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Distribution analysis of myo and scyllo-inositol in natural grape must

As it is well known, myo and scyllo-inositol are two characteristic sugars of grape must and, for this reason, their quantification has been proposed to control the authenticity of the concentrated and rectificated grape must. Indeed, these polyalcohols, which originate in the grape berries and are not retained by the resins used for the concentration process, are not naturally present in other commercial sugars from different botanical origins [1]. However, up to now, no study has exhaustively investigated the concentration variability of myo and scyllo-inositol in natural grape musts and for this reason in the definition of rectified concentrated grape must the only presence of meso-inositol is prescribed without reporting any minimum limit [2]. In this work, 200 authentic Italian grape musts were collected and the concentration of the two polyalcohols was determined. The sampling was done during 2019 and 2020 harvest in 17 different Italian Regions (Abruzzo, Basilicata, Calabria, Campania, Emilia Romagna, Friuli Venezia Giulia, Lazio, Lombardy, Marche, Piedmont, Puglia, Sardinia, Sicily, Tuscany, Trentino-Alto Adige, Umbria, and Veneto). A total of 85 different grape varieties were considered to describe the natural variability. Quantification of myo and scyllo-inositol was performed by gas chromatography after silylation. The method used was obtained by modifying the official method RESOLUTION OIV-OENO 419C-2015 concerning the quantification of myo and scyllo -inositol in rectified concentrated grape musts [3]. The aim of our work was to create an extensive data bank and to investigate the impact of the geographical origin, grape variety and the different year of harvest on the concentration of myo and scyllo-inositol. Furthermore, it has been verified the influence of the process to obtain the concentrated grape must starting from the natural one on the content of the two polyalcohols.

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