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BIOECOLOGICAL FEATURES *OF CATARANTHUS ROSEUS* IN THE CONDITIONS OF KARAKALPAKSTAN

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ANNOTATION

The article presents morphological and diagnostic signs and ecological features of growth in culture according to Catharanthus roseus in the territories of Karakalpakstan.

KEY WORDS: ***Catharanthus pink, flower, fruit, seeds, variety, alkaloids.***

The cultivation of medicinal plants in culture is considered one of the ways to create a sustainable raw material base for obtaining herbal preparations. In the Republic of Uzbekistan, a number of scientific studies were carried out on the introduction of new plant species in the regions, predicting their adaptability, explaining and implementing the theory of the introduction of medicinal plants on the basis of scientific research and experiments introduced into the practice of our republic by many scientists. But, medicinal plants have their own bioecological characteristics inherent to each region. Therefore, the study of the introduction of medicinal plants and the study of their bioecological properties is of current scientific and practical importance.

In recent years, work has been carried out to determine the bioecological characteristics of promising medicinal plants in the conditions of Karakalpakstan, introduce introduction into practice and develop agrotechnical measures. This study, to a certain extent, serves the implementation of these tasks.

Currently, the genus catharanthus includes 7 species and several decorative varieties. Hybrid varieties are very diverse. At the end of the twentieth century, scientists began to actively cross the plant in order to obtain new shades. This is how new varieties of pink catharanthus appeared. The most interesting are the following groups: C. *Coriacues, C.lanceus, C.longifolius, C. Ovalis, C.pusillus, C.scitulus, C.trichophyllus.*

The name Cataranthus roseus means from the Greek "*katharos*" - pure, "*anthos*" - flower. It belongs to the Apocynaceae family. In many tropical and subtropical regions of the world, pink catharanthus is cultivated as an ornamental plant or as a medicinal raw material. Within the species, two varieties are distinguished: *Catharanthus roseus var. angustus., Catharanthus roseus var. Roseus*. Pink catharanthus is a perennial plant 35-60 cm high. It has a taproot system, which is covered with many filamentous processes and extends 25-35 cm deep into the ground.

Erect shoots form dense, highly branched bushes up to 60 cm high. All shoots are covered with smooth green or pinkish bark. Leaves are opposite sessile or short-petiolate. The foliage has an oval shape with a rounded or sharp edge, the length of the leaf is 2.5-8 cm and the width is 3 cm. The smooth leathery surface is dark green. A thin whitish vein is clearly visible in the center. The plant is used in both folk and traditional medicine for its medicinal properties. It is used in cancer and diabetes mellitus. *Catharanthus pink* contains more than 80 alkaloids.

The ground part of the plant is used for medicinal purposes. In case of malignant neoplasms, only the aerial part of the plant is used, making preparations for chemotherapy from it. Preparations

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from it are used in the treatment of leukemia, blastoma, sarcoma, leukemia, breast cancer, cervical cancer and other serious oncological diseases. Tinctures and infusions from the herb give a stable positive result in the treatment of adenoma, prostatitis, polyps, uterine fibroids, hemorrhoids, varicose veins and stomach ulcers [2].

In the conditions of Karakalpakstan, the study of *Catharanthus roseus* has not yet been carried out. At the same time, it is quite obvious that the biological and ecological substantiation of the medicinal value of catharanthis rosea introduced in the territory of Karakalpakstan, the possibility of their rational use as medicinal plant raw materials are very relevant.

Considering the value and medicinal properties of plants, in 2019-2021. we observed the cultivation of pink catharanthus in the conditions of Karakalpakstan.

The aim of the study is to study the bioecological features of *Catharanthus roseus (L.) G. Don.* in the conditions of Karakalpakstan.

Research objectives: study of the bioecological features of *Catharanthus roseus* introduced in the soil and climatic conditions of the Republic of Karakalpakstan; assessment of growth dynamics and morphological parameters of terrestrial organs of calendula officinalis; analysis of ontogenetic stages and rhythms of periods of growth and development of plants; determination of bioecological characteristics of plants in the generative period, depending on the place of growth;

The object of the research is the promising medicinal plant *Catharanthus roseus (L.) G. Don.*). Research methods. Biological, ecological, botanical and statistical methods were used. The counts, observations, were carried out according to the method of BA Dospekhov [1].

In 2019-2021 on the experimental sites of the Aral Sea Innovation Center under the President of Uzbekistan and in 2021. On the territory of the Samankol farm, the Aibek massif of the Khodjeilinsky district of Karakalpakstan, the introduction of *Catharanthus roseus (L.) G.Don* plants selected as an object of research began.

Choosing a growing site: For sowing, open ground was selected before sowing, the site was fertilized. In culture, the pink catharanthus is an unpretentious plant. But they grow better in open sunny areas.

Sowing: Sowing took place in the 2nd decade of May. Seed reproduction. Small black seeds were used for sowing. When sowing, the seeds were sown 1.5-2 cm deep.

Growth dynamics: Seedlings appeared 7-10 days after watering at a temperature of + 24 ° C. After sprouting, cotyledon leaves appeared after 4 days. The preservation of cotyledon leaves lasted up to 3 days.

Dynamics of growth and development: After the end of the preservation of the cotyledon leaves, after 4 days, the primary true leaves appeared. The next 2 pairs of leaves appeared in 6-10 days. The length of the leaves in different sizes is from 4-7 cm, and the width is 2-2.5 cm. The leaves on the stem are opposite. The shape of the leaves is lanceolate, glossy, short-petiolate, with a narrowed wedge-shaped base, whole-edged, oval-oblong, their shade is rich green, dark green, shiny, glabrous or pubescent, with feathery venation and with a white midrib on top.

Agrotechnics: The plants were watered once a week. Hand weeding was carried out 4 times.

Budding period: In the 2nd decade of August, buds appeared. During the budding period, the bush looks especially decorative. The buds open alternately, so flowering can last for a long time.

Flowering period: Active flowering took place in the 1st decade of September. Flowering continued until early October. The wheel-shaped corolla of the catharanthus consists of five petals fused into a tube, pink-red, the throat of the corolla is purple. The flowers are up to 3 centimeters in diameter and are single. Their shade is pink, with a black and yellow center. Fruiting period: By the end of September, primary fruits have appeared. The fruit of the plant is a sickle-shaped leaflet with a short peduncle, 3 mm thick and up to 5-6 cm long. The shade of the fruit is bright green. The fruit has two long leaves. Mass fruiting took place in the second decade of October. Ripe fruits open on two sides like beans. Inside the fruit are small, elongated black seeds with a rough surface. One fruit contains about 40 small seeds. The growing season lasted until the end of October, went through a full development cycle, gave viable seeds. The results of three years of observations have shown that the pink catharanthus adapts well to our conditions.

The experimental data obtained by us on the cultivation of Cataranthus roseus shows that it is quite possible to grow in bulk in the conditions of Karakalpakstan and introduce it into our life as a medicinal plant.

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