Evaluation of Graft Compatibility for Taxonomical Study in Orange Subfamily Plants©

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Callus tissues induced from shoot of orange subfamily plants were grafted in vitro to evaluate the genetic relationship. The graft interface between two pieces of callus which are taxonomically of a close relation was not distinguishable by anatomical observation. On the other hand, in the combinations of a more distant relationship, the graft border interface was distinct. In a combination whose relation was further in taxonomical order, the border was clear and some deposits were accumulated. In these combinations cell wall decay was observed at the contact surface of both callus cells. The contacted callus cells showed the recognition response to the graft partners. The compatible and incompatible features in grafting can provide the information on taxonomy of orange subfamily plants.

In Vitro Propagation of *Cryptocoryne* Species©

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In vitro propagation protocol for *Cryptocoryne* species is reported. Shoot proliferation of *C. wendtii* and *C. pontederiifolia* were promoted on Murashige and Skoog (MS) agar solidified medium supplemented with BA at higher concentrations (1 to 20 μM). Compared to solid medium, shoot proliferation was improved in liquid-shake culture. However, abnormal shoot growth was observed in both species. In *C. pontederiifolia*, shoot grown in liquid-shake culture showed chlorotic leaf growth. In *C.wendtii*, leaves were needle-like in appearance. A double-layer culture method gave high yield of normal and healthy shoots. The volume of the additional liquid medium in double-layer culture affected shoot proliferation.

INTRODUCTION

Recently, market demand for ornamental aquatic plants has increased and efficient propagation techniques of aquatic plants is required. Although plant tissue culture techniques have been developed to propagate many horticultural plants, information is limited in aquatic plant species. (Kane et al. 1990, 1999; Jenks et al., 2000)

The genus *Cryptocoryne* contains some of the commercially important aquatic species. Most *Cryptocoryne* species are native to Southeast Asia and Indonesia and they are grown in either the submerged or emerged state. Because flower formation and subsequent seed production of *Cryptocoryne* occurs infrequently and rhizome division occurs slowly, the propagation of *Cryptocoryne* species is restricted.

This paper describes the in vitro propagation protocol for two *Cryptocoryne* species.