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**ARTEMISIA UMBELLIFORMIS LAM. AND GÉNÉPI LIQUEUR.  
FROM THE FIELD TO THE FINAL PRODUCT: THE IMPORTANCE OF THE  
VOLATILE FRACTION IN QUALITY CONTROL**

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Volatile fraction plays a fundamental role for qualitative and quantitative characterization of aromatic plants and their relative products, i.e. alcoholic beverages. *A. umbelliformis*, commonly known as "white génépi", is traditionally used to prepare a precious liqueur, and it is characterized by a volatile fraction rich in two monoterpenoids, i.e.  $\alpha$ - and  $\beta$ -thujone. The maximum content of thujones in *Artemisia*-based beverages is limited to 35 mg/L in the EU<sup>1</sup> because of their recognized activity on human central nervous system. This study reports the results of an investigation to define the geographical origin and thujone content of individual plants of *A. umbelliformis* from different geographical sites, cultivated experimentally at a single site, and to predict the thujones content in the resulting liqueurs, through their volatile fraction. Headspace Solid Phase Microextraction (HS-SPME) coupled with Gas Chromatography-Mass Spectrometry (GC-MS) or directly with mass spectrometry (HS-SPME-MS) were used in combination with chemometric descriptive and predictive tools. HS-SPME-MS was applied to speed-up the total analysis time and to make the adopted method suitable for the screening of a large number of samples.

With both approaches, a diagnostic prediction of: i) plant geographical origin, and ii) thujones content of plant-related liqueurs could be achieved.

1. Regulation (EC) No 110/2008 of the European Parliament and of the Council, Off. J. Eur. Union 2008, 16–54.