

RESEARCH PAPER

# An efficient protocol for *in vitro* regeneration in java citronella (*Cymbopogon winterianus*) through callus

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The reproducible indirect *in vitro* regeneration system through callus was developed in Java citronella (*Cymbopogon winterianus*) for genotype Bio-13. Tender leaves from the lower portion of the citronella culms were used as explants. The MS medium supplemented with different concentrations of 2, 4-D (1.0, 3.0, 5.0 and 7.0 mg/l) alone or in combination of BAP (0.2, 0.4 and 0.6 mg/l) were used for callus induction. For regeneration of plantlets MS media with different concentrations of BAP (0.1, 0.2, 0.3 and 0.5 mg/l) alone or in combination with NAA (0.1, 0.2 and 0.3 mg/l) were employed. The induction of organogenic callus was highest in medium containing 5 mg/l 2, 4-D with 99.66 per cent explants showing callus formation. At higher concentration of BAP (0.5 mg/l) shoots were initiated rapidly from the callus within 13 days. The root formation response was best in MS medium containing 3.0 mg/l NAA (83.33 % shoots formed roots within 25 to 30 days). The regenerated plantlets transferred to autoclaved garden soil, soilrite and sand in 1:1:1 proportion and irrigated with half strength MS solution showed 85 per cent survival rate after three weeks.

**Key words :** Callus, *In-vitro* regeneration, Aromatic grass, Citronella, Somaclonal variation

**How to cite this paper :** Gahukar, Santosh J., Bansod, Snehal M. and Akhare, Amrapali A. (2014). An efficient protocol for *in vitro* regeneration in java citronella (*Cymbopogon winterianus*) through callus. *Asian J. Bio. Sci.*, **9** (2) : 267-272.