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***In vitro culture development and polyphenolics  
production of Artemisia alba Turra***

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**Abstract.** *Artemisia alba* Turra is a fragrant shrub, distributed in Southern Europe, traditionally applied as and digestive in the form of decoction. Research work has shown the anti-inflammatory and spasmolytic activity of extracts of the plant as well as the antimicrobial activity of its essential oil. In vitro cultures of the plant have been previously established with the purpose of investigation of secondary metabolites in controlled laboratory conditions. The terpenoid profile of the plant in vitro has been studied, leading to the development of two distinctive systems for the yield of essential oils with either monoterpenoid or sesquiterpenoid domination.

Here effect of auxins and cytokinins on the morphogenetic response and polyphenolic productivity of the plant in vitro were studied. Leaves responded with callusogenesis upon auxin treatment (2,4-dichlorophenoxyacetic acid, 2,4-D and  $\alpha$ -naphthylacetic acid, NAA), and with callusogenesis and indirect shoot formation to combination of the both auxins with benzyl adenine (BA). The individual application of BA did not lead to any morphogenesis, but to necrosis of the explants. Stem segments responded with callusogenesis upon 2,4-D and combination of 2,4-D and BA, callusogenesis and rooting upon NAA, auxillary shoots and callus formation upon NAA and BA, as well as individual BA treatments. Root segments responded with callusogenesis to 2,4-