

Anthurium andraeanum senescence in response to 6-benzylaminopurine: vase life and biochemical aspects

Bruno Trevenzoli Favero, Henrik Lütken, John M. Dole and Giuseppina Pace Pereira Lima

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Abstract

Plant growth regulators (PGRs) are key compounds in plant development and their exogenous use has the potential to positively influence the vase life of cut ornamentals. However, the application method can directly impact the effectiveness of PGRs. This study determined the impact of spraying or pulsing 0, 37.5, 75, 150 and 300 mg L⁻¹ 6-benzylaminopurine (BAP) on postharvest quality of cut *Anthurium andraeanum* 'Apalai' (IAC NK 130) flowers. Vase life, fresh weight (FW), soluble carbohydrate content, total phenolic content (TPC) and polyphenol oxidase (PPO) activity were determined in spathes and spadices. Spraying BAP was more effective than pulsing and extended the vase life to 17.9 d compared to 13.8 d, respectively and FW was maintained at 93 % and 76 % of initial values, respectively. Spathes treated with a BAP concentration below 150 mg L⁻¹ showed highest soluble carbohydrate content. TPC was higher for the pulsing treatment than the spraying treatment. In spathes, TPC decreased and PPO activity increased over time with increasing of BAP concentration, showing phenolic depletion linkage to this enzyme activity. However, at BAP levels below 150 mg L⁻¹, the activity of PPO remained low. In summary, spraying BAP at concentrations of 37.5–300 mg L⁻¹ improved postharvest durability of *A. andraeanum* 'Apalai' flower without inducing spathe blueing.