

# Effects of Medium Composition on Growth and Differentiation of Rhizomes of *Cymbidium ensifolium*<sup>1</sup>

Chi-Cheng Chen<sup>2</sup>

## Abstract

Seed-derived rhizomes of *Cymbidium ensifolium* 'Jin-he' were grown well in full MS medium and 40 g/l sucrose treatment. Their appearances were thicker, and the reproductive rates were higher than in other treatments of the salt-base strength and sucrose concentration. Although organic additives of banana or apple treatments caused rhizome browning, the rhizomes were thicker and viable for future induction and generation of shoots. Using plant growth regulator NAA to promote rhizome growth, BA and TDZ to promote the differentiation of rhizomes into shoots, it was found that BA 0.5-1 mg/l or TDZ 0.1 mg/l combined with NAA 0.1 mg/l produced differentiation, optimum into elongated shoots with no browning. When the concentration of BA was increased to 5 mg/l, the plantlets were browning more severely, and there was no shoot formation. The appearance of non-browning buds treated with 5 mg/l BA and TDZ 0.5-1 mg/l was short and round, and they did not grow normally when planted. Comparing TDZ with BA for promoting rhizome differentiation effects, TDZ-induced shoot formation were significantly better than with BA.

Key words: *Cymbidium ensifolium*, tissue culture, Plant growth regulator, organogenesis.

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2. Associate researcher of Lan-Yuan Branch Station, Hualien DARES.