

GC-MS analysis of volatile components in Chinese wild strawberry (*F. nilgerrensis* Schlecht.)

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Acta Horticulturae 1049: 467-469. (2014)

Abstract

The volatile components of three wild strawberry (*F. nilgerrensis* Schlecht.) accessions (04-6, 04-8, and S3-3) were examined by HS-SPME and analyzed by GC-MS. The results showed that 112 volatile components, belonging to 11 categories in these three accessions were identified. There were 66, 64, and 66 volatile components in three accessions, representing 99.91, 98.76, and 98.91% of the total peak area, respectively. Esters, alcohols, and aldehydes were the major constituents. Twenty-eight components were found to be common in the three accessions, and 14 of them were unique components in comparison with *F. vesca* L., 'Li Siji'. The unique components were 4-decenoic acid ethyl ester, 3-methyl-butyric acid 3-methylbutyl ester, 3-methyl-butanoic acid ethyl ester, decanoic acid ethyl ester, octanoic acid ethyl ester, 3-hydroxy-2-butanone, 2-heptanone, tetrahydro-6-pentyl-2H-pyran-2-one, (Z)-4-decen-1-ol, 2,3-butanediol, 2,4-hexadienal, ζ dodecalactone, butanoic acid, and (Z)-cyclodecene. From the sensory point of view, the flavor of the *F. nilgerrensis* is different from the *F. vesca*, which has rich peach flavor. Its unique volatile components is likely to play a role in its flavor, and ζ dodecalactone may make a great contribution to the characteristic flavor of the berries.