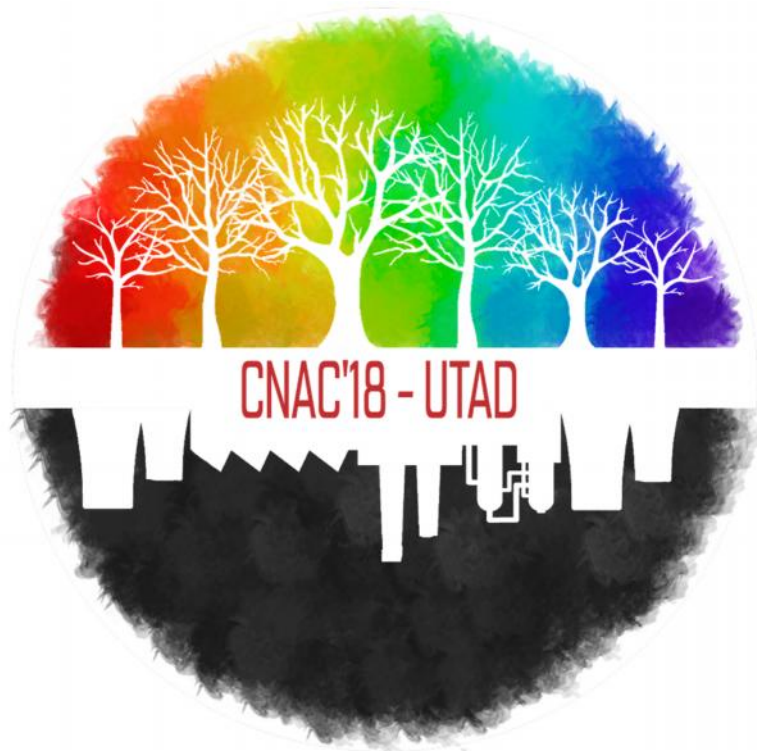


# **Livro de Resumos**

## **Congresso Nacional sobre Alterações Climáticas 2018**



**19, 20 e 21 de fevereiro de 2018,  
Aula Magna, Vila Real, Portugal**

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**Brito, C., Dinis, L-T, Silva, E., Gonçalves, A., Rodrigues, M. A., Moutinho-Pereira, J., Barros, A. & Correia, C.** – Weather year-to- year variations determine the influence of kaolin and salicylic acid in olive fruits and oil phenolic composition.

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**Garrido, A., Serôdio, J. & Cunha, A.** – Photosynthetic phenotype adaptation of grape berry (*Vitis vinifera*) to canopy light microclimate and acclimation to short-term light challenges: how to cope with Mediterranean summer stress?

**Weather year-to-year variations determine the influence of kaolin and salicylic acid in olive fruits and oil phenolic composition.**

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**RESUMO**

Olive tree (*Olea europaea* L.) growing area is threatened by the current and predicted adverse environmental conditions, affecting negatively the quality of the olive products, largely known for its benefits in human diet. Thus, agronomic strategies may be implemented to offset those negative effects. During two consecutive years young olive trees under rainfed conditions were sprayed in the beginning of the summer season with 100 µM salicylic acid (SA), a stress signaling phytohormone, or with kaolin 5% (KL), a heat and irradiance reflecting clay. The distinct weather conditions during the fruit development stage, with higher rainfall close to the harvest and the early frost events, in the first year, and the warmer and drier summer, in the second year, contributed to the increase in phenolic compounds in fruits and in olive oil from the first to the second year. Both KL and SA increased crop yield, while, in general, phenolics concentrations of both olives and oil were increased and decreased by the applied products in the first and second year, respectively. This dissimilar response was modulated by the distinct weather conditions, demonstrating the effectiveness of the applied products in attenuating the frost-promoted degradation of phenolic compounds in the first year and in mitigating the extreme adverse conditions felt in the summer of the second year. The phenolic composition was also distinctly affected, since total phenols, *ortho*-diphenols and flavonoids exhibited different trends. It is hard to conclude a specific influence of the applied products on olives and oil phenolic composition, since the weather year-to-year variations determine different plant responses.

**Key-words:** olives, oil, phenolic compounds, summer stress, frost

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