

**EXTENDING THE VASE LIFE OF PERUVIAN LILY (*Alstroemeria* spp.)
WITH 1-METHYLCYCLOPROPENE AND ASCORBIC ACID**

B.S. Obadamudalige¹, C.K. Beneragama² and S.M.M.R. Mawalagedera¹

¹*Department of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura, Sri Lanka*

²*Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka*

Alstroemeria spp is one of the highly demanded cut flowers in the local and global cut flower markets due to availability of numerous and vibrant colours. Short vase life of flowers and leaves, petal wilting, petal drop and transparency of petals are major postharvest problems. Therefore, the objective of the study was to extend the vase life of *Alstroemeria* spp. with 1-methylcyclopropene and ascorbic acid. Freshly cut flowering stems of *Alstroemeria* were treated with 1-methylcyclopropene (0.25 ppm) and ascorbic acid (57 mM) alone and in combination of the two, for six hours. Distilled water was used as the control. Treatments were arranged in Completely Randomized Design with three replicates each. The Analysis of Variance and Tukey's test was performed to analyse the vase life, percentage fresh weight loss and concentrations of chlorophyll, anthocyanin and glucose. Colour deterioration was analysed by Kruskal Wallis method. All analysis were performed using Minitab. Postharvest concentrations of anthocyanin, chlorophyll and glucose in flowers were best maintained when treated with a combination of 1-methylcyclopropene and ascorbic acid, compared to all other treatments ($p < 0.05$). Treatments were not different from the control in terms of percentage fresh weight loss and colour deterioration ($p > 0.05$). The best treatment to extend vase life of *Alstroemeria* spp. is the combination of 1-methylcyclopropene and ascorbic acid, which extended the vase life by additional seven days compared to the control.

Keywords: 1-Methylcyclopropene, *Alstroemeria*, Ascorbic acid, Vase life