

**Title** Postharvest treatment with thidiazuron delays leaf and flower senescence in Iris

**Author** Andrew J. Macnish, Cai-Zhong Jiang and Michael S. Reid

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#### **Abstract**

Postharvest treatment with thidiazuron (N-phenyl-N'-1,2,3-thiadiazol-5-ylurea, TDZ), a non-metabolized cytokinin, has been shown to prevent leaf senescence (yellowing) in a range of cut flowers such as alstroemeria, lily and tulips. However, there has been no detailed examination of TDZ treatment effects on flower longevity. In the present study we determined the potential for TDZ to delay both leaf and flower senescence on cut iris 'Discovery' flower stems. We found that a postharvest pulse treatment with TDZ for 24 hours at 20°C prevented leaf yellowing and significantly extended flower life by 1.2-1.7 days (27-38%), relative to control stems. Whether the extension in flower life is a direct effect of TDZ treatment in delaying floral senescence or a reflection of improved carbohydrate supply from leaf tissues remains to be determined. Taken collectively, our findings highlight the potential use for TDZ as a postharvest pulse treatment to extend the vase life of iris flowers.