

## Micropropagation of *Aglaonema* 'Lady Valentine' via micro cutting proliferation and adventitious bud induction

Ping-Lung Huang<sup>1</sup> and Li-Jen Liao<sup>2</sup>

### Abstract

Although division and cuttings can be used for the propagation of *Aglaonema*, the low proliferation rate and severe endogenous microbial contamination result in being considered one of the most difficult plants for clonal propagation by tissue culture. In this study, multiple shoots and adventitious buds induction were achieved on bud explants derived from branches of *Aglaonema* 'Lady Valentine' by employing the "stem cuttings-branches-apical and lateral buds" technique for the first time. Apparently, 1-phenyl-3-(1,2,3-thiadiazol-5-yl) urea (TDZ) was not preferable for propagation, because transparent granular cells formed and covered the bud explants. Multiple shoots were effectively induced from shoot tip and stem node micro cuttings on 1/3 strength Murashige and Skoog inorganic salts (1/3 MS) supplemented with 3.0 mg l<sup>-1</sup> 6-benzyladenine (BA) by 2.44 and 1.60 shoots, respectively, and shoot growth stimulated by 1.72 cm in length increment after an 8-week culture. Similarly, a supplement of 3.0 mg l<sup>-1</sup> BA alone would induce as many as 4.5 adventitious buds from the stem disc explants, but the number of adventitious buds formed decreased when  $\alpha$ -naphthaleneacetic acid (NAA) was incorporated into the media. Shoots elongated and developed into plantlets, and could be transplanted from in vitro to greenhouse without a complicated acclimatization process. Nevertheless, the shoots grew slowly in the early stage.

Key words: *Aglaonema*; Micropropagation; Micro cutting; Multiple shoot; Adventitious bud

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<sup>1</sup> Associate Researcher, Kaohsiung District Agricultural Research and Extension Station, COA, EY.

<sup>2</sup> Professor, Department of Biotechnology, National Kaohsiung Normal University, Kaohsiung, Taiwan, ROC