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IN VITRO REGENERATION OF INDIAN MAIZE (*ZEA MAYS* L.) INBRED LINES THROUGH IMMATURE EMBRYO DERIVED SOMATIC EMBRYOGENESIS

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ABSTRACT

The successful regeneration from immature embryos were tested in three inbred lines (UMI 29, UMI 54 and UMI 1007), MS and N6 were used. Among these, UMI 29 showed highest percentage of somatic embryogenesis and regeneration frequency. The embryos were cultured on N6 medium supplemented with different concentrations of 2, 4-Dichlorophenoxy acetic acid (2,4-D). The results showed that the highest percentage of somatic embryogenesis was obtained on N6 medium supplemented with 2,4-D (1 mg/l), proline (2.8 g/l), casein hydrolysate (200 mg/l), silver nitrate (10 mg/l) and 2% sucrose. The results showed that N6 (91.66%) medium was found better than MS (63.00%). Plants were regenerated successfully from embryogenic callus in hormone free MS medium. Regenerated plantlets were successfully acclimatized in soil and raised to maturity. The response to tissue culture proved to be highly genotype dependent.

KEYWORDS: Maize, Inbred Lines, Callus, Somatic Embryogenesis, Regeneration