Spatial-temporal variability of volatile components of Camellia azalea Wei

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Abstract: The floral volatile compounds emitted at different stages of flower development and from different parts of Camellia azalea Wei were studied by solid phase micro-extraction and gas chromatography-mass spectrometry (GC-MS). The result showed that eight volatile compounds were identified in the bud stage, 20 in first flowering, 21 in full flowering and 17 in declining flowering stage. The main releasing stages were first flowering and full flowering stage. With the development of the flower of C. azalea, the relative content of alcohols increased gradually. Alkenes, esters and alkanes increased at first and then decreased, and aldehydes and ketones decreased on the whole. Twenty compounds were identified in sepals, 22 in petals, 21 in stamens and 13 in pistils. The main flower parts of volatile releasing were petals and stamens. The relative content of alkanes was the highest in sepals, stamens and petals, accounting for 49.86%, 51.59% and 44.66% of total volatile compounds respectively. The content of aldehydes and ketones was the highest in pistils, accounting for 83.87%.

The paper concludes that because of the complexity of the formation and releasing mechanism of volatile components, the specific sources pathway of the main volatile compounds and the relationship between the changes of enzyme activities and the volatile compounds release of C. azalea need to be further studied. The full text of this paper including tables of results can be found on the ICS website.

A New Processing Technique for Drying Fresh Flowers of Species in Camellia Sect. Theopsis

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This paper describes a new technique for drying fresh flowers of Sect. Theopsis using both microwave and thermal treatments. The detailed process includes sample picking, cleaning, blanching treatment and final preservation. The treated flowers retain their original colour and shape.

The next stage of the research will be to examine nutritional content such as tea polyphenols, soluble sugars, amino acids and vitamins in order to develop the commercial application of the process.

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