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## Calibration of home-made heat dissipation probes for a full rotation of *Eucalyptus grandis* trees in Brazil

### Details

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### Abstract

With the aim of proposing an appropriate calibration equation that could be used for *Eucalyptus grandis* of any size over a rotation of seven years, we carried out direct measurements of water consumption for 3 trees at 19, 45, 54 and 72 months after planting, and measured values of tree transpiration were compared with estimations from HDPs installed on the trunks. The trees used for direct measurements were cut and kept in situ, standing with the bottom inserted in a water tank. The accuracy of the calibration was checked by two independent methods: 1) direct measurements for other individual trees, and 2) through Eddy covariance measurements. We compared direct measurements for 3 trees of different size at the ages of 29 and 65 months with HDP. At the stand level, 15 trees selected to cover the range of sizes of one commercial plantation at the end of the rotation were monitored by HDP over 8 months. The comparison with eddy-covariance measurements was carried out during dry periods. Results showed that the calibration developed for these home-made probes can be used with great reliability at the tree and stand scales.

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