



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Inclusion of Polyamines in the Medium Improves Shoot Elongation in Hazelnut (*Corylus avellana* L.) Micropropagation

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Abstract: Buds from newly developed shoots obtained from forced outgrowth of mature field-grown hybrid hazelnut trees (*Corylus avellana* L.) were cultured in vitro on Murashige and Skoog [MS (1962)] medium and a modified Driver and Kuniyuki [DKW (1984)] medium containing 6.7 µM, 11.1 µM or 15.5 µM of N-6 benzyladenine (BA) supplemented with or without a combination of polyamines (0.2 mM of putrescine + 0.2 mM of spermidine + 0.05 mM of spermine). The effects of culture medium and BA were found to be insignificant on explant response. Polyamines were found to have a strong effect on both shoot elongation and on number of buds per shoot. Polyamines stimulated mean shoot elongation by 83% and increased the mean number of buds per shoot by 41% compared to when they were not used. In the presence of polyamines, shoot elongation continued up to 4.0 cm while in the absence of polyamines shoot elongation only reached 2.0 cm. Results indicate that polyamines in the culture medium could ease the establishment of cultures and enhance the morphogenic capacity of mature explants.

Key Words: *Corylus avellana*, culture establishment, putrescine, shoot length, spermidine, spermine

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