

MORPHOLOGICAL STUDY OF *ECHINACEA PURPUREA* (L.) SPECIES BACK IN CULTURE AT THE AGROBIOLOGICAL STATION OF THE STATE UNIVERSITY OF MOLDOVA

**Melnic Victor¹, Bîrsan Anna¹, Chirița Elena¹, Buracinschii Natalia¹,
Melnic Angela¹, Ponpuș Irina², Melnic Cristin¹**

¹L.C.S. „Plant Biochemistry” of SUM, Chisinau, Republic of Moldova

²Center for Cultivation of Medicinal Plants USMF „Nicolae Testemitanu”,
Chisinau, Republic of Moldova

E-mail: melnicvictor088@gmail.com

In this paper are the results of studying of the morphological structure of *Echinacea purpurea* species cultivated for two years in indigenous bioecological conditions. In this period of time was analyzed biomass accumulation of different plant parts in different stages of vegetation. The results showed that the dynamics of biomass accumulation in all three parts of the plant has increased capacity as well as the number of flowering shoots, both in the first year of cultivation and in year two. This proves about an increased adaptability to indigenous bioecological condition.

The morphological study of *Echinacea purpurea* L. plants grown under bioecological conditions of the agrobological station of the State University of Moldova: highlighting the morphological structures of *Echinacea purpurea* plants grown in bioecological conditions in the first year of vegetation; highlighting the morphological structure of *Echinacea purpurea* plants grown in bioecological conditions in the second year of vegetation; the biological observations during the ontogeny period were carried out according to the classical methods specific to perennial plants with a bushy aspect proposed by which provides for *E. purpurea* 3 variants of the realization of the ontogenetic program: the virginal stage, the juvenile and immature stage, the generative period.

Echinacea purpurea plants, later obtained from seeds, were used as the object of research, being sown in the spring period of May in the open field in rows with a distance of 70 cm between rows and 30 cm in a row.

Echinacea purpurea cultures grown under native ecobiological conditions for two years have a 70/100 germination percentage of seeds sown in the open field in spring time and a morphological structure: the number of leaves 168.3 ± 28.5 , the number of shoots per plant 14, inflorescences in number 20, the height of the plants 120 cm, the average mass of a plant 678 g, which denotes an increased adaptability.

Acknowledgments: This study was supported by the research project 20.80009.8007.24, entitled „Biological and photochemical study of medicinal plants with antioxidant, antimicrobial and hepatoprotective action”, funded by (National Agency for Research and Development (ANCD)).

Keywords: *adaptability, biomass, bioecological, germination, morphological structure.*