



BIOMORPHOLOGICAL FEATURES OF THE MEDICINAL PLANT ECHINACAE PURPUREA (L.) MOENCH IN THE SYRDARYA REGION OF THE REPUBLIC OF UZBEKISTAN

Ergasheva N.A.

*Senior Lecturer, Department of Medicinal Plants and Botany, Gulistan State University, Uzbekistan,
Gulistan*

ABSTRACT

The article presents data on the biology and morphology of Echinacea purpurea in the conditions of the Mirzachul oasis. The research results show the optimal growth and development of the species, which confirms the full harvesting of raw materials in the territories of the Syr Darya region.

KEY WORDS: medicinal plants, purple echination, growth and development, leaves, flowers, crop.

DISCUSSION

To date, about 500 thousand plants are known in the world, 5% of them are medicinal plants with pharmacological activity. Today, 80% of existing pharmacological preparations are obtained from medicinal plants, but the raw materials of most plant species are insufficient. On this basis, the identification of resources of promising medicinal species to provide the pharmaceutical industry with plant raw materials and the development of methods for their cultivation are of great scientific and practical importance.

Currently, herbal medicines are very widely used in world practice. Biologically active substances and extracts of plant origin are most popular in such developed countries as Japan, France, Germany, Italy. In many developing Asian countries (India, Sri Lanka, Mali), herbal medicines are of paramount importance.

In connection with the growing need to obtain medicines from plants, there is an urgent need for cultivation of many species, especially when you consider that the collection of raw materials from wild plants is often not profitable for economic reasons. There is a need for industrial production of medicinal plant materials [1]. The problem of increasing the human body's immunity to various diseases is one of the most acute today. Work is underway to identify plants with immunomodulatory and antiviral properties. One of these plants is Echinacea purpurea, known to many flower growers [2]. Echinacea purpurea Echinacea purpurea from the family of asters, until recently little known in Uzbekistan, is becoming

increasingly popular due to its versatility. Echinacea purpurea - one of the many beautiful plants that came to us from the North American continent about 300 years ago, occupies a special place in the gardens of Europe. Americans call Echinacea purpleconeflower, which translates as "purple flower - bump" [3].

For the first time, the American experience of H.K. Meyer back in 1870, the Aborigines used the plant literally against all misfortunes - from the common cold to the bite of snakes.

From the end of the 18th century, Echinacea was already included in the US Pharmacopoeia, and in the late 19th and early 20th centuries. has become the most popular medicinal plant in this country. The birthplace of Echinacea purpurea is North America. The Indians gave this plant the name "Gift of the Prairie" because of its healing properties. This perennial herbaceous, beautifully flowering plant is bred in gardens in the southern and middle stripes of the European part of Russia. Its main crops are located at VILAR zonal stations: the North Caucasus, Samara and Belgorod regions.

It is especially important that the positive effect of treatment with echinacea drugs is observed in metabolic disorders and when toxic chemical compounds affect the body, ionizing radiation, the effects of ultraviolet rays, strong chemotherapy drugs, and long-term use of antibiotics. In extreme situations, Echinacea clearly shows the properties of the adaptogen. Echinacea is an excellent honey plant with high sugar productivity.



According to this indicator, it is equivalent to buckwheat [4, 5].

The most complete realization of the bioclimatic potential of a culture is achieved only if such technological methods of cultivation are applied that most correspond to its biological characteristics. The main criteria for assessing the biological characteristics of medicinal herbs is the study of the characteristics of the germination of plant seeds during introduction. But so far there is no developed scientifically based technology for the cultivation of this valuable medicinal plant in the Republic of Uzbekistan. Therefore, the aim of the research was to study the biomorphological features of *Echinacea purpurea* in the conditions of the Mirzachul oasis. The research was conducted in 2017-2019. in the irrigated territories of the Syrdarya region of Uzbekistan. The results show that in the first and second years of growth and development in the Mirzachulia condition, the average height of the plant stalk is from 90 to 160 cm. It has a stem root that develops into a short rhizome with numerous thin roots. Basal leaves on long stalks, green, large (20-28 by 10-16 cm), with five main protruding veins, stiff, rough, oblong-ovate with a long tip, form a large rosette. Stem leaves are rare, smaller than basal, oblong-ovate or lanceolate, sessile or almost sessile with three main veins. On the outside - rough, bare or diffused-short-haired, light green with anthocyanins in the coloration of the lower part and hypocotyl, simple and branched. Generative shoots 3-7. All shoots and branches end in inflorescences of different sizes or their buds. Inflorescences are single baskets, large 10-15 cm. Petals are narrow, 2-5 cm long, bent down and have a pink color in mass, ranging from raspberry to dull pink. Numerous median tubular yellowish-purple flowers up to 4 mm in size are located on the receptacle, which from a flat becomes very convex. In the first year of vegetation (year of sowing) 4% blooms, in the second year -100% of plants. The period from the beginning of the growing season to the beginning of flowering is 60-85 days and flowering is long and lasts 60-70 days from July to October. Fruits - brownish-gray, achenes of a tetrahedral inverse pyramidal shape, narrowed at the base. The mass of 1000 seeds is 4.5-5 g. In the first year of life after sowing, seedlings appear in 10-20 days. The early seedlings contribute to the presence of moisture and heat in the soil, the absence of soil surface crust. After another two weeks, the intensive formation of a leaf rosette begins and in this phase most plants leave for their first winter. During spring sowing, 3-5% of plants develop in the spring type. They bloom in late August-September, but before the end of the growing season do not have time to form full seeds. In August, wintering buds begin to form on the rhizomes. Before going to winter, the height of the main tier of annual plants is 30-45 cm. In the second and subsequent years of life, spring regrowth of plants is observed on March

22-27, stem (appearance of generative stems) - on May 12-21, budding - on June 5-15, the beginning flowering - July 6-15, harvest ripeness of seeds - September 15-30. Slow flowering continues until winter frosts, which begin in late September and October. Flowers are actively visited by bees, butterflies and other insects. Seeds ripen only in the first inflorescences. The raw phase (harvesting the entire plant for medicinal raw materials) occurs at the end of mass flowering. In plants of the second year of life during this period, the maximum yield and the best ratio of the total mass and its quality are noted.

LIST OF REFERENCES

1. Глуховцев, В.В., Кириченко В.Г., Зудилин С.Н. *Практикум по основам научных исследований в агрономии.* – М.: Колос, 2006. – 238 с.
2. Поляков А. Лечебный "ёж" / А. Поляков, И. Тарасенков // *Сад и огород.* 2002. № 6. – С. 51-52.
3. Курганская С.А. Эхинацея пурпурная / С.А. Курганская // *Биология,* № 47. – С. 10.
4. Меньшова, В.А. Медоносное значение *Echinacea purpurea* (L.) Moench, интродуцированной на Украину / В.А.Меньшова, Г.К.Смык, А.А.Ерастов // *Растительные ресурсы,* 1987.- Вып.4.- С.612-616.
5. Живчикова Р.И., Живчиков А.И. *Биология, морфология и особенности культуры нового сорта эхинацеи пурпурной.* – М.: Наука, 1998. – С. 45-56.