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# Falcarinol Content in Carrot Genotypes Determined by LC-MS

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For the determination of falcarinol [(3R,9Z)-heptadeca-1,9-diene-4,6-diyn-3-ol] in various genotypes of carrots (*Daucus carota* L.) a new LC–MS method has been developed and validated. The method consists of accelerated solvent extraction (ASE) of lyophilized carrot root samples with ethyl acetate and LC–ESI MS analysis of the extracts. Falcarinol was determined by extracting the main ion species generated in the positive ion mode, m/z 268 $[M + H - H_2O + MeCN]^+$, from the full MS chromatogram. For the quantitation of falcarinol a calibration curve was prepared (correlation coefficient 0.9975) with pelargonic acid vanillylamide as an internal standard. The method exhibited good precision with interday and intraday variation of less than 4%, and high recovery (average recovery rate 97.9%). LOD (S/N = 3) and LOQ (S/N = 10) were found to be 2.5 and 7 ng, respectively. Using this method, 27 different carrot genotypes grown and harvested under the same conditions were analyzed. The content of falcarinol ranged from 0.70 to 4.06 mg/100 g fresh weight, depending on the genotype [1].

[1] Pferschy-Wenzig EM, Getzinger V, Kunert O, Wölkart K, Zahrl J, Bauer R. Determination of falcarinol in carrot (Daucus carota L.) genotypes using liquid chromatography/ mass spectrometry. Food Chem; in press. doi:10.1016/j.foodchem.2008.10.042