

A comparative study on two methodologies for determining water potential in guava trees (*Psidium guajava* L.) on the Maracaibo Plain¹

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Abstract

This study was carried out for the purpose of defining a reliable technique for measuring water potential of guava trees (*Psidium guajava* L.). Eight self-rooted and eight grafted three years old trees were selected at "Los Ciénegos" farm, Zulia state, planted at a distance of 5 m x 5 m, with similar agronomic management. Leaf (yL) and stem (yS) water potentials were quantified using three different techniques. The Begg and Turner (1970) criteria for tobacco was utilized for the measurement of stem potential as well as the McCutcham and Shackeland (1992) criteria, applied to tobacco (*Nicotiana tabacum* L.) and peach (*Prunus domestica* L.), respectively. While the Scholander (1965) criteria was applied for measuring yL. Results showed that there was little difference between yS and yL early in the morning, but it greater differences occurred at noon, specifically between the 12 (noon) and 14 (2PM) hours. More over, a greater variability was found in yL as compared to yS during this period. After 14 hours (2PM), water potential values became stabilized and the plant re-hydration process began.

Key words: Hydro (water) status, measurement techniques, guava *Psidium guajava* L.

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