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EX-SITU AND IN-VITRO PROPAGATION OF *GENISTA TETRAGONA* IN REPUBLIC OF MOLDOVA

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Botanic gardens are the main institutions involved in *ex situ* conservation of wild plant diversity and have adopted the Target 8 of the Global Strategy for Plant Conservation (GSPC), which evokes that 75% of threatened plant species should be maintained in *ex situ* collections in order to provide genetic diversity for ecological restoration efforts.

The *ex situ* population of *Genista tetragona* Besser (Fabaceae) was created in 2000 by transplanting several vegetative specimens from the natural habitat (the vicinity of vill. Mașcăuți, Criuleni district) to the experimental plot of rare plants (National Botanical Garden (Institute), Chișinău), in order to continue on *in situ* restoration programs. The plants took root on the site, but during 2000-21 they did not form seeds, and efforts for vegetative propagation did not produce results. As a result, in 2021-22 actions were taken to propagate this species by microclonal methods. *Genista tetragona* is a xerophylous, calciphylous shrub species. Blooms in April-May and fructifies in June-August. In the Republic of Moldova species grows in the districts of Camenca, Rîbnița, Dubăsari, Grigoriopol and Orhei. It is a Podolian endemic, a tertiary relict. It is a highly decorative shrub, especially in the spring time. The species is protected globally – included in the IUCN Red list of threatened species, Annexes of Bern Convention, and regionally – protected by state in the Republic of Moldova and included in the Red Book of the republic and Ukraine.

At present, priority propagation is given to *in vitro* techniques that offer wide opportunities in the conservation of rare and endangered plant species, thus being a complementary to *in situ* conservation.

This study aimed at the introduction and multiplication in the *in vitro* culture of the species *Genista tetragona*. *In vitro* sampling, inoculation and culture methods were traditional. The MS medium (Murashige, Skoog, 1962), supplemented with BAP and TDZ cytokines (0.5 mg/l), served as the basic nutrient substrate. Apical bud segments were used as biological material. The inoculated material under aseptic conditions was transferred to the culture chamber with a specific regime for the investigated plants. In the process of *in vitro* cultivation, observations and analyzes were performed in order to microclon them. Phytohormones had different effects on the development of shoots and on the rate of seedling proliferation *in vitro*. Maximum proliferation values were obtained on the medium supplemented with BAP of 10.4 vigorous new shoots/explant, TDZ generated some symptoms of hyperhydration. *In vitro* seedlings are currently being induced to take root.

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