ENOLOGICAL CHARACTERIZATION OF MOLD RESISTANT VARIETIES GROWN IN THE TRENTINO ALPINE REGION

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Abstract:
Among the different strategies used in vine growing to fight against mold diseases, it can be pointed out the hybridation of traditional grape varieties with others, presenting a genetic resistance to pathogen attack. The research in this field has been encouraged in recent years due to the increased concern about human safety and environmental pollution linked to the use of agrochemicals. This approach allows to limit the number of treatments and the type of active compounds used in vine management. The environment determines the pressure degree of the diseases on vines and the biologic response of the plant to their attack. Thus, to better evaluate the tolerance to pathogens, cultivars are usually tested in different vinegrowing areas and the main winemaking parameters - such as reducing sugars, organic acids or pH - are evaluated. However, the plant environment also affects greatly the production of secondary metabolites, some of which play an active role in wine quality, determining the enological aptitude of these varieties in each production area. Information regarding the composition of these compounds is scarce and should be related to the production area and the viticultural and agronomic features.

Material and methods – Grapes used for the winemaking investigations were produced between 2015 and 2017 in two experimental plots of Trentino (NE Italy) geographically and environmentally differentiated.

Results - In this work, we report some of the results obtained in the VEVIR project, which regards the evaluation and the enological valorization of grapes produced in the Trentino vinegrowing region from some mold resistant varieties breeded at the Weinbauinstitute from Freiburg (Germany). To this aim, musts, wines and distillates obtained with standardized conditions at semi-industrial scale were used for the chemical investigations. The project focused partially on the study of the phenolic and the color profile of wines obtained from red varieties, the shikimic acid concentration from white cultivars or the aroma of the wines and the distillates analyzed chemically and sensorially. We have also deepen on the effect of the winemaking protocol on the concentration of some of these parameters in wines.

Keywords: Mold, tollerant, resistant, winemaking, aroma, secondary metabolites

1. Introduction.

Enological characterization of mold resistant varieties grown in the Trentino alpine region

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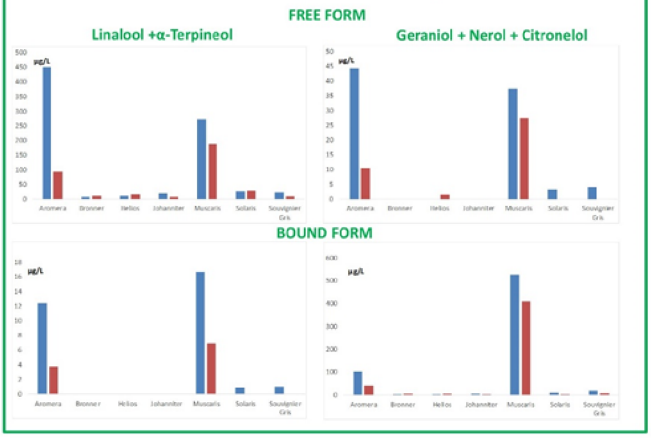
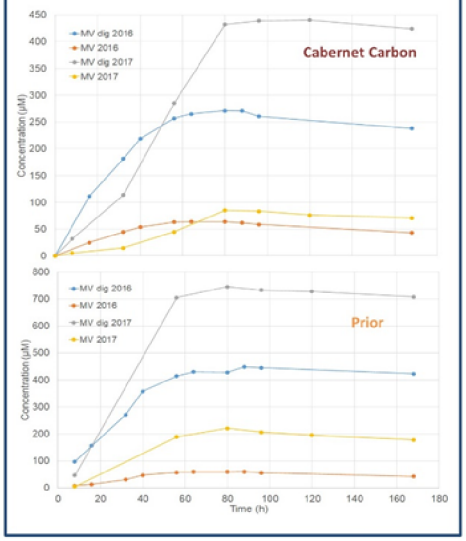
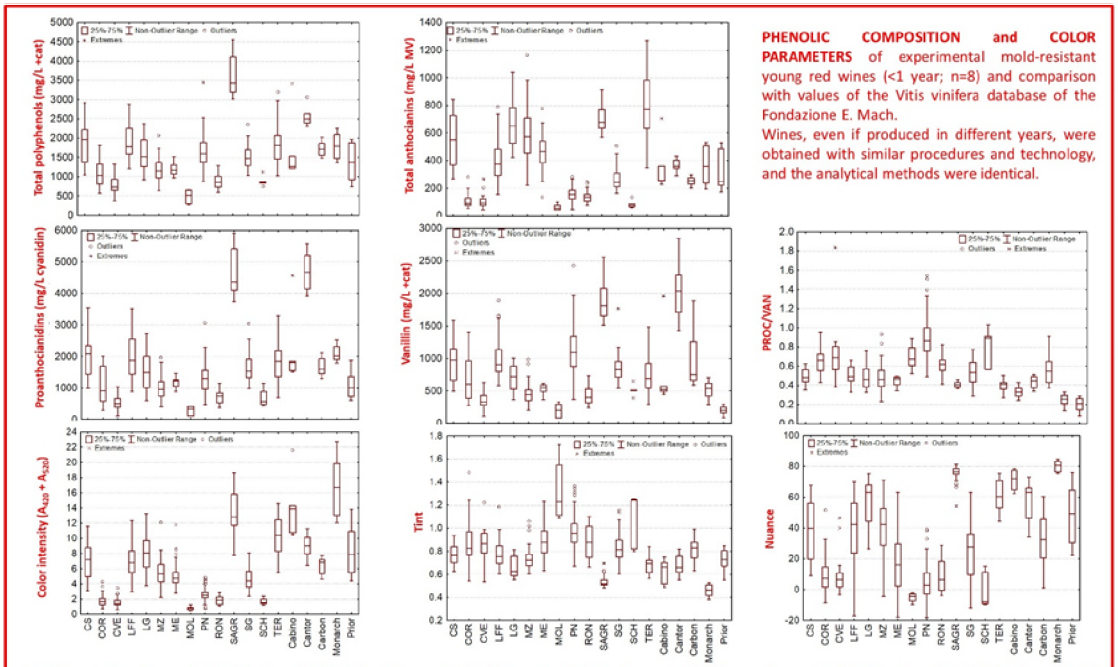
ALL WINES WERE PRODUCED AT STANDARDIZED CONDITIONS AT THE EXPERIMENTAL WINERY OF THE FONDAZIONE E. MACH.
GRAPES CAME FROM TWO EXPERIMENTAL PLOTS PICKED DURING THE 2016 AND 2017 HARVEST

Terpene profile of experimental WHITE WINES producced in 2016 from 2 experimental plots of trentino (Navicello and Telve)



Extraction curve of **MALVIDIN-3-MONOGLUCOSIDE (MV)** and **-3,5 DIGLUCOSIDE (MV-dig)** during skin-contact maceration of Cabernet Carbon and Prior experimental wines of 2016 and 2017





PHENOLIC COMPOSITION and COLOR PARAMETERS of experimental mold-resistant young red wines (<1 year; n=8) and comparison with values of the Vitis vinifera database of the Fondazione E. Mach.
Wines, even if produced in different years, were obtained with similar procedures and technology, and the analytical methods were identical.

CS: Cabernet Sauvignon - COR; Corvina; CVE (22): Corvinone – LG (23): Lagrein – LFF: Lambrusco foglia frastagliata – ME (6): Merlot – MOL (7): Molinara – MZ (73): Marzemino – PN (123): Pinot Noir – RON (26): Rondinella: SCH (5): Schiava; SG (28): Sagrantino – TER (26): Teroldego. Between brackets, the number of wines employed used in the comparison.

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