

THE USE OF BIOTECHNOLOGY FOR SUPPLYING OF PLANT MATERIAL FOR TRADITIONAL CULTURE OF MEDICINAL, RARE SPECIES *Arnica montana* L.

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Abstract

Taking into account the importance of *Arnica montana*, the attempts to improve the culture technologies are justified. Our study had the aim to optimize *in vitro* plant multiplication and growth as a source of plants for traditional culture in this species. Aseptic germinated seedlings were used as explants, apical meristem being the origin of the direct morphogenesis process. For induction of regeneration, to promote plant growth and rooting, we used some combination of growth factors and supplements as ascorbic acid, glutamine, PVP and active charcoal added in culture media based on MS formula. We improved the efficiency of micropropagation, the best values were recorded on variant supplemented with PVP –.7 regenerants/explant in the first 4 weeks and increasing at 17/ initial explant (mean 14.62) after 8 weeks. Concerning the germination capacity of the seeds scored after 2 weeks in sterile condition, the rate was 47.76 and in non-sterile conditions, the rate varied depending of the substrate used. Comparing to the plants obtained through traditional seeds germination, *in vitro* plants grew faster and were more vigourously. The micropropagation protocol in *Arnica montana* L. allowed us to regenerate healthy, developed and rooted plants in the second subculture cycle. This *in vitro* methodology can provide plant material for initiation of a conventional culture after acclimatization of the obtained vitroplants.

Key words: *Arnica montana*, vitroplants, improved regeneration rate.