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### ECOPHYSIOLOGY OF *Moringa oleifera* Lamarck (moringaceae) SUBMITTED TO DIFFERENT PRECIPITATION REGIMES

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Conditions of water scarcity cause behavioral changes in plants, which proportions vary according to the genotype, duration, severity and stage of development. One of their defense strategies is the accumulation of organic solutes to decrease their osmotic potential and absorb water. This study aimed to compare the levels of photosynthetic pigments and soluble proteins in leaves of *Moringa oleifera* Lam grown in different rainfall conditions. The samples analyzed were from Recife-PE (LFV-UFRPE, CEGOE-UFRPE, CCB-UFPE), with an average rainfall of 227 mm.month<sup>-1</sup> from January to June, 2016 and from Pirauá, in Natuba-PB, which studied area showed an average of 87 mm.month<sup>-1</sup> in the same period. The collected leaves were extracted in 80% organic solvents for spectrophotometric analysis at wavelengths 470, 595, 645 and 663 nm, followed by quantification of chlorophyll a, b and carotenoids and soluble proteins. The design was completely randomized, presenting two treatments (227 mm.month<sup>-1</sup>, 87 mm.month<sup>-1</sup>) with 30 and 10 replications, respectively, totaling forty experimental units. Data were submitted to ANOVA and the means were compared by the Tukey test ( $p < 0.05$ ). *Moringa* extracts from Pirauá presented the lowest total chlorophyll content; therefore, carotenoids and soluble proteins concentrations were respectively 28 % and 35% higher than in the extracts from Recife. *Moringa oleifera* plants grown in sites with lowest rainfall regime may have their higher soluble proteins and carotenoids accumulation as a physiological adaptation to prolonged water scarcity.

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