298 THE INFLUENCE OF DISTINCT CENTRAL BULL STATIONS ON THE *IN VITRO* EMBRYONIC DEVELOPMENT OF NELORE BULLS

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Abstract

Reproductive biotechnology is growing worldwide as one of the most important tools of cattle breeding because it accelerates the process of genetic improvement. Most of the embryos produced are obtained using frozen semen from different AI centers. During freezing and thawing of semen, the sperm can be damaged by the rapid and dramatic changes in the physicochemical conditions that occur during cooling and ice formation. It has previously been described that bad management of frozen semen can result in reduced fertilization. This study investigated the influence of different central bull stations on the development of *in vitro*-produced bovine embryos. We compared semen of 154 Nelore bulls, used for IVF, from 8 different central bull stations (all of which used the same cryopreservation protocol) in the development of blastocysts. The *in vitro* production of embryos was performed as described: oocytes were collected from the slaughterhouse and matured in TCM-199 + 10% fetal calf serum (FCS) +0.5 μg mL^{-1} FSH + 50 μg mL^{-1} LH+ 1 μg mL^{-1} estradiol, for 24 hat 38.5°C in 5%CO_2 in atmospheric air. Viable spermatozoids were obtained by centrifugation in Percoll gradient (45 and 90%), and used for IVF in a concentration of 2 million spermatozoa per mL in TALP + 10 μg mL^{-1} of heparin medium. After 12 h, the presumptive zygotes were transferred to a CR2+ 10% FCS medium and co-cultured with cumulus cells. After 168 h of IVF, we evaluated the number and stage of cleaved embryos produced with the semen of each bull. Statistical analyses were performed by using the chi-square test. Our results suggest that there are differences among distinct central bull stations in the proportion of embryos that developed into blastocysts and the different stages they hatched.

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