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## Differences in reproductive parameters between two close related bovines, buffalo and cattle raised in the same environment conditions

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Buffalo and cattle are bovines that belong to the subfamily Bovinae, used worldwide to produce milk and meat. Reproductive parameters are different *in vivo* and *in vitro*, mainly when applying reproductive technologies. It has been reported that buffalo has a smaller number of primordial follicles than cattle do (10 000–19 000 vs. 150 000, respectively), smaller antral follicles, and a higher incidence of atresia (82–92%) (Kumar A. Anim Reprod Sci. 1997;47:189 ) as a consequence buffalo ovaries are smaller than cattle., few reports compare the consequences over reproduction of these differences, especially those produced natural mating system and their reproductive parameters. This report performed in 2021, aims to compare reproductive parameters in two bovine species located in the same geographical area, with the same reproductive management, cattle (brahman breed N=912).and buffaloes (crossbred N=262). The farms are located in Middle Magdalena Region in Colombia (6°18'48"N 73°57'00"O). Data from reproductive parameters (calving, inter calving period (IEP), days open (DO) were collected and pregnancies were diagnosed by rectal palpation, and compared. Cattle and buffaloes were culled at 10 and 15 years. Pregnancies were diagnosed by rectal palpation. Data were analyzed using descriptive statistics and comparison using the student T-test.  $P < 0.05$  was considered statistically significant. Calving numbers were 3.04 and 4.36 for cattle and buffaloes, respectively ( $P < 0.05$ ). Calving, IEP, and DO were 67.8% vs. 96.5%, 528 days vs. 420, and 275 days vs. 133 days, respectively, for cattle and buffaloes and statistically significant. For other parameters such as first calving age and abortion rate based on pregnancy detection was 42.76 months vs. 35.09 months, and 10.80% vs. 6.04% were also statistically significant. If the results in reproductive parameters are associated with differences in calving number, they remain to be clarified, but there are undoubtedly paradoxical because the specie with lower quantity of primordial follicles has better reproductive performance. To date, there are no explanations for this phenomenon. Many reports that show the differences in many other reproductive parameters *in vivo* and *in vitro*. Indeed, the reproductive parameters of buffaloes and cows are different; and from this results are better than cattle. This performance makes the production of buffaloes more attractive to breeders specially in lands where cattle don't produce well (wet lands and humid forest) and for reproductive biology researchers to study the causes of this observation,

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