

Title **Pre-harvest conditions to improve the post-harvest quality of cut flowers**

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Abstract

Cut flowers are transported for several days or even weeks over various distances before being sold. Transport conditions and handling in the supply chain affect the quality of the flowers at the final consumer, and improper management of the ornamental product by the several partners involved in the supply chain can cause a quality deterioration that may influence the consumer acceptability. Post-harvest technology has a great importance in reducing quality losses, and the control of temperature, ethylene, relative humidity etc. in the conservation and transport environments have long been studied to improve flower longevity, reduce deterioration of petals due to *Botrytis*, avoid loss of turgor of petals, leaves and stems. However, also pre-harvest conditions can greatly affect the post-harvest flower quality and, above all, improve the flower quality at the point of sale to the final consumer who will decide if to buy the product or not. The loss of quality in cut flowers may result from many causes, including wilting or abscission of leaves or petals, flower color fading, yellowing or browning of leaves, appearance of spots or tissue deteriorations due to pathogen attacks: these causes can be avoided or reduced applying growth conditions affecting post-harvest performances. These factors include the control of light, temperature and relative humidity in the greenhouses, defense against pathogens, fertilization, use of specific substrates, nutrient and drought stresses, leaf treatments etc. This paper will deal with the pre-harvest factors that can be controlled to improve the post-harvest quality of cut flowers, including the consideration of flower post-harvest performances as a selection parameter in the breeding programs.