

Abstract:

Postharvest longevity and sensitivity to short-term ethylene exposure of several miniature potted Parade[®] rose varieties were investigated. Plants were treated with a continuous flow of $1\mu\text{l l}^{-1}$ ethylene for 24 h at 20°C when plants were at marketable stage (3-5 open flowers).

The reaction to the injurious effects of exogenous ethylene can occur after a short exposure time of 24 h with considerable variation found in the response among varieties. The varieties response to ethylene differed in the time it took for visible symptoms to appear, the amount of damage observed and the plant part affected (buds versus flowers). For most varieties, it took several days before the effects of ethylene were evident. The varieties 'Charming', 'Fiesta' and 'Lady' did not respond significantly to ethylene. These varieties, which have long lasting qualities under ethylene free conditions, withstood this amount of ethylene without visible symptoms. The other varieties had an increase in bud and/or flower damage when exposed to ethylene. The magnitude of ethylene effects and the plant part affected was found to be variety dependent. Short lasting varieties were consistently found to be sensitive to ethylene, while most, but not all, long lasting varieties were tolerant.