

Influence of elevation and slope exposure on must volatiles of Mencía cultivar from Ribeira Sacra (NW Spain)

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Abstract

Ribeira Sacra is a Spanish Denomination of Origen (D.O.) that produces young red wines from Mencía cultivar (Galicia, NW). The orography of the Ribeira Sacra D.O. is very characteristic and renders a wide variety of situations that combine elevation, orientation, slope exposure and slope inclination. Indeed, in this area all have terraced vineyards are very close to just one meter wide, where it is only a single row of vines and spread over the slopes which normally have a large inclination (70 to 80 ° slope). With a south-southwest direction, the vineyards are protected from cold winds from the north and the sun bathes the terraces throughout the day. The stone warmed by the sun during the day blunted the lower night temperatures avoiding frost.

During the year 2009 we have studied the volatile composition of Mencía cultivar in six different situations (orientation and altitude) of Amandi subzone (Ribeira Sacra D.O.) and the relationship with the altitude and exposition. The results showed the influence climatic and topographic conditions on the volatile composition of Mencía grape grown along Amandi site from Ribeira Sacra D.O. Six different situations were studied and the data were analysed by analysis of variance and mean differences between situations were calculated using the LSD Fishers' test. Biplot principal component analysis (PCA) was performed with mean of volatile compounds identified and quantified. The results showed significant differences among the different situations studied, showed different ripening states in the vineyard.