

Leaf water relation traits in typical Sicilian varieties of *Vitis vinifera* L.

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In Italy, grapevines are extensively cultivated, with Sicily representing one of the most significant wine regions. The high number of autochthonous grapevine varieties represents an important source of genetic diversity, and the many Sicilian varieties have anatomical and physiological traits that allow them to resist to different levels of drought stress. We investigated the water relation parameters of four cultivars of *Vitis vinifera* L. (Catarratto, Corinto, Nero d'Avola and Zibibbo) and characterized their leaf hydraulics. Measurements were conducted during summer on plants growing in the experimental field of the IBBR-CNR near Palermo. Daily patterns of leaf water potential (Ψ_{leaf}) and stomatal conductance (g_s) were measured in the field. Pressure-volume curves were constructed by the bench dehydration method to obtain leaf water potential at turgor loss point (Ψ_{tlp}), osmotic potential at full rehydration (π_0) and bulk modulus of elasticity (ϵ_{max}). Leaf samples were collected to determine vein density using ImageJ. Major vein density was measured on digitally scanned leaves, while minor vein density was measured on photomicrographs of cleared and stained leaf portions.