

Characterization and Control of Viruses

Infecting *Phalaenopsis spp*¹

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Abstract

Three hundred and twenty-four *Phalaenopsis spp.* samples collected from 7 orchid gardens in Taichung and Taitung district were surveyed for cymbidium mosaic virus (CyMV) and odontoglossum ringspot virus (ORSV) by using DAS-ELISA techniques. The incidence of CyMV and ORSV was 41.24% and 8.9%, respectively. CyMV banded inclusion can be fixed by microwave irradiation with 50% power for 30 sec. Glutaraldehyde can improve the fixation when microwave irradiation applies. CyMV and ORSV were distributed in the roots, leaves and flowers of inoculated *Phalaenopsis* detected by ELISA. In the immunospecific electron microscopy test, CyMV was present in approximately 20% of the apical buds and 30.77% of the lateral buds; ORSV was in every apical buds and 87.5% of the lateral buds. All the 10 *Phalaenopsis* cultivars were susceptible to ORSV, but not to tomato mosaic virus (ToMV) and cucumber green mottle mosaic virus (CGMMV). TMV only causes partial infection in each cultivar. In the chemical control test, CyMV or ORSV did not spread when cutting tools were treated with 5% NaOH.

Key words : *Phalaenopsis spp.*, ORSV, CyMV, Tool treatment.

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