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**Título artículo:** Agronomic Response of 13 Spanish Red Grapevine (*Vitis vinifera* L.) Cultivars under Drought Conditions in a Semi-Arid Mediterranean Climate

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**RESUMEN:** Drought is perhaps the most important abiotic stressor affecting plants. Grapevine (*Vitis vinifera* L.) is a drought-tolerant species, and this feature makes it a traditional crop in semi-arid climate areas. However, not all cultivars respond to drought in the same way. Many studies on grapevine drought response have focused on physiological traits. This study mainly used agronomic indicators to assess the drought response of 13 red cultivars. Our results revealed high variability in must isotope ratios ( $\delta^{13}$ C and  $\delta^{18}$ O), yield components, and grape must quality. Bobal, Garnacha Peluda, Garnacha Tinta, Mazuela, and Moribel cultivars responded well to drought conditions, simultaneously maintaining high yields and must quality. By contrast, Garnacha Tintorera, Forcallat Tinta, and Tempranillo cultivars showed high water use efficiency but had low yield and must quality. Therefore, these cultivars can be considered poorly adapted to drought conditions. By knowing which cultivars perform well under drought conditions, viticulturists can reduce their reliance on water irrigation and continue to maintain vineyard sustainability in current and future semi-arid climatic conditions. This research also contributes novel information about the Castilla-La Mancha region, where there have been no previous similar assays.