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Genetic Variation in the Longevity, Ethylene Production and Ethylene Sensitivity of Flowers among Pot Carnation Cultivars

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We investigated longevity, ethylene production and ethylene sensitivity in pot carnation cultivars. Our results indicate that there was a large genetic variation in longevity and ethylene synthesis in pot carnation cultivars. Five cultivars ('Pink', 'Chiffon', 'Bambino' and 'Nina') had a mean flower longevity of 10 days. These cultivars with long flower longevity showed low ethylene production and showed neither petal in-rolling nor rapid wilting, which are typical symptoms of ethylene-dependent senescence. Instead, these flowers faded and turned yellow.

petal edges. Significant negative correlations were observed between ethylene production at senescence, and between flower longevity and ethylene production. Although large genetic variability in ethylene sensitivity among cultivars, there was no correlation between flower longevity and ethylene production. This study suggests that polyploidy level in pot carnation cultivars does not influence on flower longevity or ethylene sensitivity. This study suggests flower longevity of pot carnation using cross breeding techniques with

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