

**MASS CLONAL PROPAGATION OF *VANDA TERES* (ROXB.) LINDLE THROUGH
IN VITRO CULTURE OF NODAL SEGMENTS**

Mohammad Firoz Alam^{1*}, Pinaki Sinha¹, and Mohammad Lokman Hakim²

¹Department of Botany, Rajshahi University, Rajshahi, Bangladesh

²Institute of Food and Radiation Biology, Bangladesh Atomic Energy Commission,
Gonokbari, Savar, Dhaka, Bangladesh, *Fax: + 880-721-750064, *E-mail: falambiotech@lycos.com

REFERENCES

- Arditti J. (1967). Factors affecting the germination of orchid seeds. *Botanical Review*, 33: 1-97.
- Chang C., Chang W. C. (1998). Plant regeneration from callus culture of *Cymbidium ensifolium* var. *misericors*. *Plant Cell Reports*, 17: 251-255.
- Chang C., Chang W. C. (2000). Micropropagation of *Cymbidium ensifolium* var. *misericors* through callus-derived rhizome. *In Vitro Cellular and Developmental Biology-Plant*, 36: 517-520.
- Chetia S., Deka P. C., Devi J. (1998). Germination of fresh and stored encapsulated protocorms of orchids. *Indian Journal of Experimental Biology*, 36: 108-111.
- Chung J. D., Chun C. K., Choi S. O. (1985). Asymbiotic germination of *Cymbidium ensifolium*. *Journal of the Korean Society for Horticultural Science*, 26: 186-192.
- Da Silva J. A. T., Yam T. W., Fukai S., Nayak N. R., Tanaka M. (2005). Establishment of optimum nutrient media for *in vitro* propagation of *Cymbidium* Sw. (Orchidaceae) using protocorm-like body segments. *Propagation of Ornamental Plants*, 5: 127-134.
- Datta K. B., Kanjilal B., De Sarker D. (1999). Artificial seed technology: development of a protocol in *Geodorum densiflorum* (Lam) Schltr. – an endangered orchid. *Current Science*, 76: 1142-1145.
- Duncan D. B. (1955). Multiple range and multiple F-tests. *Biometrics*, 11: 1-42.
- Ernst R. (1975). Studies in asymbiotic culture of orchids. *American Orchid Society Bulletin*, 44: 12-18.
- Goh C. J. (1970). Tissue culture of *Vanda* Miss Joaquim. *Journal of Singapore National Academy of Sciences*, 2: 31-33.
- Hey G. L., Hey M. G. (1966). Raising rare orchids from seeds. *In: De Garmo L. R. (Ed.). Proceedings of 5th World Orchid Conference, Long Beach, USA: 35-38.*
- Knudson L. (1922). Nonsymbiotic germination of orchid seeds. *Botanical Gazette*, 73: 1-25.
- Kunisaki J. T., Kim H. H., Sagawa Y. (1972). Shoot-tip culture of *Vanda*. *American Orchid Society Bulletin*, 41: 435-439.
- Murashige T., Skoog F. (1962). A revised medium for rapid growth and bioassay with tobacco tissue culture. *Physiologia Plantarum*, 15: 473-497.
- Paek K. Y., Yeung E. C. (1991). The effect of α -naphthaleneacetic acid and N⁶-benzyladenine on the growth of *Cymbidium forrestii* rhizomes *in vitro*. *Plant Cell, Tissue and Organ Culture*, 24: 65-71.
- Park S. Y., Murthy H. N., Paek K. Y. (2002). Rapid propagation of *Phalaenopsis* from floral stalk-derived leaves. *In Vitro Cellular and Developmental Biology-Plant*, 38: 168-172.
- Pierik R. L. M. (1987). *In vitro* culture of higher plants. Martinus Nijhoff Publishers, Dordrecht, 79 pp.
- Sagawa Y., Kunisaki J. T. (1982). Clonal propagation of orchids by tissue culture. *In: Fujiwara A. (Ed.). Plant Tissue Culture, Maruzen, Tokyo: 683-684.*
- Sinha P., Roy S. K. (2004). Regeneration of an indigenous orchid, *Vanda teres* (Roxb.) Lindl. through *in vitro* culture. *Plant Tissue Culture*, 14: 12-17.
- Sinha P., Hakim M. L., Alam M. F. (2006a). High frequency regeneration of *Cymbidium* through nodal segment-induced protocorms. *In: Da Silva J. A. T. (Ed.). Floriculture, Ornamental and Plant Biotechnology Advances and Topical Issues, Vol. 4, Global Science Books, UK: 590-593.*
- Sinha P., Hakim M. L., Alam M. F. (2006b). Continuous high-frequency regeneration of different *Phalaenopsis* cultivars from young leaves of mature plants. *In: Da Silva J. A. T. (Ed.). Floriculture, Ornamental and Plant Biotechnology Advances and Topical Issues, Vol. 4, Global Science Books, UK: 594-598.*

- Tanaka M., Sakanishi Y. (1985). Regeneration capacity of *in vitro* cultured leaf segment excised from mature *Phalaenopsis* plants. Bulletin of the University of Osaka Prefecture, Series B, 37: 1-4.
- Teng W. L., Nicholson L., Teng M. C. (1997). Micropropagation of *Spathoglottis plicata*. Plant Cell Reports, 16: 831-835.
- Teo K. H., Kunisaki T., Sagawa Y. (1973). Clonal propagation of strap leafed *Vanda* by shoot-tip culture. American Orchid Society Bulletin, 42: 402-505.
- Tokuhara K., Mii M. (1993). Micropropagation of *Phalaenopsis* and *Doritaenopsis* by culturing shoot tips of flower stalk buds. Plant Cell Reports, 13: 7-11.
- Tokuhara K., Mii M. (2001). Induction of embryogenic callus and cell suspension culture from shoot tips excised from flower stalk buds of *Phalaenopsis* (Orchidaceae). In Vitro Cellular and Developmental Biology-Plant, 37: 457-461.
- Vacin E., Went F. (1949). Some pH changes in nutrient solution. Botanical Gazette, 110: 605-613.
- Valmayor H. L. (1974). Further investigations into nutrient media. In: Ospina H. M. (Ed.). Proceedings of 7th World Orchid Conference, Medellin, Colombia: 211-229.
- Wang X. (1988). Tissue culture of *Cymbidium*: plant and flower induction *in vitro*. Lindleyana, 3: 184-189.
- White P. R. (1963). The cultivation of animal and plant cells. The Ronald Press, New York, 228 pp.