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Ecophysiological Performance of Olive Genotypes (*Olea Europaea* L.) in the Semi Arid Brazil

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In the irrigated areas of the Semi Arid Brazil, the introduction of new cultivations is part of a strategy in which research and developmental groups are searching for cropping alternatives. In this context, olive has been tested aiming at studying its adaptation to the different environmental conditions of the region. Thus, a study was carried out in the Embrapa Tropical Semi-Arid, at Petrolina, State of Pernambuco, Brazil, during December, 2006, in order to characterize the daily patterns of water relation and gas exchange of four olive genotypes from different origins: a) Manzanilla (Spain); b) Barnea (Israel); c) Ma'alot (Israel), and d) Sepoca (Italy). The study was carried using one-year old plants that had been propagated by stem cuttings and planted spaced by 4.0 m x 7.0 m. The soil of the experimental area was a red-yellow oxisol and the irrigation water was applied by dripping. The evaluations were based on leaf water potential, measured with a pressure chamber (PMS, M-600), and gas exchange data accessed with a portable IRGA (LICOR, LI-6200), connected to a ¼ liter assimilation chamber. was initially observed at 04:00 (predawn) and together with stomatal conductance (g_s), leaf transpiration (E) and photosynthesis (A), from 06:00 h to 18:00 h, during two cloudless days. Predawn ψ reached around -0,5 MPa in all genotypes. However, during moments of higher evaporative demand (around 1,800 $\mu\text{mol m}^{-2} \text{s}^{-1}$ PAR, 37 °C air temperature and 30% RH), Ma'alot showed the lowest value (-2,85 MPa), followed by Barnea (-2,65 MPa), Manzanilla (-2,57 MPa) and Sepoca (-2,32 MPa). Recovery was initiated at 16:00 h, and by the end of the day, the genotypes reached around -1,0 MPa. In relation to the gas exchange variables, the highest values were observed at 10:00 h. At this time, Ma'alot showed g_s , E and A of 0,46 $\text{mol m}^{-2} \text{s}^{-1}$, 8,7 $\text{mmol m}^{-2} \text{s}^{-1}$ and 14,4 $\mu\text{mol m}^{-2} \text{s}^{-1}$, respectively, followed by Barnea (0,54 $\text{mol m}^{-2} \text{s}^{-1}$, 12,7 $\text{mmol m}^{-2} \text{s}^{-1}$ and 13,1 $\mu\text{mol m}^{-2} \text{s}^{-1}$), Manzanilla (0,58 $\text{mol m}^{-2} \text{s}^{-1}$, 15,5 $\text{mmol m}^{-2} \text{s}^{-1}$ and 14,1 $\mu\text{mol m}^{-2} \text{s}^{-1}$) and Sepoca (0,58 $\text{mol m}^{-2} \text{s}^{-1}$, 10,4 $\text{mmol m}^{-2} \text{s}^{-1}$ and 11,0 $\mu\text{mol m}^{-2} \text{s}^{-1}$). From this point, g_s , E and A decreased linearly in all genotypes, reaching around 0,05 $\text{mol m}^{-2} \text{s}^{-1}$, 1,5 $\text{mmol m}^{-2} \text{s}^{-1}$ and 0,0 $\mu\text{mol m}^{-2} \text{s}^{-1}$, respectively, by the end of the day. The Manzanilla genotype showed the highest values on these variables, during most part of the experimental period.

Keywords: Water potential, stomatal conductance, transpiration, photosynthesis.

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Study of the Factors that Influence the Nectarines in Vitro Germination

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The success for the in vitro germination and viability on pollen grains depends of the adjustment of many factors, among them: culture mean pH, the storage temperature and the emission time of the pollen tube. To evaluate the effect of each one of these factors, three experiments were realized. In these, the objective was to establish the best pH value, the ideal temperature for the pollen grains germination and the emission time of the pollen tube in two Nectarine cultivars. For the study realization, the pollen grains of 'Centenária' and 'Colombina' were inoculated in Petri dishes containing 20 mL of culture mean constituted by 60 g.L⁻¹ of sucrose and 6 g.L⁻¹ of agar. Different values of pH were tested (4.0; 4.5; 5.0; 5.5; 6.0 and 6.5), as well as different temperature (20; 25; 30