

Response of *Arachis pinto* to grazing intensity when associated with different grasses

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Introduction

Lack of legume persistence is one of the main reasons for poor utilisation of grass-legume pastures in the tropics. *Arachis pinto* (forage peanut) is currently the most promising forage legume for the humid tropics, mainly because of good persistence under grazing (Grof 1985; Fisher and Cruz 1995). The objective of this work was to show how two accessions of *A. pinto* react to increasing herbage allowance levels when associated with two different grasses.

Materials and methods

Two grazing experiments were carried out at the Experimental Station of Embrapa Acre (10°01'59"S, 67°42'13"W), in Rio Branco, AC, Brazil. In Experiment 1, a nine-year-old *Panicum maximum* cv. Massai and *A. pinto* Ac 01 pasture was grazed at three herbage allowance (HA) levels [9.0, 14.5 and 18.4% body weight (BW)], from October 2002 to December 2003. In Experiment 2, a three-year-old *Brachiaria brizantha* cv. Marandu and *A. pinto* Ap 65 pasture was grazed at four HA levels (6.6, 10.3, 14.3 and 17.9%BW), from January to December 2003. Pastures were rotationally stocked and botanical composition was measured pre-grazing in each grazing cycle. Only results for the final grazing cycle are presented.

Results

Initial average forage peanut percentages (FP%) were 5% and 4%, when associated with Massai grass and Marandu grass, respectively. These low FP% can be explained since both pastures were under-utilised at the onset of the experimental periods. Final FP% increased linearly as HA was reduced, in both experiments (Figure 1), confirming that *A. pinto* is favoured when managed under higher grazing intensities, as demonstrated previously for cultivars Amarillo (Fisher and Cruz 1995; Ibrahim and Mannetje 1998) and Belmonte (Santana *et al.* 1998). In contrast to prostrate legumes like *Desmodium ovalifolium*, whose high grazing resistance is due to avoidance because of low palatability, *A. pinto* is a palatable legume (Lascano 2000). Its prostrate and stoliferous growth habit, with growing points protected from grazing, explains the high grazing resistance. Therefore, the increase of FP% with low HA was probably related primarily to sward structure modification and not to selectivity.

Conclusions

The results of the present study demonstrate that *A. pinto* can be successfully associated with Massai grass or Marandu grass under rotational stocking in the

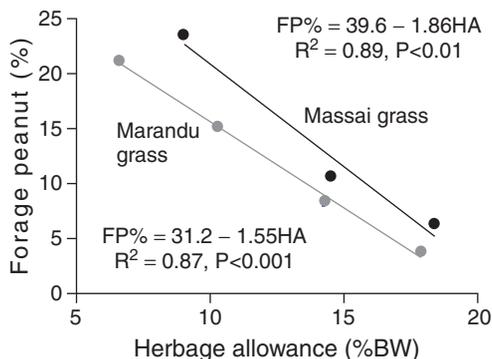


Figure 1. Effect of herbage allowance on forage peanut percentage

western Brazilian Amazon, but to obtain a significant legume content, swards should be grazed sufficiently hard to avoid excessive shading of the legume.

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