

Title Benzyladenine and thidiazuron postharvest treatments for preserving cut lily flowers
Author A. Ferrante, A. Trivellini and G. Serra
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Abstract

The vase life of cut lilies stored for a long time or transported over long distances, may be reduced. Typical postharvest problems are early tepal wilting and abscission and leaf yellowing. Following harvest, chlorophyll losses are induced by the lack of endogenous cytokinins, which are biosynthesized in roots. As the roots are removed there is no cytokinin supply to the shoot in the postharvest phase. The objective of this work was to evaluate thidiazuron as a potential postharvest treatment for preventing chlorophyll losses during storage and for extending the vase life. Lily flowers were harvested at commercial stage when buds begin to show colour. Thidiazuron 10 μ M was compared with benzyladenine 50 or 100 μ M; both were applied as pulse or continuous treatments. After storing cut flowers for three weeks at 5°C, flowers were transferred to a postharvest evaluation room under controlled environmental conditions. Vase life, chlorophyll content, weight change and relative water content were monitored. Results showed that thidiazuron-treated stems had higher chlorophyll content compared with the control and benzyladenine treatments. After three weeks of cold storage, the chlorophyll content of thidiazuron-treated flowers was 0.84 mg/g FW which was significantly higher than the content of the control (0.57 mg/g FW). Thidiazuron slowed down the degradation processes and, after storage, the chlorophyll decline was only 25% of the initial value. Weight loss was higher in continuously applied treatments compared with control and pulse treatments. In conclusion, results obtained showed that the best treatment for preserving cut lilies was a pulse treatment for 24 h with 10 μ M thidiazuron.