Micropropagation of *Cyclopia genistoides*, an Endemic South African Plant of Economic Importance

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An efficient micropropagation protocol of *Cyclopia genistoides* (L.) Vent., an indigenous South African shrub of economic importance, was established. *In vitro* shoot cultures were obtained from shoot tip fragments of sterile seedlings cultured on solid Schenk and Hildebrandt (SH) medium supplemented with 9.84 μM 6-(ɔ,ɔ-dimethylallylamino)purine (2iP) and 1.0 μM thidiazuron (TDZ). Maximum shoot multiplication rate [(8.2 ∂ 1.3) microshoots/explant)] was observed on this medium composition. Prior to rooting, the multiplied shoots were elongated for 60 days (two 30-days passages) on SH medium with one-half sucrose concentration, supplemented with 4.92 μM indole-3-butyric acid (IBA). The rooting of explants was only possible in the case of the elongated shoots. The highest root induction rate (54.8%) was achieved on solid SH medium with one-half sucrose and one-half potassium nitrate and ammonium nitrate concentration, respectively, supplemented with 28.54 μM indole-3-acetic acid (IAA) and 260.25 μM citric acid. The plantlets were acclimatized for 30 days in the glasshouse, with the use of peat/gravel/perlite substrate (1:1:1). The highest acclimatization rate (80%) was obtained for explants rooted with the use of IAA-supplemented medium. The phytochemical profile of the regenerated plants was similar to that of the reference intact plant material. HPLC analyses showed that *C. genistoides* plantlets obtained by the micropropagation procedure kept the ability to produce xanthones (mangiferin and isomangiferin) and the flavanone hesperidin, characteristic of wild-growing shrubs.

Key words: Cytokinins, Auxins, Polyphenols