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Role of Thidiazuron on In vitro shoot multiplication and rooting of Dendrocalamus giganteus Wall. ex Munro (Giant bamboo).

The effect of thidiazuron (TDZ) on micropropagation of *Dendrocalamus giganteus* was studied when the shoots vitrified and failed to produce roots after long periods in the presence of 6-benzylaminopurine (BA). Axillary shoot cultures were initiated from single nodes or shoot tips cultured in a basal MS medium with 2 mg L-1 sucrose & 0.5 mg L^{-1} BA. Shoots proliferated on increasing the BA level to

6 mg L^{-1} .

The effect of TDZ (0.5 mg L^{-1} , 1.0 mg L^{-1} , 1.5 mg L^{-1} , 2 mg L^{-1} and 3 mg L^{-1}) on axillary shoot proliferation and subsequent rooting was studied using 6 mg L-1 BA as the control. Five replicates per treatment were used to study treatment effects on shoot growth. Mean shoot number per vessel during five subculture cycles as well as the mean culm and leaf lengths after the fifth subculture were recorded. Half strength basal MS medium containing 3 mg L-1 of indole 3-butyric acid (IBA) and 10 mg L-1 coumarin was used for root induction. Shoots proliferated in each TDZ level and BA were rinsed in sterile distilled water and transferred to this rooting medium to observe root induction.

The mean shoot number per vessel was significantly higher in all five TDZ levels ranging from 28.0 to 34.2, than in BA with 19.5 shoots. There was no significant difference in shoot number within TDZ levels. The mean culm and leaf lengths of shoots decreased from 3.9 cm to 2.2 cm and 2.1 cm to 1.4 cm respectively, from the lowest to highest TDZ level. At the higher TDZ levels (2 and 3 mg L-1) buds and shoots often became distorted and vitrified. This did not happen in 0.5 and 1.0 mg l-1 where shoots were healthier and greener. Axillary shoots that proliferated in 6 mg l-1 BA, turned brown and showed poor rooting of only 30% on transfer to the rooting medium. Replacing BA in the shoot proliferation medium with TDZ reduced browning and increased rooting up to 87.5%.