

## ***In vitro* Seed Germination and Seedling Development of *Dendrobium nobile* Lindl.—A Rare Threatened Orchid Species of Northeast India**

**Sachin Sharma\*, Rocky Thokchom,  
Soumen Maitra and Indrajit Sarkar**

*Department of Floriculture, Medicinal and Aromatic Plants, Faculty of Horticulture,  
Uttar Banga Krishi Viswavidyalaya, Pundibari,  
Cooch Behar – 736165, West Bengal, India  
E-mail: hansfloristkpg@gmail.com*

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**Abstract**—An efficient *in-vitro* propagation protocol was developed for *Dendrobium nobile*, an important threatened medicinal epiphytic orchid species of Northeast India using immature green seed pods. In the present investigation, full strength Murashige and Skoog medium supplemented with different concentrations and combinations of either  $\alpha$ -naphthalene acetic acid (NAA) or 6-benzyladenine (BA) were used for seed germination and development of the seedlings. MS medium supplemented with 2.0 mg/l NAA were found the best for early seed germination (11.53 weeks), protocorm formation (14.20 weeks) as well as for seedling development (21.27 weeks) from the day of inoculation. MS basal medium in combination with equal amount of NAA and BA (1.0 mg/l each) produced the tallest shoots per culture (4.93 cm) and maximum number of leaves per shoot (7.33). However, maximum number of roots per shoots was observed in the MS basal medium supplemented with 1 mg/l NAA and 2.0 mg/l BA. The well developed *in vitro* rooted plantlets were hardened successfully in the potting mixture containing only vermiculite (91.25 %) followed by vermiculite + soilrite (72.58 %) at 1:1 ratio.

**Keywords:** *Dendrobium nobile*, *in vitro*, seed germination, BA, NAA, protocorm.