

Comparison of dendrometric instruments used in a planted forest of *Eucalyptus* spp in the city of Porto Velho, Rondônia, Brazilian Amazon

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The present study aims to test the instrument which dendrometric instrument is more precise for comparison of the mean values for diameter, cross-sectional area and volume in relation to the real volume. This study was conducted at the experimental station of EMBRAPA - Rondônia in a stand of *Eucalyptus spp* with 28 years of age. Six plots of 33 x 47 meters were installed, covering an area of 9.306 m², where 725 individuals were measured with a tree caliper, tape and Biltmore ruler to obtain diameter and Blume-Leiss hypsometer to estimate total height. In each plot a tree was cutted down to be cubed without bark, in order to obtain the form factor for the calculation of volume that represented samples. Diameters, sectional areas and volumes were expressed as DAP classes, setting a range of 5 cm between them. We conclude that the most accurate instrument for measuring diameter was the caliper followed by tape, and the ruler. Another result found was that the sectional area and volume are affected directly by the diameter, while the sectional area in case of measurement with the tape also depends on the trunk shape, which for this research were little influenced because the Eucalyptus are closer to circular shape, with no influence in the cross-sectional area.