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Título artículo: Could varieties genetically related to Tempranillo behave better than it under drought conditions?

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RESUMEN:
The effects of climate change are an emerging threat that is compromising the sustainability of grapevine growing worldwide. The Tempranillo variety is no stranger to this threat. In fact, in recent decades, significant losses have occurred in the yield and quality of Tempranillo grapes for winemaking. This problem is particularly serious in Spain, where Tempranillo is the red variety par excellence for the production of great wines. In this study, we assessed whether two genetically related varieties could exhibit a better drought response than Tempranillo itself. During two consecutive seasons, a study was conducted including the Tempranillo, Benedicto, and Moribel varieties, which were grown under two different water deficit regimes. The phenology of the varieties was followed, and components of yield, vigor, quality parameters, and $\delta^{13}C$ were analyzed. The results revealed that Tempranillo was the variety most affected by water stress, exhibiting significantly higher $\delta^{13}C$ than its relatives. Without compromising yield, Benedicto and Moribel responded better than Tempranillo to drought conditions, exhibiting better must quality even in the warmer season. The wines coming from Benedicto exhibited the highest quality because of their high total acidity, anthocyanin concentration, color intensity, and low pH. Although all three wines exhibited a similar profile, in the sensory analysis, tasters mostly preferred Benedicto and Moribel wines to Tempranillo ones.

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