

Evolution and ageing of *Brachiaria brizantha* pasture component in a silvopastoral system

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Introduction The main causes of the decline of *Brachiaria* pasture in the tropics are lack of maintenance, fertilisation and excessively high animal stocking rates (Boddey *et al.*, 2004). *Brachiaria brizantha* has two predominant morphological forms: 1) relatively high stems with grouped tillers at a high position constructed from short leaves (bunch type); 2) low stems with long leaves, which in time evolve into the first type (Kanno *et al.*, 1999). The concept of *Brachiaria* management involves animals entering to commence grazing when the pasture is 50-60cm high and being removed at 25-30cm, leaving a regrowth period of at least 30 d (Alves *et al.*, 1996). The aim of this study was to determine the impact of two distinct regrowth periods (short versus very long) on the morphology of *Brachiaria brizantha* Hochst. ex A. Rich. (Bb), in a silvopastoral system (SPS) with *Corymbia citriodora* Hook. (Cc).

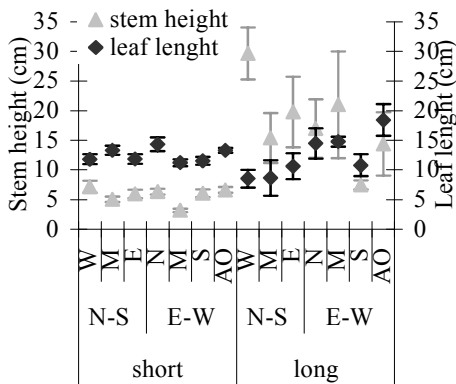


Figure 1 Morphology of Bb

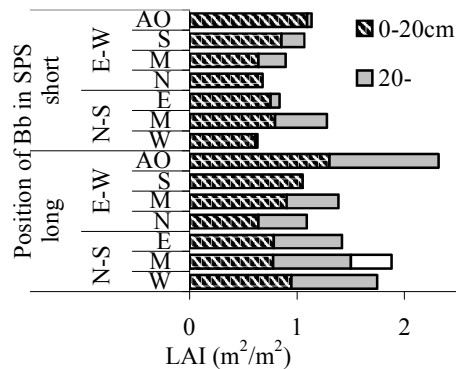


Figure 2 Leaf area index per layer

At these sample points, the inter-specific competition for the light is less important, but intra-specific competition partially blocks tillering close to the soil surface.

Conclusions Long grass regrowth induced morphological changes in Bb (appearance of bunch type tillers) which irreversibly led to ageing of the Bb canopy. These results question the concept of allowing *Brachiaria* regrowth to a canopy height of 60cm.

References

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