VITRIFICATION-BASED CRYOPRESERVATION OF SHOOT-TIPS OF Pinus kesiya ROYLE EX. GORD.

Author(s): Kalita, V (Kalita, Varginia)[1]; Choudhury, H (Choudhury, Hiranjit)[2]; Kumaria, S (Kumaria, Suman)[1]; Tandon, P (Tandon, Pramod)[1]
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Abstract: The present investigation was aimed at developing a protocol for long-term preservation of germplasm of Pinus kesiya Royle ex. Gord. through vitrification. Some of the critical components affecting explant tolerance to cryopreservation, such as effects of preculture, vitrification solutions, exposure time to vitrification solutions, volume of vitrification solution and its toxicity, washing of vitrified tissues after thawing, were analysed. The results showed that shoot regrowth of P. kesiya shoot-tips was considerably affected when exposed to cryoprotectants for longer periods of time (> 10 min). Among different vitrification solutions studied, maximum survival (76%) of shoot-tips was achieved with mVSL (using 0.6 ml of the solution) in MS basal medium containing 4.0 mg l(-1) N-6-benzyladenine (BA).

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Reprint Address: Choudhury, H (reprint author), NE Hill Univ, Sch Life Sci, Dept Bot, Div Plant Biotechnol, Shillong 793022, Meghalaya, India.
Addresses:
1. NE Hill Univ, Sch Life Sci, Dept Bot, Div Plant Biotechnol, Shillong 793022, Meghalaya, India
2. NE Hill Univ, Sch Technol, Biotechnol Div, Dept Basic Sci & Social Sci, Shillong 793022, Meghalaya, India
E-mail Address: hiranjit_c@yahoo.com
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