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Propagation and Germplasm Conservation of *Zeyheria montana*

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Abstract

Roots of *Zeyheria montana* Mart., a species native to the savanna (Cerrado) region of central Brazil, produce lapachol a naphthoquinone with anticancer properties. Lapachol is the precursor of β -lapachone, a novel drug candidate for preventive and adjuvant cancer therapies. This recent discovery on the potential prophylactic use of β -lapachone prompted this study on propagation and germplasm conservation of *Z. montana*. *Ex situ* procedures on seed germination and seed storage were conducted. This revealed that wing removal was a beneficial treatment for improving emergence and seedling survival. Being an orthodox seed, germplasm can be secured for long-term period using liquid nitrogen exposure. Further acknowledging the endangered status of *Z. montana*, germplasm *in vitro* techniques were used propagate and conserve elite plants. Multiple shoots were induced on Woody Plant (WP) media supplemented with 0.1 mg of thidiazuron (TDZ) per liter. Rooting was promoted on WP media containing 1mg/L of naphthalene acetic acid (NAA). Plantlet acclimatization to *ex-vitro* condition was done at 70 % success rate using different substrates with the following treatments: Unrefined sand, soil/sand at 1:1 v/v ratio and Plantimax[®], a commercial substrate recommended for ornamental plants. No significant difference was noticed on the survival and growth rate among *Z. montana* acclimatization substrate. It was possible to store *Z. montana* cultures for six months in media containing 2% sucrose plus 4% sorbitol with or without spermidine.