

***In vitro* Introduction of Medicinal Herb *Elsholtzia ciliata* (Thunb.) Hyl.**

Nadezhda V. SOLODUKHINA, Mikhail Yu. CHEREDNICHENKO

Department of Genetics, Biotechnology, Plant Breeding and Seed Science, Russian
Timiryazev State Agrarian University, Russian Federation
lamiaceae109@gmail.com

Aim of the study: Introduction of *Elsholtzia ciliata* and its cultivation *in vitro* is of great importance, since it allows obtaining pure material for growing in soil, supporting the vegetative progeny of plants and analyzing it from a genetic point of view. The aim of this work is to select the optimal conditions for *in vitro* introduction of *Elsholtzia ciliata*.

Material and Methods: The seeds of *Elsholtzia ciliata* were provided by the All-Russian Scientific Research Institute of Medicinal and Aromatic Plants. The seeds were placed on nutrient media after various sterilization modes. For sterilization, we used a 0.1% solution of mercury (II) chloride (corrosive sublimate, CS) and a 5% solution of sodium hypochlorite (SH) for 5, 10, 15 minutes. Seeds were placed on two variants of nutrient media: Murashige and Skoog (MS) and Gamborg (B5). The *in vitro* cultivation was carried out in a light room.

Results: Sterilization with a 0.1% CS solution for various exposures exerted in most cases a substantially more oppressive effect on seed germination energy than sterilization with a 5% SH solution. At the same time no differences in germination rate were observed within the sterilizing agents. So, 5-minute sterilization in a 5% SH solution can be recommended, as the most gentle mode, which ensures high sterilization efficiency. Dynamics of plant growth on MS nutrient medium after sterilization with 5% SH solution and 0.1% CS solution had significant differences in plant height with different exposures. Dynamics on B5 nutrient medium after sterilization with a 5% SH solution and 0.1% CS solution demonstrated no significant differences in plant growth with different exposures.

Keywords: *Elsholtzia ciliata*, Lamiaceae, medicinal herb, *in vitro* culture, morphogenetic potential