focused on leveling and leveling the rows, removing weeds after the lawn has germinated. When the plants reached a height of 10-15 cm, we started to fertilize the plants to accelerate their development with interrow work.

In the prevention system, special attention was paid to the application of mineral fertilizers to crops, since fertilizers are the most powerful means of increasing crop productivity. However, crop yield increases not with the total amount of fertilizer applied to the soil, but with its rational use. In this case, the development and improvement of the fertilizer application system is of particular importance.

*Table 1*

**Development of the pink carnation (*Cataranthus rosesus*) plant**

<b>Options</b>	<b>October deadlines</b>	<b>To follow time</b>	<b>Root length (cm)</b>	<b>Number of leaves (pcs)</b>
1	8.04	15.05	12	8
		15.06	18	14
		15.07	31	22
2	8.04	15.05	13	10
		15.06	15	18
		15.07	38	20

3	8.04	15.05	14	12
		15.06	26	20
		15.07	54	36
4	18.04	15.05	10	6
		15.06	15	12
		15.07	27	18
5	18.04	15.05	9	8
		15.06	12	10
		15.07	38	20
6	18.04	15.05	11	8
		15.06	22	18
		15.07	50	24
7	28.04	15.05	8	4
		15.06	12	8
		15.07	24	16
8	28.04	15.05	9	6
		15.06	10	8
		15.07	35	22
9	28.04	15.05	10	8
		15.06	19	16
		15.07	44	22

Fertilizer application system is the sum of all agrochemical, agrotechnical, biological and organizational activities used to determine the correct fertilizer rates and fertilizer application procedure for medicinal plants. The main result expected from the fertilizer application system is to continuously increase soil fertility and provide nutrients to crops at all stages of the growing season. Since the raw material of the plant is the leaves and branches up to 2 mm thick and the leafy stem parts of the stems, the first feeding is done by giving 50 kg of nitrogen and 20 kg of potassium fertilizers per hectare.

After the second feed raw materials are harvested, 50 kg of nitrogen, 30 kg of phosphorus and 30 kg of potassium are given per hectare. Feeding is done before irrigation. Generally, if 100 kg of nitrogen, 80 kg of phosphorus and 50 kg of potassium fertilizers are given to the fields planted with pink catharanthus throughout the season, it is suitable for high yields.

Pink borigula begins to bloom when it forms 9-10 pairs of leaves (60-65 days) and blooms in 70-75 days. Side branches appear on the 80th day, after 125 days the fruits are fully ripe. Since the raw material of the plant is the leaves and branches up to 2 mm thick and the leafy stem parts of the stems, the first feeding is done by giving 50 kg nitrogen and 20 kg potassium fertilizers per hectare. After the second feeding material is harvested, 50 kg of nitrogen, 30 kg of phosphorus and 30 kg of potassium are given per hectare. Feeding is done before watering.

The choice of planting methods of cloves, the timely application of mineral and local fertilizers are factors that positively affect the amount of harvest and its development.

In order to examine the nitrogen, phosphorus and potassium fertilization norms and periods in the plant, experiments were carried out on the basis of 9 options.

In order to examine the nitrogen, phosphorus and potassium fertilization norms and periods in the facility studied in the experiment, the trials consisted of 9 options and 4 turns and were placed in 1 stage (Table 2).

*Table 2*

<b>Experience system</b>		
<b>Options</b>	<b>October deadlines</b>	<b>Fertilizer standards, kg/ha</b>
1	8.04	without fertilizer. (standard)
2		N <sub>50</sub> +P <sub>30</sub> K <sub>20</sub>
3		N <sub>100</sub> +P <sub>70</sub> +K <sub>50</sub>
4	18.04	without fertilizer. (standard)
5		N <sub>50</sub> +P <sub>30</sub> K <sub>20</sub>
6		N <sub>100</sub> +P <sub>70</sub> +K <sub>50</sub>
7	28.04	without fertilizer. (standard)
8		N <sub>50</sub> +P <sub>30</sub> K <sub>20</sub>
9		N <sub>100</sub> +P <sub>70</sub> +K <sub>50</sub>

The field experiment was carried out according to the methodological instructions prepared and recommended by UzPITI. In our experience, all options and parts (delyanka) are placed in 1 tier. In typical gray soil conditions, 9 options [60 cm length between rows 10 meters 0.60 x 3 = 1.8 x 10m = 18m x 9 [9 options] = 162 m<sup>2</sup> in one replication x 4 = 648 m<sup>2</sup>] are done in 4 repetitions. total area.] where the number of rows is 8, leaving 2 protective rows on each side. All calculations and observations were always performed at 1 location, i.e. (separately allocated) designated locations.

For this purpose, plots and typical plants were determined from the first and third iterations of the experiment. 50 plants were separated and phenological observations were made from this plant every 15 days. The growth and development of the medicinal plant *Catharanthus* were counted on the 1st and 15th of each month. Cardboard labels were affixed on them so that they would not be lost, these areas were made in 3 places at each turn, and at the end of the calculation, the average was taken by dividing by the number.

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