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Czech J. Food Sci.

**Winterová R.,
Mikulíková R., Mazáč**

J., Havelec P.: Assessment of the authenticity of fruit spirits by gas chromatography and stable isotope ratio analyses

Czech J. Food Sci., 26 (2008): 368-375

The gas chromatographic (GC) determination of volatile constituents and the determination of $^{13}\text{C}/^{12}\text{C}$ isotope ratios by isotope ratio mass spectrometry – IRMS analysis as well as SNIF– NMR analysis of (D/H)I and (D/H)II ratios in ethanol are prospective analytical methods which can be used for checking the authenticity of fruit spirits and for detecting their adulteration. Different concentrations of volatile compounds such as acetaldehyde, ethyl acetate, diethyl acetal, methanol, 1-butanol, 2-butanol, 1-propanol, 2-methyl-1-propano 2- and 3-methyl-1-butanol, volatile fatty acids and isotopic data were demonstrated using discriminant

analysis. The results show that the determination of isotope ratios can be used especially for distinguishing between fruit spirits and others spirits, i.e. those made from beet sugar, maize, cane sugar, grain, potato, or synthetic alcohol. Gas chromatography also makes it possible to discriminate between