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Título artículo: Effects of Water Stress on Vegetative Growth and 'Merlot' Grapevine Yield in a Semi-Arid Mediterranean Climate

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RESUMEN: Water stress is considered to be the most influential type of abiotic stress to which plants may be exposed. In grapevines (*Vitis vinifera* L.), it is a common practice to keep plants under water stress at different stages of the season with the aim of reducing yield and improving the composition of the fruit. The objective of this study was to evaluate foliar development and yield of 'Merlot' grapevines grown in the field when they are subjected to different levels of water stress in a semiarid Mediterranean climate. Four treatments with different levels of water stress were applied during two phenological intervals (flowering-veraison and veraison-maturity) to 128 grapevines for a period of two consecutive years. The levels of water stress were none-light, light-moderate, moderate-intense, and intense-intense for the flowering-veraison and veraison-maturity intervals, respectively. The results revealed that the total leaf area, the exposed leaf area, and the yield all decreased as the degree of water stress increased. The weight of the berry was a decisive factor in determining yield. The least restrictive water regime treatment gave the heaviest berries and bunches and, as a result, the highest yields.

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