

## S20.P.05

### Effects of the rainy season on growth of *Mimosa tenuiflora* in dry tropical forest, Brazil

Mattos PP<sup>1</sup>, Braz EM<sup>1</sup>, Domene VD<sup>2</sup>, Sampaio EVSB<sup>3</sup>, Gasson P<sup>4</sup>, Pareyn FGC<sup>5</sup>, Alvarez IA<sup>6</sup>, Baracat A<sup>4</sup>, Araujo EL<sup>7</sup> - <sup>1</sup>Embrapa Florestas, <sup>2</sup>UFPR, <sup>3</sup>UFPE, <sup>4</sup>Kew Botanical Garden, <sup>5</sup>APNE, <sup>6</sup>Embrapa Monitoramento por Satélite, <sup>7</sup>UFRPE

*Mimosa tenuiflora* is a native pioneer tree from the Caatinga. It is deciduous, losing its leaves at the end of the rainy season, its trunk does not reach large diameters and it has good regrowth capacity. *M. tenuiflora* is used commercially as firewood due to its high calorific value, and is also used for animal feed. This study intended to confirm the formation of annual growth rings in *M. tenuiflora* and to determine the annual increment in diameter and its correlation with rainfall. Disks (destructive samples) from the stem base of *M. tenuiflora* trees were collected in 2008 in Sertânia and Serra Talhada, Pernambuco State, from regrowth from trees coppiced in 2003 and in Limoeiro do Norte, Ceara State, from a plantation established in 2002. The rings from each disc were marked, counted and measured in four rays. The values of the ring widths were compared by Pearson correlation with the rainfall values of the years prior to their formation, considering each year as beginning in August and finishing in July, in order to include the rainy period (when most of the plant growth occurs) in one year. *Mimosa tenuiflora* trees from the Caatinga have well-defined annual growth rings highly correlated with annual precipitation and are well-suited to dendrochronological investigation. Forest managers must consider the influence of previous drier years in the wood production when predicting cutting cycle. The high growth correlation with the previous year's rainfall in regions where the rains start after photoperiodic stimulation indicate the necessity of understanding the growth dynamics of the species under dry forest conditions through additional ecophysiology studies.