Use of TIBA and BAP on *Coffea arabica* vitroplants to induce sprouting for micro-cutting

Paula C. da S. Angelo[1*], Daniel Sales Baldim[1], Petherson F. C. Neves[1], Jordana Reis Lacerda[1], José Marcos D. Silva[1], Isabella E. Couto[1], Iran Ferreira Bueno[1], Carlos H. S. Carvalho[1], Paloma B. Borato[1], Ana Carolina R. Santos[1]

[1]Embrapa Café - Fundação Procafé, Varginha-MG , Brazil
*Presenting author: paula.angelo@embrapa.br

Coffea arabica vitroplants were cloned from leaf explants through somatic embryogenesis. TIBA (triiodobenzoic acid) and TIBA+BAP (benzilamine purine) solutions were applied on acclimatized vitroplants in order to evaluate the utility of those plant growth regulators to amplify the clones and reduce the costs of micropropagation. Vitroplants 1.5 year old of Catucaí 567 and Siriema clone 3 were decapitated and sprayed with hydro-alcoholic solutions of TIBA (200, 600 and 1000 mg L^{-1}); 1000 mg L^{-1} TIBA+60 mg L^{-1} BAP or water-alcohol only. In total, 320 vitroplants were used, being 8 plants per genotype per treatment with 4 replicates. Plants were maintained in greenhouse, under controlled temperature and humidity. Six months later apical and sub-apical orthotropic sprouts, classified as apical or sub-apical and above or below 1 cm, were excised. For sprouts above 1 cm, length and the number of nodes were recorded. Micro-cuttings were prepared by taking nodal segments above 1 cm and rooting. Nodal segments averaged 1.7 cm in length. Treatments did not affect apical sprouting, which ranged from 1.0 in plants sprayed with TIBA+BAP to around 0.8/vitroplant elsewhere. Despite absence of statistical significance, a trend to inhibition of apical sprouting accompanied the increase in TIBA concentration. On the contrary, subapical sprouting was significantly stimulated by TIBA ($F=3.776$, $DF=3$) and by the mix TIBA+BAP ($T=26$; $P=0.029$; $n=8$, meaning sets of the two genotypes below and above 1 cm; sprayed with solutions containing or not the growth regulators). A trend to stimulation of sub-apical sprouting accompanied the increase in TIBA ($R=0.351$; $P=0.183$), mainly for Catucaí vitroplants ($R=0.784$; $P=0.021$). In average, 2.7 and 3.3 sprouts/vitroplant were induced with the two higher concentrations of TIBA and with TIBA+BAP, respectively. Surviving was 89%. From 707 microcuttings, 96% rooted in 90 days. TIBA, an anti-auxin, probably contributed to interrupt apical dominance and BAP stimulated secondary meristem activity.

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