



## EFFECT OF WATER DEFICIT ON THE TRANSPIRATION AND STOMATAL RESISTANCE OF MANGO TREE

Manoel Teixeira de Castro Neto<sup>1</sup>, José Monteiro Soares<sup>2</sup> e Tarcísio Nascimento<sup>2</sup>

The present work aimed to monitor the behavior of the transpiration and stomatal resistance to further increase our current understand about the effect of water stress on mango trees physiology. Using 8-year-old mango plants, from a commercial orchard, transpiration and stomatal resistance were monitored through the irrigation and water deficit period. A porometer (LI 1600, Lincoln, Nebraska, USA.) was used to measure the variables. Samplings were taken from recently mature leaves on the sunny and shaded side of the plant canopy. Differences were observed on transpiration and stomatal resistance for the sunny and shaded sides of the plant. Leaves exposed to the sun showed higher transpiration and stomatal resistance. Transpiration rate were higher for the water deficit period compared to the irrigation period. Stomatal resistance was slightly higher for the water deficit period than for the irrigation period. These results indicate that the plants were not under water stress condition during the water deficit period (no irrigation) as expected. However, these plants showed lower transpiration rates during the irrigation period, which indicates a water stress condition. The present work suggests that the management of irrigation has been incorrectly done, causing the mango trees to be under water stress condition, due to flooding of the root system, during the irrigation period. This explains why the mango growers, in the Northeastern region of Brazil, have been unsuccessful with flower induction using water stress techniques.

---

CASTRO NETO, M.T.; SOARES, J.M.; NASCIMENTO, T. Effect of water deficit on the transpiration and stomatal resistance of mango tree. In: CONGRESSO BRASILEIRO DE FRUTICULTURA, 16., 2000, Fortaleza. Resumos... Fortaleza: Embrapa Agroindústria Tropical/SBF, 2000. CD-ROM 40

<sup>1</sup>EMBRAPA Mandioca e Fruticultura, Caixa postal 007, Cruz das Almas-BA 44380-00

<sup>2</sup>EMBRAPA Semi-Árido, Caixa postal 23, Petrolina-PE 56300-000