

Polyamine Changes During Somatic Embryo Maturation in Sugarcane

De Vita, A. M.¹, Fim, L.G.¹, Fraga, H.P.F.¹, Macedo, A.F.², Santa-Catarina, C.³,
Floh, E.I.S.², Silveira, V.¹

¹Laboratório de Biotecnologia, CBB-UENF. Campos dos Goytacazes-RJ.

²Laboratório de Biologia Celular de Plantas, IB-USP. São Paulo-SP.

³Lab. de Biologia Celular e Tecidual, CBB-UENF. Campos dos Goytacazes-RJ.
alinedevita@gmail.com, vanildo@uenf.br

The study of polyamines (PAs) levels and better understanding about the influence of their metabolism during embryo formation and development could raise the somatic embryogenesis efficiency of important economic crops, like sugarcane (*Saccharum* sp.). The aim of this work was to study free PAs metabolism during the maturation of somatic embryos in embryogenic cultures of sugarcane submitted to different maturation treatments. For this study, variety CB45-3 embryogenic cultures maintained under *in vitro* periodic subcultures were submitted to different treatments with all combinations of 2,4-dichlorofenoxyacetic acid (2,4-D) (0 and 10 μM) and activated charcoal (AC) (0, 1.5 and 3.0 g.L^{-1}). As results we could find that 2,4-D and AC have influenced PAs contents in different ways. 2,4-D was responsible for the increase of putrescine (Put) and decrease of spermidine (Spd) and spermine (Spm) levels on same time, while AC was able to decrease Put and increase significantly Spd content. The decreasing of Put level could be attributed both to the direct effect of AC on Put synthesis or indirect by the reduction of 2,4-D through adsorption. New studies using exogenous PAs and PAs synthesis inhibitors supplemented to culture medium could be useful to clarify PA role in sugarcane somatic embryogenesis.

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