葡萄酒品质的维度：从风土表达至技术创新的科学前沿

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葡萄酒品质并非单一指标的体现，而是风土条件、原料特性与酿造技术长期协同作用的结果。从气候因素对葡萄形态和化学组成的塑造，到多酚、花青素等关键成分在发酵、陈酿及后处理过程中的动态演变，品质始终贯穿于葡萄酒科学研究的各个层面。近年来，随着分析技术和酿造手段的不断发展，如何在尊重风土表达的基础上，通过精准工艺调控与技术创新提升和稳定葡萄酒品质，已成为学界与产业共同关注的前沿问题。

本专题围绕品质这一核心维度，汇集多项关于气候与风土响应、发酵与陈酿调控、多酚与感官特性关联，以及新技术在品质塑造中应用的研究成果，系统呈现当代葡萄酒科学在传统经验与现代技术之间的融合路径。通过这些研究，可以更全面地理解葡萄酒品质形成的科学机制，为高质量、差异化与可持续发展的葡萄酒生产提供理论依据与技术启示。

1. Investigation of Xinomavro Red Wine Aging with Various Wood Chips Using Pulsed Electric Field

利用脉冲电场研究 Xinomavro 红葡萄酒与不同木片的陈酿效果

文章链接：http://www.mdpi.com/2306-5710/10/1/13

MDPI引用格式：Toulaki, A.K.; Athanasiadis, V.; Chatzimitakos, T.; Kalompatsios, D.; Bozinou, E.; Roufas, K.; Mantanis, G.I.; Dourtoglou, V.G.; Lalas, S.I. Investigation of Xinomavro Red Wine Aging with Various Wood Chips Using Pulsed Electric Field. Beverages 2024, 10, 13.

2. Metabolomic Nuclear Magnetic Resonance Insights into Wine and Grape Ale Maturation

代谢组学核磁共振揭示葡萄酒和葡萄啤酒的成熟机制

文章链接：http://www.mdpi.com/2306-5710/11/1/29

MDPI引用格式：Gerginova, D.; Chorbadzhiev, P.; Simova, S. Metabolomic Nuclear Magnetic Resonance

Insights into Wine and Grape Ale Maturation. Beverages 2025, 11, 29.

3. Climate Effect on Morphological Traits and Polyphenolic Composition of Red Wine Grapes of Vitis vinifera

气候对红葡萄 (Vitis vinifera) 形态特征和多酚成分的影响

文章链接：http://www.mdpi.com/2306-5710/9/1/8

MDPI引用格式：Rouxinol, M.I.; Martins, M.R.; Salgueiro, V.; Costa, M.J.; Barroso, J.M.; Rato, A.E. Climate Effect on Morphological Traits and Polyphenolic Composition of Red Wine Grapes of Vitis vinifera. Beverages 2023, 9, 8.

4. Measuring Wine Quality and Typicity

衡量葡萄酒的品质和典型性

文章链接：http://www.mdpi.com/2306-5710/9/2/41

MDPI引用格式：Basalekou, M.; Tataridis, P.; Georgakis, K.; Tsintonis, C. Measuring Wine Quality and Typicity. Beverages 2023, 9, 41.

5. Use of Fumaric Acid to Inhibit Malolactic Fermentation in Bottled Rioja Wines: Effect in pH and Volatile Acidity Control

使用富马酸抑制瓶装里奥哈葡萄酒中的苹果酸乳酸发酵：对 pH 值和挥发性酸度控制的影响

文章链接：http://www.mdpi.com/2306-5710/9/1/16

MDPI引用格式：Morata, A.; Adell, E.; L ó pez, C.; Palomero, F.; Su á rez, E.; Pedrero, S.; Ba ñ uelos, M.A.; Gonz á lez, C. Use of Fumaric Acid to Inhibit Malolactic Fermentation in Bottled Rioja Wines: Effect in pH and Volatile Acidity Control. Beverages 2023, 9, 16.

