

## ABSTRACT

The objective of the experiment was to investigate the response of Alstroemeria cutflowers to exogenous treatment of Accel (BA + GA<sub>4+7</sub>), gibberellins (GA<sub>4+7</sub>), Florissant 200 and 2.0 mM STS (Commercial flower preservative solutions). The treatments were combined in a factorial manner and laid down in a completely randomised design. Accel at 25 or 50 mg/litre benzyladenine (BA) equivalent increased the number of days to full opening of Alstroemeria primary florets and delayed the onset of flower senescence as measured by days to 50% petal fall and 50% leaf yellowing. Accel at 25 mg/litre BA equivalent increased the leaf chlorophyll, water, and nitrogen contents of Alstroemeria cut flowers compared to the control. The lower concentrations of GA<sub>4+7</sub> (2.5, 5.0, or 7.5 mg/litre) had no effect on the number of days to full opening of primary florets of Alstroemeria cut flowers. Gibberellins (GA<sub>4+7</sub>) at 2.5, 5.0, 7.5, 10.0, 12.5, or 15.0 mg/litre delayed the onset of flower senescence in Alstroemeria. In the second experiment 7.5, 10.0, 12.5, or 15.0 mg/litre GA<sub>4+7</sub> delayed leaf chlorophyll degradation and nitrogen breakdown of Alstroemeria cut flowers even after 21 days of air storage at 23°C. Florissant 200 maintained high leaf chlorophyll content, but had no effect on both leaf dry weight and water content after 21 days of air storage. Silver thiosulphate (STS) at 2.0 mM had no effect on the opening of primary florets, but increased leaf dry weight and days to 50% petal fall. Silver thiosulphate also decreased both leaf water and chlorophyll contents, leading to accelerated onset of 50% leaf yellowing in Alstroemeria cut flowers. Our results suggest that Accel at 25 mg/litre BA equivalent has the potential to substitute for the use of Florissant 200 and 2.0 mM STS, as a commercial cutflower preservative to prevent leaf yellowing and prolong postharvest vase life.