



**EVALUACIÓN DEL MODELO DE PENMAN-MONTEITH PARA ESTIMAR EL
FLUJO DE CALOR LATENTE EN VID (*Vitis vinífera* L.).**

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ABSTRACT

The Penman-Monteith method with a variable surface canopy resistance was evaluated to estimate actual evapotranspiration or latent heat flux over a sparse vine crop under different atmospheric conditions. This experiment was carried out in Penciahue, VII Region, Chile (35°22' South and 71° 47' West; 45 m above the sea level) from 13 January to 14 March 2001. One automatic meteorological station was installed in order to measure solar radiation, air temperature, air humidity, wind speed and wind direction on a 15 minute time interval. The performance of the Penman-Monteith model (LEPM) was tested with latent heat flux measurements from an eddy correlation system (LEFT). Results indicated that there was no a good agreement between LEPM and LEFT with a correlation coefficient, slope and intercept of 0,5, 0,76 and 46,11, respectively. However, results indicated an overall standard error of estimate (DEE) of 48,27 W m⁻², an absolute error of 6,35 % and index of agreement of 0,83. Greater disagreements between measured and estimated values were observed during the noon and afternoon. This analysis suggests that the Penman-Monteith method could be used to compute vine water requirement in Penciahue, using basic climatological data.

Keywords: Penman-Monteith, latent heat flux, sparse canopies, vineyards, surface canopy resistance.