Title In vitro asymbiotic seed germination and related morphogenetic changes on m medium, in *Aerides multiflora* Roxb.

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Abstract

Aerides, a large genus of monopodial epiphytic plants comprising more than 60 species (Sathish Kumar and Manilal, 1994) belongs to a highly advanced tribe Epidendreae of subfamily Orchidaceae (Bose and Bhattacharjee, 1980); its constituent species are known as 'fox-tail orchids'. *Aerides multiflora* Roxb. is a widely distributed species of 'fox-tail' orchids. The species finds favour with both the amateur and professional growers for its excellent pot-plant qualities. In the present study, the immature seeds at three different stages of development (16, 20, 24 wap) procured from unripened capsules were inoculated on agar gelled M medium with and without different PGRs and an organic supplement YE. The aim has been to assess the optimal, developmental stage of seeds for maximum frequency of germination and efficacy of different additives on the onset of germination, protocorm differentiation and subsequent seedling development. Based on the observations, in the first developmental stage of seed, the optimal nutritional combinations for seed germination was M+NAA+KN, protocorms growth and development M+NAA, differentiation and seedling development M+IAA+KN, while in the 2nd developmental stage, M+IAA showed the optimal nutritional combination during seed germination, protocorm differentiation and seedling development. In the 3rd stage, the optimal nutritional combination during germination M+IBA, protocorm growth and development M+IBA, leaf and root differentiation M+IBA, and healthy seedling development M+IBA+KN are suggested.