

STRESS EFFECT ON CONCEPTION RATE IN NELLORE COWS SUBMITTED TO FIXED TIME ARTIFICIAL INSEMINATION. PRELIMINARY RESULTS

EFEITO DO ESTRESSE NA TAXA DE CONCEPÇÃO DE VACAS NELORE INSEMINADAS EM TEMPO FIXO. RESULTADOS PRELIMINARES

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In beef cattle, fixed time artificial insemination (FTAI) provides a method to inseminate large numbers of females in a specific time, which result in economical gains due, among others, to a more uniform calf crop. However, FTAI requires frequent manipulation of animals in order to inject hormones and for clinical examination. Consequently, animals seemed stressed in less or higher extent at the time of insemination. This can be a problem because it has been demonstrated that application of an acute stress treatment (electric shock, confinement, restraint and rotation) twice a day during the follicular phase of the oestrous cycle prevents the pre-ovulatory LH surge. This study aimed to evaluate if FTAI efficiency of Nellore cows is affected by the degree of stress observed at time of AI. Nellore cows (n=92) were treated (Day 0) with a progesterone intravaginal device (Primer®, Tecnopec, São Paulo, Brazil) containing 1 g of progesterone and injected with estradiol benzoate (2mg EB, Estrogin, AUSA, Brazil). Primer was removed on Day 8 (08:00 AM) and administered one injection of cloprostenol (125 mcg, Prolise®, Tecnopec, São Paulo, Brazil). Twenty-four hours later, cows received 2 mg EB and insemination (semen from one sire) was done on the afternoon (14:00 to 16:00 PM) of day 10. At time of FTAI, the stress condition was classified as 1 (low), 2 (moderate) or 3 (high) according the reactivity of cows to enter in the squeeze chute and apparent nervous behavior. Pregnancy status was evaluated by transrectal ultrasound on day 40 after FTAI. Data were analyzed by Chi-square test. Results are showed in Table 1. Cows with moderate or high degree of stress had lower conception rate than low stressed cows ($P<0.01$). These results suggest that cow temperament must be considered in the planning of FTAI programs. Studies are in progress in order to measure hormonal parameters (cortisol and Alpha amylase) that better reflects the "fight-or-flight" response to immediate stressors in order to correlate them with the conception rate of cows submitted to FTAI.

Table 1. Conception rate (%) of Nellore cows according the degree of stress at time of insemination

Condition	Degree of stress		
	Low (n=32)	Moderate (n=30)	High (n=30)
Pregnant	23 (71.9) ^a	13 (43.3) ^b	10 (33.3) ^b
Non pregnant	9 (28.1)	17 (56.7)	20 (66.7)
P		0.039	0.004

In the row, means followed by different letters differ each other ($P<0.01$).

Keywords: *Bos indicus*, FTAI, stress.

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