

**Title** Effects of TDZ and dark storage on postharvest quality of *Pelargonium* pot plants

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### Abstract

*Pelargonium* (*Pelargonium x hortorum*) is grown as potted plants for their colourful, showy flowers and scented foliage. Leaf senescence is a common problem in *Pelargonium* and leads to high postharvest losses during transport and storage. Darkness has been implicated in promoting senescence, while cytokinins retard it. The effects of postharvest treatments with Thidiazuron (TDZ) in four levels (0, 10, 50, 100  $\mu\text{ml}^{-1}$ ) and dark storage for 5 days in  $20\pm 2$  °C were investigated in four cultivars 'Blue wonder', 'Foxy', 'Flower Fairy' and 'Anthuny'. Morphological observations include petal abscission, leaf drop and leaf senescence recorded before and after dark storage. Petal abscission increased after dark stress in all cultivars except 'Anthuny'. Furthermore, leaf yellowing extended without any treatments. Plants treated with TDZ for 5 days had higher leaf chlorophyll contents than untreated controls especially in 100  $\mu\text{ml}^{-1}$  treatment. In addition, TDZ kept their quality better than other concentrations and the individual florets on TDZ treated plants had a significantly longer life than those on control plants. Leaf senescence induced by dark storage was closely associated with lipid peroxidation. 'Blue wonder', 'Foxy', 'Flower Fairy' indicated lower lipid peroxidation with TDZ treatments than control plants. So, thidiazuron counteracted the deleterious effects of dark storage by delaying the onset of leaf yellowing in *Pelargonium* pot plants during storage.