

PRELIMINARY REPORT ON ARTIFICIAL INSEMINATION IN BUFFALOES OF THE AMAZON REGION, THROUGH IMPORTED SEMEN

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INTRODUCTION

Artificial insemination (A.I.) has been since long time a strong technique to improve the genetical potential of the domestic animals through the world (1). Although A.I. has been conducted successfully in cattle, goat, sheep, swine and horse, in buffaloes there is limited information available about fertility rate after insemination using frozen semen (1). Furthermore, actual fertility rate when compared to the cattle, shows below level, although high fertility rates can be achieved in a well controlled and organized farming system (3,4). In Brazil, there is an urgent need to use A.I. in order to enhance the genetical potential of the buffalo husbandry as well as the principal tool to be used against the undesirable inbreeding which affect the buffalo population in the country. Thus, the objective of the present work is to report the first utilization of imported semen in the Brazilian buffalo herd.

MATERIAL AND METHODS

Sixty-three female buffaloes, age 5 to 10 years, divided in three groups viz, Group I (G1) 18 females of Mediterranean type, Group II (G2) composed of 24 Murrah type and Group III (G3) with 21 Murrah females were used in the present experiment. Between May 1991 and September 1992, in an experimental farm of CPATU-EMBRAPA, Belém, Brazil. The buffalo cows were tested previously for brucellosis and a general clinical examination was performed giving emphasis to the genital system. The buffaloes groups were managed separately and grazed in artificial pasture of Koronivia grass (*Brachiaria humidicola*) and mineral mixture "ad libitum", however the G1 was supplemented daily with rice (*Oryza sativa*) and oil palm (*Elaeis guineensis*) nut bran (3 kg per animal - 50% of each type, having 14% of crude protein). Each group was followed by a buffalo teaser bull, which had the preputial ostium deviated to the right flank (5), which was provided with a chin ball device, filled with red oil ink. An intensive observation of the heat symptoms was made by AI technicians and the other people involved with the herd management. The heat detection was made between 6:00-8:00 AM and 5:00-7:00.

Index terms: artificial insemination, frozen semen, fertility, buffaloes

PM and once in heat, the female was immediately separated into the corral, with a teaser bull with food and water. The second heat after the postpartum period was used for insemination, which was performed after the cessation of the heat symptoms. The semen used was imported from Italy and was diluted in TRIS (hydroxy-methyl-amino-methan) buffered extender in a concentration of 30×10^6 sperm cells per dose and was loaded in CASSOU French 0.5 ml straw. The frozen semen was thawed in a temperature of 30° C for 30 seconds and had between 40-50% of motility and deep artificial insemination were made. Milk samples were taken between 25-30 days after the insemination and Progesterone (P_4) was determined by RIA (Radioimmunoassay) in solid phase (count-a-count) using kits supplied by Joint FAO/IAEA of Nuclear Techniques in Food and Agriculture, Vienna, Austria. For confirmation of pregnancy diagnosis rectal palpation was performed between 45-50 days after the insemination.

RESULTS AND DISCUSSION

The conception rate through calve born were: G1 (18) 17 calves (94.4%), G2 (24) 12 calves 50.0% and G3 (21) 12 calves (57.1%). The female received first, second and third inseminations in a total amount of 102 doses, 63 doses for the first, 30 doses for the second and 9 doses for the third insemination. These figures were statistically different, Table 1. The results in the G1 was excellent, (94.4%) although a few number of animals were used. It was higher than the results obtained by the reports in the literature. Maybe it can be due the fact of the good nutritional management, intensive observation of the sexual behaviour of the females and periodic veterinary assistance.

Table

Group	Cows	A.I. performed				Dose per pregnant cow	Natality	
		1st	2nd	3rd	Total		n	%
I	18	18	10	02	30	1.76	17	94.4
II	24	24	12	-	36	3.0	12	50.0
III	21	21	8	7	36	3.0	12	57.0
TOTAL	63	63	30	09	102	2.58*	41	67.1*

*Average

Determination of milk P_4 between day 25-30 after insemination showed to be an important tool in prediction positive pregnancy in 93% of the cases and showed 100% of accuracy to detect open cows or detect cases of foetal absorption, phenomena frequently observed in buffaloes in this region (8). P_4 levels higher than 3 ng/ml predict pregnancy In the G1 and G2 were found 3 cases of genital infection, 3 of unilateral cystic ovaries, 3 of embryonic death and 6 of repeat breeders, among the cows that were inseminated and did not become pregnant.

The general results here obtained, when compared to previous reported in the literature were similar to those reported by (3, 6, 7) and higher to those described by (5). To achieve higher

fertility rates, it is necessary to improve the nutritional and breeding management. Also Veterinary service is very important to select female through gynaecological examination and through rectal palpation control and reproductive history of the cows included in the programme and intensify heat detection among the females (9).

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