

**ASEPTICIZATION OF PLANT MATERIAL OF SOME SPECIES
OF FAM. AMARYLLIDACEAE L.**

Ghereg M.*, Ciorchină N.

“Alexandru Ciubotaru” National Botanical Garden (Institute),
Chisinau, Republic of Moldova

*E-mail: melaniagherg@gmail.com

The family *Amaryllidaceae* L. is represented by herbaceous perennials, bulbous or rhizomatous plants, belonging to the Order *Asparagales*, monocotyledons.

Snowdrops are plants that naturally occur in temperate areas of Europe, growing in shady areas, on neutral or slightly acidic soils. In the wild flora, snowdrops grow in deciduous forests, in thickets, in glades and wet and shady grasslands, on plains, on hills and mountains.

In vitro plant propagation by tissue culture is an alternative method of regeneration of rare and endangered species, because in such a case the plant material is usually limited. Sampling small amounts of tissue (explant) from plants does not harm *in situ* populations. In initiating tissue culture of plant species of the Fam. *Amaryllidaceae* L., an important step is the asepticization of the plant material. The techniques differ from one crop to another, and are carried out depending on the characteristics of the plant. Usually, the plants collected from open ground are more infested as compared with those grown in protected environment. The preliminary care of stored plants can reduce the amount of pathogens in explants. The treatment of plants with fungicidal or bactericidal agents is a good option, but it is sometimes not effective when taking bulb tissue under natural conditions.

The research was conducted according to the basic protocol with some optimizations for rare plant species of Fam. *Amaryllidaceae* L. (*Sternbergia colchiciflora* Waldst. & Kit., *Galanthus nivalis* L., *Galanthus plicatus* Bieb., *Leucojum aestivum* L.), concerning the sterilization regime and obtaining the plant material in order to introduce and micropropagate them by tissue culture.

Thus, four sterilizing agents were tested: calcium hypochlorite, ethyl alcohol, mercury chloride and sodium hypochlorite. The best results were obtained after the use of mercury chloride, with a seedling viability rate of 60% in *Galanthus nivalis* L. and *Galanthus plicatus* Bieb., 70% in *Leucojum aestivum* L. and 85% in *Sternbergia colchiciflora* Waldst. & Kit.

The other sterilizing agents proved to be ineffective, since fungal and bacterial infections were detected in most inoculated explants.

Acknowledgments: The research was carried out within the project 20.80009.7007.19 "The introduction and development of technologies for propagation and cultivation of new species of woody plants by conventional techniques and tissue culture".

Keywords: family *Amaryllidaceae* L., asepticization of the plant material, rare plant species, sterilizing agents, pathogens in explants.