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NET HERBAGE ACCUMULATION RATE AND CRUDE PROTEIN CONTENT OF *UROCHLOA BRIZANTHA* CULTIVARS UNDER SHADE INTENSITIES

TAXA DE ACÚMULO DE FORRAGEM E TEOR DE PROTEÍNA BRUTA DE CULTIVARES DE UROCHLOA BRIZANTHA SOB INTENSIDADES LUMINOSAS

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The use of silvopastoral systems is a sustainable alternative for animal production in various regions of the Brazil. However to obtain satisfactory results in these systems, the selection of forage species that grows well in the shade should be done. The tolerance of plants to light restriction and the correctly choice of species, considering good nutritional values for these conditions has great importance. The study of artificial shading for forage production helps the clarification of issues related to the behavior of plants under reduced light prior to use in integrations with forests. The aim of the study was to evaluate the net herbage accumulation rate of forage (HAR) and crude protein (CP) of *Urochloa brizantha* cultivars (Marandu and Piatã) under natural light and shading of 30 and 60%. The experiment was conducted at FMVZ - UNESP, Botucatu. The experimental design was a randomized block in factorial arrangement 3 x 2 (three shading levels: 0, 30 and 60%, two cultivars: Marandu and Piatã) with three replications and repeated measures (3 cuts). Sample collection occurred when the cultivars reached 35 cm in height. The treatments with shading showed lower cutting intervals as compared to those subjected to full sunlight, because they have reached in a shorter time to time as determined cut-off criterion (mean of 37, 45 and 61 days for reduction of 60%, reduction of 30% and full sun). Significant effects (P<0.05) interaction cultivar x shade x cut on the net herbage accumulation rate **(**HAR) (Table 1). Most HAR (P<0.05) was observed for cv. Marandu 60% reduction in lightness (127 kg/ha/day) due to increased production of stem during the first growing cycle. The lower HAR also occurred to Marandu, but under natural light in the third cut (34 kg/ha/day) due to adverse weather conditions during the growth interval. The shadow effect and the cutting (P<0.05) affected CP (Figure 1). The percentage of CP on cultivars showed the highest values (average value of 9.27%) in 60% reduction of brightness. The lowest CP content was observed in the treatments under full natural light (5.7%). Analyzing the cuts, there was an increasing CP concentration in response to shading. The shade favored for plants to reach the cutting height quickly when compared to treatments under full sunlight, resulting in younger plants and greater nutritional value. The reduction of light influenced the HAR and CP content of the cultivars.

Table 1. Net herbage accumulation rate (HAR, kg/ha/day)

	HAR					
Cuts/ Shading	Piatã			Marandu		
	0%	30%	60%	0%	30%	60%
1°	87	102	93	67	84	127
2°	81	49	75	66	34	96
3°	120	104	110	21	59	115

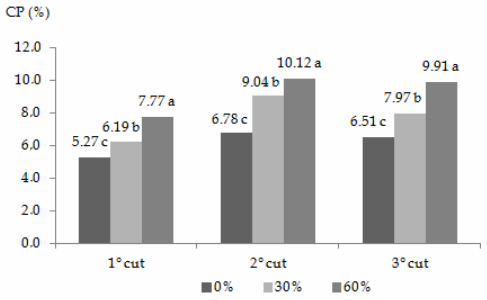

Figure 1. Shadow effects on crude protein (CP, %)

Keywords: integrated crop-livestock-forest, morphological composition, silvopastoral systems.