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Título artículo: Aroma profile of wine-based beverages produced by co-fermentation of white grape must, apple and orange juices

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RESUMEN:

This study evaluated the effect of co-fermenting grape must with apple and/or orange juices using two inoculation strategies, single inoculation with *S. cerevisiae* and sequential inoculation with *T. delbrueckii* followed by *S. cerevisiae*, on fermentation kinetics, conventional oenological parameters, and the volatile and sensory profiles of the resulting beverages.

Both juice composition and fermentation strategy significantly influenced fermentation dynamics and the chemical profile of the resulting beverages. Blends containing non-grape juices, particularly orange, and sequential inoculation showed prolonged lag phases and modified CO₂ production. The co-ferments achieved reduced alcohol content, higher acidity, and a balanced pH compared to control wines.

Sequential inoculation significantly enhanced acetate ester production, like isoamyl acetate and 2-phenylethyl acetate, contributing fruity and floral aromas. Orange juice introduced high terpene levels, while apple juice enriched C13-norisoprenoids, enhancing the aromatic complexity of the co-ferments. Overall, co-fermentation with “non-grape” juices offers a promising strategy to create wine-base beverages with unique sensory profiles, reduced alcohol content, and greater aromatic diversity, aligning with consumer demand for innovative and healthier products.

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