

# ENOIVAS 2019

# BOOK OF ABSTRACTS

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### VII.O.3

## EXPLORING MULTISENSORY INTERACTIONS THROUGH THE STUDY OF ASTRINGENCY DIVERSITY OF MONO-VARIETAL ITALIAN RED WINES

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According to the OIV Focus 2017 estimating the vine varieties distribution in the world, Italy is the richest grape producing country in terms of varieties. This rich biodiversity translates into a wide sensory diversity of the wines that was never systematically investigated. The D-Wines (Diversity of Italian Wines) project, is aimed to start filling this gap by getting a wide chemical and sensorial multi-parametric dataset about 11 mono-varietal red wines (Aglianico, Cannonau, Corvina, Montepulciano, Nebbiolo, Nerello Mascalese, Primitivo, Raboso, Sagrantino, Sangiovese, Teroldego) representative of the Italian territory and by focusing on tannins and astringency.

In this frame, the astringency diversity of a set of 112 wines belonging to the 11 varieties, was investigated by sensory analysis adopting a multi-steps analytical strategy. A first experiment by sorting, allowed to reduce (AHC analysis) the sample-set to 77 wines, representative of the intra-varietal similarities and diversities in terms of astringency sub-qualities. A second experiment by descriptive analysis was performed on the selected wines and allowed to obtain their sensory profiles (astringency, taste, odor). Both intra- and inter-varietal significant differences of each sensory variable was tested by ANOVA ( $p < 0.05$ ). Quantitative data concerning astringency were analyzed through Discriminant Analysis (DA).

Results showed that the 6 variables describing astringency (drying, harsh, unripe, dynamic, complex, surface smoothness; Gawel *et al.*, 2000) allowed a good discrimination ( $F1+F2$ : 78%) of the wines according to the grape variety. Factor scores of each sample allowed their reclassification into the variety for which the probability of belonging was the greatest. The 57% of the wines resulted correctly reclassified, with Nebbiolo showing the highest value (83%) and Nerello Mascalese the lowest (0%).

The quantitative data concerning the well reclassified wines were used to develop "Astringency spectra", models representing the astringency features of each mono-varietal wine.

These "Spectra" were compared to those of the corresponding deodorized wines in order to investigate the multisensory interactions between astringency, taste and odor variables. Several significant correlations were detected (e.g.  $R^2 > 0.5$ : drying and dynamic, drying and dehydrated fruit, complex and spicy were positively correlated while harsh and acid were negatively correlated).

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**Droits réservés**