

LONG-TERM CONSERVATION THROUGH CRYOPRESERVATION OF IMMATURE SEED OF *Mantisia spathulata* AND *Mantisia wengeri*; TWO ENDANGERED PLANTS OF NORTH-EAST INDIA

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Abstract: A successful protocol for long-term conservation of two endangered plants viz. *Mantisia spathulata* and *M. wengeri* has been devised through cryopreservation of immature seeds. Immature seeds of both the species were precultured in 0.6 M Sucrose and 2 M Glycerol for 3 h at 24.2 degrees C. Precultured seeds were then desiccated under the airflow of 27.3 m min⁻¹ velocity inside laminar air flow cabinet for different time periods. The seeds were then cryostored in liquid nitrogen for an hour. A maximum of 40% and 36.6% seed germination was recorded after cryostorage at moisture contents of 26.0% and 16.2% for *M. spathulata* and *M. wengeri* respectively. To protect these rare plants against loss due to disease, insect damage, or natural disaster a back up collection has been established using the protocol and applied to a large number of immature seeds that were obtained from the ex situ plants growing in the experimental garden of the North-eastern Hill University, Shillong.

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