MICROPROPAGATION OF SOME HORTICULTURE AND GARDEN SPECIES UNDER *IN VITRO* CONDITIONS

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Abstract

At the beginning of the XXI century, the perspectives of the plant biochemistry and physiology are directed to examine the capability of plant cells and tissue culture for vegetative propagation. The method of in vitro cultivation of plant cell and tissue cultures is used for vegetative propagation (micropropagation) of plants. The vegetative propagation of the plants under *in vitro* conditions enables to abbreviate the process of selection, enhance the genetic stability of plants and improve the production of healthy plants without virus infection.

The results from the experimental work from the capacity of *in vitro* micropropagation of some plant species are presented in the project, obtained from different initial explants and on different hormonal medias, done at the laboratory of biotechnology at the Department of biotechnology, genetics and selection of plant, Faculty of agriculture, Goce Delcev University – Stip.

The aim of the project was to examine the micropropagation of the following horticulture species: *Rosa* spp., *Dianthus caryophillus*, *Myrillocactus geometrizans*, *Echinopsis spachiana*, garden crops *Capsicum annuum* L., *Lycopersicon esculentum* Mill., *Cucumis sativus* L., as well as androgenesis of pepper *Capsicum annuum* L., derived from several genotypes which led to several selection and lines included in the breeding process at the Department of biotechnology, genetics and selection of plant at the Faculty of agriculture in Strumica. Also is performed micropropagation on other species which are with great economic and commercial interest for Faculty of agriculture, Goce Delcev University – Stip.

Key words*:* micropropagation, *Capsicum annuum* L., *Lycopersicon esculentum* Mill., *Cucumis sativus* L., *Rosa* spp., *Dianthus caryophillus*, *Myrillocactus geometrizans*, *Echinopsis spachiana*, androgenesis of pepper.