

**Title** Improved postharvest life and ethylene tolerance in *Kalanchoe blossfeldiana* transformed with *rol*-genes of *Agrobacterium rhizogenes*

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#### **Abstract**

*Kalanchoe blossfeldiana* is an important ornamental plant for the Danish horticultural industry. As alternative to chemical growth retardation, plants were transformed with *rol*-genes (root loci) from the natural occurring soil bacterium *Agrobacterium rhizogenes*. Apart from changes in morphology, the transformants exhibited clearly improved postharvest characteristics. Longevity and ethylene sensitivity of detached flowers and display quality of whole *K. blossfeldiana* plants varied among transformants, control and chemical growth retarded plants. The longevity of detached single flowers was defined as the stage where the flowers were 70% open. The longevity of the two transformed plant lines tested, Ri-line 306 and 331, was 32 and 34 days, respectively, whereas chemical growth retarded and control plants had a longevity of 28 and 26 days, respectively. In response to ethylene exposure, the flowers of the plants transformed with *rol*-genes exhibited tolerance while control and chemical growth regulated plants were sensitive.