6. Preliminary Characterisation of Metschnikowia pulcherrima to Be Used as a Starter Culture in Red Winemaking

梅奇酵母 (Metschnikowia pulcherrima) 作为红葡萄酒发酵剂的初步表征

文章链接：http://www.mdpi.com/2306-5710/10/3/88

MDPI引用格式：Testa, B.; Coppola, F.; Iorizzo, M.; Di Renzo, M.; Coppola, R.; Succi, M. Preliminary Characterisation of Metschnikowia pulcherrima to Be Used as a Starter Culture in Red Winemaking. Beverages 2024, 10, 88.

7. Current Techniques for Fruit Juice and Wine Adulterant Detection and Authentication

果汁和葡萄酒掺假检测与鉴定的现行技术

文章链接：http://www.mdpi.com/2306-5710/9/4/84

MDPI引用格式：Mac, H.X.; Pham, T.T.; Ha, N.T.T.; Nguyen, L.L.P.; Baranyai, L.; Friedrich, L. Current Techniques for Fruit Juice and Wine Adulterant Detection and Authentication. Beverages 2023, 9, 84.

8. Low-Alcohol and Nonalcoholic Wines: From Production to Cardiovascular Health, along with Their Economic Effects

低酒精和无酒精葡萄酒：从生产到心血管健康及其经济影响

文章链接：http://www.mdpi.com/2306-5710/10/3/49

MDPI引用格式：Silva, P. Low-Alcohol and Nonalcoholic Wines: From Production to Cardiovascular Health, along with Their Economic Effects. Beverages 2024, 10, 49.

9. Umami in Wine: Impact of Glutamate Concentration and Contact with Lees on the Sensory Profile of Italian White Wines

葡萄酒中的鲜味：谷氨酸浓度和与酒糟接触对意大利白葡萄酒感官特征的影响

文章链接：http://www.mdpi.com/2306-5710/9/2/52

MDPI引用格式：Franceschi, D.; Lomolino, G.; Sato, R.; Vincenzi, S.; De Iseppi, A. Umami in Wine: Impact of Glutamate Concentration and Contact with Lees on the Sensory Profile of Italian White Wines. Beverages 2023, 9, 52.

10. Exploring Metschnikowia pulcherrima as a Co-Fermenter with Saccharomyces cerevisiae: Influence on Wine Aroma during Fermentation and Ageing

探索梅奇酵母(Metschnikowia pulcherrima)与酿酒酵母(Saccharomyces cerevisiae)共发酵：对葡萄酒发酵及陈酿过程中香气的影响

文章链接：http://www.mdpi.com/2306-5710/10/2/26

MDPI引用格式：Torres-D í az, L.L.; Murillo-Pe ñ a, R.; Iribarren, M.; S á enz de Urturi, I.; Mar í n-San Rom á n, S.; Gonz á lez-L á zaro, M.; P é rez- Á lvarez, E.P.; Garde-Cerd á n, T. Exploring Metschnikowia pulcherrima as a Co-Fermenter with Saccharomyces cerevisiae: Influence on Wine Aroma during Fermentation and Ageing. Beverages 2024, 10, 26.

11. Impact of Fining Agents on Color, Phenolics, Aroma, and Sensory Properties of Wine: A Review

综述澄清剂对葡萄酒颜色、酚类物质、香气和感官特性的影响

文章链接：http://www.mdpi.com/2306-5710/10/3/71

MDPI引用格式：Kumar, Y.; Suhag, R. Impact of Fining Agents on Color, Phenolics, Aroma, and Sensory Properties of Wine: A Review. Beverages 2024, 10, 71.

12. New Sparkling Wines from Traditional Grape Varieties and Native Yeasts: Focusing on Wine Identity to Address the Industry’s Crisis

采用传统葡萄品种和本地酵母酿造的新型起泡酒：聚焦葡萄酒特性以应对行业危机

文章链接：http://www.mdpi.com/2306-5710/11/1/25

MDPI引用格式：Basile, T.; Debiase, G.; Mazzone, F.; Scarano, L.; Marsico, A.D.; Cardone, M.F. New Sparkling Wines from Traditional Grape Varieties and Native Yeasts: Focusing on Wine Identity to Address the Industry’s Crisis. Beverages 2025, 11, 25.

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