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Investigation regarding the potential application of grape pomace extracts on *in vitro* plant growth and development

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Abstract. The grape pomace hydroalcoholic extracts obtained by two different extraction methods were tested for biostimulatory potential activity for *Origanum vulgare* L. cultures. The total polyphenols contents of extracts were evaluated by Folin-Ciocalteu method. Characteristics such as: pH, salinity, conductivity and total dissolved solids were determined. FTIR and UV spectra of extracts were also recorded. The effect of grape pomace extracts on growth and development of oregano plant were studied by carrying out *in vitro* propagation of oregano on Murashige and Skoog basal medium supplemented with different concentrations of grape pomace extracts. Biometric measurements, growth rate and biomass accumulation have been narrowly monitored for all samples and compared to the control sample. The results have shown that the morphogenetic response depends both on the proportion in which basal medium was supplemented and on the extraction method used. A stimulation of growth and development at a low concentration of grape pomace extracts has been noted. The best results were observed in the samples with 1 and 5 % of grape pomace extract obtained by classical extraction.

***Keywords*:** grape pomace extract; *Fetească Neagră*; valorization; *in vitro* propagation; *Origanum vulgare*; plant growth; classical extraction; ultrasound assisted extraction.

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