

PERFORMANCE OF MEDITERRANEAN BUFFALOES IN CULTIVATED PASTURE
OF THE AMAZON REGION

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INTRODUCTION

Buffaloes have been pointed out as suitable animals for an ecological occupation of Amazon lands, for their rusticity, amphibious character and adaptability to floodable lowlands, where highly productive native pastures are found. In that ecosystem, buffalo herds grow at a yearly rate of above 10%, which is five times greater than values found for cattle. The animals have good potential for meat and milk production and animal traction, and present satisfactory reproduction rates. Besides, they are more efficient in digesting and producing good quality feed from low nutritive value forage. In upland soils of the Amazon, Koronivia grass (*Brachiaria humidicola*) is presently the most used species for pasture formation, due to its good adaption to the regional climatic and soil conditions. Research results show the good productive characteristics of this species (1, 2, 3, 4). This paper presents the results of a trial carried out to study the performance of buffalo females in Koronivia grass pasture grazed in a rotational system.

MATERIAL AND METHODS

The experiment was carried out in the Agroforestry Research Center for the Eastern Amazon (CPATU), in Belém, Pará, Brazil, using thirty Mediterranean buffalo females of 16 months of age and a bull. The animals grazed 15.2 ha of koronivia grass cultivated pasture, divided into seven paddocks (2.2 ha each), used in a rotational system, grazing and resting periods variables, depending on the forage availability. Initially the females remained together with the bull for a year. After that the bull was replaced by a ruffian and artificial insemination was adopted. After calving, the females were supplemented with 1 kg of a regional agroindustrial byproduct for 3 liters of milk produced.

RESULTS AND DISCUSSION

Data on reproductive performance of the females are presented in Table 1. The average gestation period for the first three calvings was 308.7 days. Age at first, second and third calving, and calving intervals were smaller than those found in the literature (5). Average mating period was 3.1 months. After calving weight increased from the first to third calving.

Index terms: *Brachiaria humidicola*, liveweight gain, grazing, reproduction.

Weight of calves at birth for the males was higher than for the females. Calves weight increased from the first to third calving, being superior to those found in the literature (5). Data on pasture output are presented in Table 2.

TABLE 1. Performance of female buffaloes on cultivated *B. humidicola* pasture.

Variable	Calving		
	1st	2nd	3rd
Gestation (days)	309.1	308.1	308.3
First calving (months)	36.2	49.0	59.3
Calving interval (months)		13.7	12.7
Mating period (months)		3.6	2.6
Weight after calving (kg)	530.3	562.8	590.5
Weight at birth-males (kg)	34.6	37.5	40.5
Weight at birth-females (kg)	32.6	34.5	36.1

TABLE 2. Liveweight gains and birth rate of females buffaloes on cultivated *B. humidicola* pasture

Variable	Age (month)			
	16	28	40	52
No. of animals	31	31	30	24
Mean weight (kg)	366	523	571	604
Liveweight gain (g/day)	--	428	226	120
Birth rate (%)	--	57	83	74

Total initial weight was 746.9 kg/ha, which gives 1.7 animal units (AU)/ha, and increased to 1.066 kg/ha (2.37 AU/ha) and 1.072 kg/ha (2.38 AU/ha), respectively after 12 and 40 months. Liveweight gains in these two periods were 428 and 219 g/head/day. Grazing times varied from three to ten days, but better can be obtained between five to six days; pasture resting recommended is 40 days (range between 30 to 46 days). During the rainy period occurred an attack of spittle bug (*Deois incompleta*), which was controlled by a more intensive rotation and light grazing pasture from February to April. Thus, water buffalo, considered as suitable for animal production in floodable native pasture ecosystems, can also be raised productively in upland ecosystems, in *Brachiaria humidicola* based pastures replacing low nutritive value native pastures or degraded deforested areas. The reproductive performance of female buffaloes grazing cultivated pasture in rotational system is higher than that observed in other ecosystems. The ideal stocking rate is about 2.37 AU/ha/year, or 1.58 adult females/ha/year, grazing and resting periods of 5-6 and 40 days, respectively for a grazing system involving seven paddocks. Spittle bug attacks can be controlled by lighter grazing pressure and more intensive rotation from February to April.

REFERENCES

- (1) Lourenço Junior, J. B., Camarão, A. P., Rodrigues Filho, J. A., Costa, N. A., Simão Neto, M., Teixeira Neto, J. F., Batista, H. A. M. & Hantani, A. K. Ganho de peso de bubalinos em pastagem cultivada na ilha de Marajó. Belém: EMBRAPA-CPATU, 1993b. 27 p. (EMBRAPA-CPATU. Boletim de Pesquisa).
- (2) Moura Carvalho, L.O.D., Nascimento, C.N.B., Costa, N.A. & Lourenço Junior, J.B. Engorda de bubalinos da raça Mediterrâneo em pastagem de quicuío-da-amazônia (*Brachiaria humidicola*) na terra firme. Belém: EMBRAPA-CPATU, 1982. 20p. (EMBRAPA-CPATU, Circular Técnica, 25).
- (3) Salimos, E.P., Lourenço Junior, J.B., Moura Carvalho, L.O.D., Costa, N.A., Nascimento, C.N.B. & Dutra, S. Engorda de bovinos em pastagem cultivada de quicuío-da-amazônia (*Brachiaria humidicola*) na ilha de Marajó. Belém: EMBRAPA-CPATU, 1994, p. (EMBRAPA-CPATU. Boletim de Pesquisa) no prelo.
- (4) Serrão, E.A.S., Camarão, A.P., Marques, J.R.F. & Rodrigues Filho, J.A. Sistema integrado de pastagem nativa de terra inundável com pastagem cultivada de terra firme na engorda de bovinos em Monte Alegre, Pará, Brasil. In: RED INTERNACIONAL DE EVALUACION DE PASTO TROPICALES-RIEPT-AMAZÔNIA, 1., 1990. Lima: CIAT, 1990. v. 2. p. 1095-1100 (CIAT. Documento de Trabajo, 75).
- (5) Embrapa - Centro de Pesquisa Agroflorestal da Amazônia Oriental (Belém,PA) Programa Nacional de Pesquisa - 803 - diversificação agropecuária - bubalinos. Belém, 1988. 88 p. (EMBRAPA-CPATU. Documentos, 48).