

# Floral scent evaluation of three cut flowers through sensorial and gas chromatography analysis

Aros D.

Garrido N.

Rivas C.

Medel M.

Müller C.

Rogers H.

Úbeda C.

The main function of floral scent is to attract and guide pollinators, but it is also an important character in the ornamental plant industry. Several studies have considered the chemical evaluation of floral scent during vase life, but only a few have considered sensorial analysis of this character, which is a very important quality trait for the marketing of ornamental plants. This study focused on assessing the floral scent of three fragrant cut flowers of high economic importance: Liliium, chrysanthemum, and freesia. Eighty individuals were included in a sensorial analysis where the attributes of floral scent liking and intensity were evaluated. The composition of the floral scent was analyzed through the collection of headspace followed by gas chromatography-mass spectrometry (GC-MS). The floral scents of oriental lily and freesia were perceived as more intense, compared to chrysanthemum. A total of 28 volatile compounds were detected and the monoterpenes  $\alpha$ -pinene ( $40.7 \pm 1.8 \mu\text{g}\pm\text{L}^{-1}$ ),  $\alpha$ -cis-ocimene ( $5552 \pm 990 \mu\text{g}\pm\text{L}^{-1}$ ), and linalool ( $11,800 \pm 220 \mu\text{g}\pm\text{L}^{-1}$ ) were the major volatile organic compounds (VOCs) present in chrysanthemum, liliium, and freesia, respectively. The results presented in this study confirm that the concentration and abundance of volatile compounds is not directly related to the human perception of floral scent. © 2020 by the authors.

Cut flowers

Floral scent

GC-MS

Monoterpenes

Sensorial analysis

Vase life