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Título artículo: Seed and skin-derived flavanols in red wine: a study of Syrah, Marselan, and Tannat cultivars

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RESUMEN:
The flavanol composition of red wine, stemming from grape skins and seeds, is a determinant factor of its quality. It has been proposed that the wine flavanol structure depends on the grape cultivar but with skin-derived flavanols prevailing in traditional red winemaking from mature grapes. However, this has not been confirmed for many cultivars. This study analysed the flavanol composition in grapes, wines, and pomace of Syrah, Marselan, and Tannat, Vitis vinifera cultivars known for their potential to yield tannic wines. Across two vintages, 20 wines were produced through traditional winemaking. Flavanols were analysed by HPLC–MS/MS before and after acid-catalysed depolymerisation of proanthocyanidins. Grapes of different ripeness were considered as vineyard with different agronomical characteristics. Nevertheless, each cultivar exhibited a characteristic flavanol composition in both grapes and wines. Notably, all Marselan wines had high proportions of seed-derived flavanols (high proportions of monomers, dimers and low of prodelphinidins), from grapes with high skin flavanol content. In contrast, Tannat and Syrah wines had high proportions of skin-derived flavanols, irrespective of the corresponding seed flavanol levels in grapes. Flavanol extractability from skins mainly regulated wine composition, being unusually low in Marselan, rising with ripeness in Syrah, and consistently high in Tannat, masking the high seed flavanol contents of its grapes. Therefore, wines with high proportions of seed-derived flavanols can be obtained from fermentative macerations of ripe grapes. Pomaces were found to be a rich source of flavanols, primarily from seeds where they largely remain unextractable.

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