**Assessment of water content in almond leaves (LRWC) in rainfed areas, when subjected to different soil maintenance systems.**

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Portugal is a country with a tradition in almond production, producing annually around 34,000 tons of almonds in the shell. In the region of Trás-os-Montes (Portugal), where the largest production area is concentrated, almond groves are mostly rainfed and have different soil maintenance systems.

# Taking this reality into account, we carried out this work with the aim of studying the water conditions of almond trees when subjected to different soil maintenance systems in rainfed almond groves, in the Trás-os-Montes region. The experimental trial took place in an almond grove, in full production, located in Corujas – Macedo de Cavaleiros (41°36'16.5"N 6°58'19.0"W), between June and September 2023. The almond grove was divided into three treatments: covered with chickpeas (intercropping), covered with short-cycle clover and mobilized soil. Each treatment is constituted by three replications each with 5 almond trees (15 almond trees per treatment). Three leaves were collected from each tree, between 12:30 and 1 pm. Once in the laboratory, these leaves were put through the hydration and dehydration processes and weighed (fresh, turgid and dry weight) and the leaf area was determined in order to calculate the relative leaf water content (LRWC).

# The results reveal that the LRWC varied between 89% and 60%, in the months of July and September respectively. The short-cycle clover treatment obtained lower LRWC (%) values overall. In September, closer to harvest, the almond leaf presented lower LRWC values in all treatments.

# In this first year of study, the results obtained prove the need for water in certain periods of the almond tree's life cycle, deficit irrigation can be a possible solution for regions with little water availability.

**Key words:** LRWC, treatments, intercropping, cover, water.

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