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## Ecosystem services through plantation crops

# ABSTRACTS

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## ***In vitro* multiplication of *Saccharum* species from shoot tip and apical meristem**

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*In vitro* multiplication from shoot tip or apical meristem is a prerequisite for *in vitro* conservation of sugarcane germplasm without any somaclonal variation. The shoot tip were cultured in modified MS (Murashige and skoog) medium supplemented with 20g/l sucrose at different concentration (2mg, 4mg, 6mg & 8mg)/l BAP at pH 5.8. The apical meristem were cultured in modified MS media supplemented with 20g/l sucrose, 0.015mg/l kinetin at different concentration (0.1mg, 0.5mg, 1mg, 2mg, 3mg& 4mg) BAP at pH 5.8 and highest response was obtained in MS media supplemented with 20g/l sucrose, 0.015 mg/l kinetin and 0.1mg/l BAP. For shoot tip culture, maximum shoot growth 69.4% was obtained from modified MS medium supplemented with 20g/l sucrose and 2mg/l BAP in *S. sinense* with highest shoot length ranging from 4-4.5cm. Multiple shoot were obtained from modified MS supplemented with 20g/l sucrose, 0.5mg/l NAA, 1mg/l kinetin, 3mg/l BAP, 0.5mg/l GA3 and 2g/l charcoal and the highest rate of multiplication was 1:10. After the limited cycles or sub-culturing the variation between the genotypes were significant for multiple shoot induction, but the variation between treatments was not significant. Significant difference was also observed for the number of shoots from meristem between species and *S. officinarum* clone produced maximum multiplication (1:2.6) in the modified MS media supplemented with 20g/l sucrose and 0.5 mg/l BAP. When *In vitro* shoots were inoculated on modified MS media supplemented with 20g/l sucrose and 1mg/l IBA resulted in good root growth.