

Chemical and Sensorial Characterization of Scented and Non-Scented *Alstroemeria* Hybrids

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Abstract

Floral scent plays an important ecological role attracting pollinators. Its composition has been elucidated for a vast diversity of species and is dominated by volatile organic compounds (VOCs) such as monoterpenoids, sesquiterpenoids, phenylpropanoids and benzenoid compounds. Considering that floral scent is also an important character for the ornamental plant market, this study was aimed at characterizing and comparing the molecular composition of scented and non-scented *alstroemeria* flowers.

Confirmation of floral scent was performed through sensorial analysis, while GC-MS analysis detected monoterpenes and esters as major volatile organic compounds (VOCs). A total of 19 and 17 VOCs were detected in the scented hybrids 13M07 and 14E07, respectively. The non-scented hybrid 13B01 shared 14 VOCs with the scented hybrids, although it showed different relative concentrations. Comparison between scented and non-scented hybrids suggests that diversity and amounts of VOCs are likely due to the ecological role of scent, while the human perception of floral scent is not strictly related to the VOC profile. © 2022 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

Alstroemeria; Floral scent; GC-MS; Methyl benzoate; Methyl salicylate; Monoterpenes; Sensorial analysis