Plant regeneration from cell suspension culture of nilegrass (*Acroceras macrum* Stapf) [1]

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Abstract

The objective of this study was to develop an efficient system for plant regeneration from cell suspension culture of nilegrass (*Acroceras macrum* Stapf NLcv.TS1). The callus used for cell suspension culture was induced from immature inflorescences cultured on MS medium with 2.0 mg L^{-1} 2,4-D and 0.5 mg L^{-1} BA for 5 weeks. For establishing and maintaining the suspension culture system, the callus was cut to small pieces and sub-cultured on MS liquid medium with 1.0 mg L^{-1} 2,4-D and 50 mg L^{-1} casein hydrolysate every 2 weeks for 3 months. When the cell clumps were proliferated, they were transferred to MS solid medium with 2.0 mg L^{-1} 2,4-D and 0.5 mg L^{-1} BA for inducing white and compact callus that was beneficial for shoot regeneration. Plant regeneration from callus cultured on MS medium with 1.0 mg L^{-1} BA was sub-cultured on MS medium with 0.5 mg L^{-1} NAA and 0.05 mg L^{-1} TDZ. The frequency of plant regeneration increased from 4.7% to 75%. The plantlets grew normally in the field with 100% survival. The results showed that a successful culture system for plant regeneration from cell suspension culture of nilegrass could be established.

Key words: Cell suspension culture, Plant regeneration, Nilegrass.

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