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## Palatability Comparison of Woody Capoeira and Forage Legume Species in a Cafeteria Trial in the Eastern Amazon

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### Abstract

In north-eastern Pará, extensive pasture production on smallholdings shows low performance, and pasture improvement strategies, e.g. the use of forage legumes, have been hardly adapted. One reason for low performance is the re-sprouting secondary vegetation, locally called “capoeira”. However, recent studies showed that a lot of these capoeira species are intensively browsed by cattle, so that it was anticipated that the phytodiverse capoeira might still include some interesting supplementary forage species. Thus, the 10 most palatable and frequent capoeira species are tested against known promising forage legume species, in this study. Therefore, an on-farm cafeteria trial is conducted on a 0.5 ha *Brachiaria brizantha* pasture at Igarapé-Açu (47°36′W/1°08′S). Six capoeira species, namely *Attalea maripa* (Arecaceae), *Banara guianensis* (Flacourtiaceae), *Cecropia palmata* (Cecropiaceae), *Neea oppositifolia* (Nyctaginaceae), *Phenakospermum guianensis* (Strelitziaceae), *Solanum juripeba* (Solanaceae), and the three forage legumes *Calliandra calothyrsus*, *Crotalaria argentea*, *Flemingia macrophylla* plus the P-mobilising *Tithonia diversifolia* (Asteraceae) were chosen and planted in 5 × 5 m subplots with 25 plantlets, each. These unfenced treatments were replicated five times in a randomised block design on the pasture plot. As control, three randomised ungrazed subplots of each species were planted outside the plot (n=80 subplots, 2000 forage plantlets). The pasture will be grazed by mixed-bred steers at 2 LU ha<sup>-1</sup> in the first year, by sheep at 15 LU ha<sup>-1</sup> in the second, and by buffaloes at 1.5 LU ha<sup>-1</sup> in the third year, both during rainy and dry seasons (=600 kg ha<sup>-1</sup>, each year). Browsing damages, relative growing performance, relative consumed biomass, and “in vitro” digestibility of the each species will be compared. The study will show if palatable native capoeira species can be recommended as an alternative to commercially forage legume species. As these species are commonly found on smallholdings and well adapted to the ecosystem, the farmer might have low-cost alternatives for forage production.

**Keywords:** Animal production, Brazil, browsing, buffaloes, cattle, secondary vegetation, sheep