

Title Ethylene participation in anthocyanin degradation in *Dendrobium* orchid flowers
Author Weeranat Saksing, Anchaya Mongkolchaiyaphruek and Saichol Ketsa
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Abstract

In contrast to fruits, ethylene mostly serves as a signal for the initiation of anthocyanin degradation in flowers. Treatment of detached *Dendrobium* orchid flowers with ethephon induced senescence with the degradation of anthocyanin. The fading of ethephon treated flowers was preceded by a loss of membrane permeability. Since peroxidases are likely candidates for degradation of anthocyanins, peroxidase activity was determined during the fading of the flowers. An increase in peroxidase activity was shown to correlate in time with the anthocyanin degradation. In addition, treatment of detached flowers with an ethylene inhibitor, 1-methylcyclopropene (1-MCP) delayed senescence with changing the rate of anthocyanin degradation, ion leakage and peroxidase activity.