

P159

Growth of *Phalaenopsis* in a Recirculating Ebb and Flood Hydroponic System as Affected by Ionic Strength of Solution and Medium Composition

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Despite rapidly growing demand for potted *Phalaenopsis* worldwide, information to incorporate recirculating hydroponic system and horticultural media which are widely used for the production of other ornamental crops is scarce. Effect of ionic strength of nutrient solution and feasibility of introducing a general growing medium for the culture of potted *Phalaenopsis Tanigawa* × *Yukimai Dream* 'W256' and 'W257' in a recirculating ebb and flood hydroponic system were examined. Clonal micropropagules were cultured in a conventional (a solid fertilizer and overhead irrigation) vs. a recirculating ebb and flood system with three ionic strengths (1.0S, 0.5S or 0.25S) of a nutrient solution. Pots were filled with either sphagnum moss (conventional) or a commercial medium (80%, v/v) on top of sphagnum moss (20%, v/v). Plants were grown in a glasshouse which had 23.5°C mean daily air temperature, 72% RH and 240~270 $\mu\text{molm}^{-2}\text{s}^{-1}$ PPF. Plants were fertigated when water potential of the medium reached to -10 kPa. pH and nutrient concentrations in recirculating solution were monitored and adjusted twice a month. Number of leaves was not different among different ionic strength and medium treatments. However, plants had greater leaf length and width in the 0.5S and 80% commercial medium + 20% sphagnum moss treatments.