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Influence of different media on shoot regulation, shoot multiplication and callus induction in long pepper (*Piper longum* L.)

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ABSTRACT: An experiment on tissue culture studies in long pepper (*Piper longum* L.) was carried out in the year 1999-2001, to develop suitable protocol for plant multiplication technique at Green Earth Biotechnologies Ltd., Jigani Industrial Area, Bengaluru in collaboration with UAS, GKVK, Bengaluru. The concentration of 0.1 per cent mercuric chloride (HgCl₂) for 60 seconds to achieve disinfection of leaf segment explants was found effective, giving maximum survival (10.02 %) and minimum contamination (0.70 %). MS media containing BAP (1.5 mg/lit.) + 2,4-D (1.0 mg/lit.) from leaf explants gave higher (9.72 %) response for calli induction, 1.54 mg amount of callus with green colour and very good score of callus. BAP 3.0 mg /lit. was ideal for the better proliferation and regeneration of shoot (40%). The Highest number of multiple shoots (2.00), Length of shoot (1.04 cm) and number of leaves per shoot (3.00), was produced using BAP (1.0 mg/lit.) + NAA(0.1 mg/lit.). Best results for shoot were observed with the MS media combination containing BAP at 1.5 mg/lit., Kinetin at 1.0 mg/lit. and IAA at 0.5 mg/lit., gave the maximum number of buds per calli (36.00) and number of shoots (5.20) and length of shoots (1.62 cm). The *in vitro* rooting was achieved with the application of NAA at 1.0 mg/l 70 per cent rooting, number of primary roots (2.40) length of primary root (2.00) and number of secondary roots (2.00).

KEY WORDS : Long pepper, In vitro, Micropropagation, Tissue culture, MS media

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