

Title Characteristics of respiration and ethylene release rates after harvest of 10 cut gerbera cultivars
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Abstract

This study was conducted to examine the effect of changes in respiration and ethylene release rates after harvest on the vase life of cut gerberas. Respiration rate of the capitulum of 10 cultivars examined decreased with time after harvest, with a large drop at the second day followed by a slow decrease thereafter. The rapid drop respiration rate of the capitulum was probably caused by increased water demand due to sudden water cutoff at harvest as respiration rate subsequently increased following the resumption of water supply. A similar pattern was found in peduncles. Overall the respiration rate of peduncles was lower than that of the capitulum. Of all cultivars examined, 'Ggotmuri' had the lowest respiration rate of $394.0 \text{ mL CO}_2 \text{ kg}^{-1} \text{ fw-h}^{-1}$ at 4 days after harvest, followed by 'Honeymoon', 'Saebom', 'Runa', and 'Sunnyeo'. For most cultivars there was a short lag phase after harvest prior to a slight increase in ethylene production from the peduncle after two or three days, after which it declined, However, in 'Sunnyeo', ethylene production increased with time after harvest attaining a much higher peak production after 4 days than with all other cultivars examined. It is these results are closely related with vase life of cut flowers, especially of 'Sunnyeo' which has earlier occurrence of peduncle damage and shortened vase life than any other cultivar examined.