

To: **Members of the Vinegar Committee**

4 August 2020  
MW / lü

**CL VIN 12/20**

***Collaborative trial to validate SNIF-NMR and IRMS methods for vinegar and vinegar analysis***

Dear all,

The Food Authenticity Network informs us that an international collaborative trial has been undertaken in 7 laboratories to define standard deviations of repeatability (sr) and reproducibility (sR) for vinegar and balsamic vinegar stable isotope ratios of H (D/H), C ( $\delta^{13}\text{C}$ ) and O ( $\delta^{18}\text{O}$ ), in order to establish them as fully recognised official standards.

Isotopic methods have been recognised by CEN (European Committee for Standardisation) and in part by the OIV (Organisation Internationale de la vigne et du vin) as a means of detecting the non-permitted presence of exogenous acetic acid and water in vinegar (CEN) and specifically wine vinegar (OIV). The methods used are EN 16466-1 for D/H in the methyl site of acetic acid  $[(\text{D}/\text{H})\text{CH}_3]$  using  $2\text{H}$ -SNIF-NMR (Site Specific Natural Isotope Fractionation-Nuclear Magnetic Resonance), EN 16466-2 and OIV 510/2013 for analysis of  $^{13}\text{C}/^{12}\text{C}$  in acetic acid ( $\delta^{13}\text{C}$  ‰) using IRMS (Isotope Ratio Mass Spectrometry), and EN 16466-3 and OIV 511/2013 for analysis of  $^{18}\text{O}/^{16}\text{O}$  in water ( $\delta^{18}\text{O}$  ‰) using IRMS.

The laboratories analysed two samples of wine vinegar, one cider vinegar, and four balsamic vinegars. The results of the trial are in line with those in the literature or reported in corresponding official methods, and sr and sR of balsamic vinegar are in line with those of vinegar and must.

The full article is available [HERE](#).

Best regards,



Markus Weck