



## **Temperatures and index of Huglin: indicators of spatio-temporal variability at fine scales in Vinho Verde vineyard.**

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### **Abstract:**

In the northern of Portugal, there are significant types of vines' variability and quality of production due to the local climate conditions as the proximity of sea and uneven/steep topography. Data base is constituted of 15 meteorological stations very spaced on the period 1978-1998. One serie is longer: the serie (1900 to 2006) of Sera do Pilar (Porto), which allows observing climate temperature trends and evolution of heliothermal index. Active mean and maximum daily temperatures (above 10°C) are used to in a heliothermal index: the index of Huglin. This bioclimatic index is widely used for assessing the main overall characteristics of geographical zones as well as the local adaptation of varieties and a class of viticultural climate corresponds to a class interval of values in degree-days. Several varieties are cultivated in Vinho Verde vineyard and wine quality is influenced by meteorological situation and the best variety, Alvarinho, can be cultivated in particular conditions in the extreme north of Portugal, in the region of Monção. In the context of climate change, these optimal conditions could be modified and have impacts on wines of premium quality.

Key-words: Vinho Verde vineyard, Huglin's heliothermal index, fine scales, spatio-

temporal variability.