

10:45–11:00 am

**Effects of Phosphorus on Morphology of
Hydroponically Grown *Scaevola aemula* R. Br.
'Whirlwind Blue'**

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The popular hanging basket plant, fan-flower (*Scaevola aemula* R. Br. 'Whirlwind Blue'), is cultivated from low phosphorus soils and requires minimal supplemental phosphorus. To accurately evaluate the effects of phosphorus on morphology, fan-flower was grown hydroponically in order to maintain concentrations of all nutrients except phosphorus at equal levels. The nutrients were supplied in half-strength Hoagland solutions containing 0, 20, 40, 60, or 80 mg·L⁻¹ of phosphorus and 134 mg·L⁻¹ of nitrogen. Plants grown with 0, 60, or 80 mg·L⁻¹ had significantly fewer flower branches and total flowers than those grown at 20–40 mg·L⁻¹ when plants were considered marketable. Plants grown with 20–60 mg·L⁻¹ of phosphorus had the longest branches; however, plants grown with 0 mg·L⁻¹ of phosphorus had roots 40% to 54% longer than those from plants grown at all other concentrations. Little new root growth was observed in fan-flower grown at the highest phosphorus concentration. Furthermore, foliage from these plants was chlorotic to nearly white. Results indicate that phosphorus concentrations higher than 40 mg·L⁻¹ reduced growth, flower number, and thus quality of fan-flower. Growers should avoid applying fertilizers with high phosphorus concentrations to these plants.

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Note: Donglin Zhang is also a guest professor at Central South University of Forestry and Technology, Changsha, Hunan, China.