

Production per animal and use of intake estimatives to predicted animal productivity in *Pennisetum purpureum* cv. Mott and *Cynodon* spp cv. Tifton 85 pastures

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Introduction Dairy production is a very important activity in southern Brazil, being an essential source of income to small household farms. Milk production from pastures is an alternative to reduce costs in dairy systems. Some C4 grasses, such as dwarf elephant grass (DEG) and Tifton 85, have presented high animal production per animal and per area. Although studies evaluating milk production from these pastures are rare in south Brazil, *in vitro* studies have demonstrated that the nutritional value of these forages is higher than production registered in grazing. So, it is possible that, in spite of a high intrinsic nutritional value, limitation on cows' productivity is linked to the food's capacity of conversion to milk and/or management conditions that limit forage intake. Leaf mass in pastures is a factor that determinates forage intake, as cows prefer leaf to other parts of plants. In this context, adequate animal performance may be possible if offered enough leaf biomass at pasture. The aim of this experiment was to evaluate the potential of milk production with these two forage species.

Materials and methods The experiment was conducted at Palmeira das Missões/RS, from 11 July to 12 December 2003. Experimental animals were Holstein dairy cows (multiparous) weighing approximately 600 kg and 120 days into lactation. Continuous grazing was used with variable stocking rates to maintain a constant herbage mass on offer. Available leaf mass (kg DM/ha) was evaluated by visual assesment with double sampling every 14 days, herbage being split into leaf lamina and stem+sheath. In the last 12 days of the experimental period, each cow received a chromium oxide capsule for estimating intake by faecal indicators. Values of total digestible nutrients (TDN) was estimated according to NRC (2001). For statistical analysis of treatment effects in the evaluated variables MULTIV software (Pillar, 1997) was used.

Results Individual production of dairy cows was similar between the species evaluated (17.7 kg of milk/cow per day for DEG and 21 kg of milk/cow perday for Tifton 85). Forage species did not affect dry matter intake with values of 2.77 and 3.18 % of live weight for DEG and Tifton 85, respectively. The contents of crude protein (150-160 g/kg DM) were similar and an average TDN content of 0.61 was estimated.

Conclusions The results demonstrated that adequate levels of leaf lamina on offer allowed around 19 kg milk/cow per day in perennial tropical grasses. Observed energy and protein offered by Tifton 85 was similar to predicted by NRC (2001), but for DEG these values were underestimated by approximately 18 %.

References

- Pillar, V. de P. (1997). Multivariate exploratory analysis and randomization testing with MULTIV. *Coenoses*, 12, 145-148.
- NRC (2001). Nutrient requirements of dairy cattle. 7th edition. National Research Council, Washington, DC, National Academy Press, 381 pp.