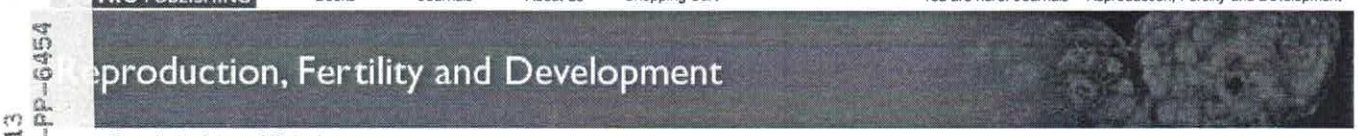

99 EFFECT OF SEASON AND WEIGHT GAIN ON PREGNANCY RATES OF EMBRYO RECIPIENTS RAISED UNDER PASTURE CONDITIONS

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Abstract

In most Brazilian farms, the management of embryo recipients is done exclusively under grazing systems. Thus, the seasonal variation of grass availability can affect the energy balance and reduce weight gain, and consequently affects the rate of pregnancy. The aim of the present study was to evaluate the effect of the seasonal variation of daily weight gain (DWG) on the pregnancy rate of crossbred heifers (*Bos taurus* × *Bos indicus*). The study was performed in the southwest region of Minas Gerais State, Brazil, during one year. Two periods were evaluated: dry (April to September, average precipitation of 470 mm and low grass availability) and rainy (October to March, average precipitation of 1930 mm and high grass availability) seasons. The recipients were kept in a grazing system (*Brachiaria brizantha*) with water and minerals available *ad libitum*. Embryos were produced *in vitro* by the same laboratory, using oocytes and sex-sorted semen from the Gir breed (*Bos indicus*). A total of 404 fresh embryos (N = 484, 45.4% during dry and 54.5% during rainy season) were transferred by the same technician on Day 7 days of the oestrous cycle – synchronized with prostaglandin – of the recipients, which were weighted at the day of embryo transfer and 23 to 25 days later, at the diagnostic of pregnancy. Animals were retrospectively allocated into 4 groups according to the DWG observed between embryo transfer and pregnancy diagnosis: G1 (N = 132) up to 150 g; G2 (N = 132) between 151 and 250 g; G3 (N = 119) between 251 and 350 g; and G4 (N = 99) greater than 350 g of DWG. The pregnancy rates were compared among DWG groups and between seasons by chi-squared. The logistic regression model was performed using the PROC GENMOD to test the model, including the effects of DWG, season, and the interaction (DWG × season). During the dry season, there was change in frequency distribution of the heifers among DWG groups, with lower frequency (P < 0.05) of heifers in high (G3 and G4) when compared with low (G1 and G2) DWG groups (33.2, 31.4, 21.8, and 13.6% for G1, G2, G3, and G4, respectively). Altogether, pregnancy rate was not different between dry and rainy seasons (42.3 *v.* 45.8%, respectively; P > 0.05). When compared to G1, pregnancy rate was higher (P < 0.05) for recipients with daily weight gain greater than 250 g day^{-1} (G3 and G4) (35.6, 40.6, 52.1, and 51.0% for G1, G2, G3, and G4, respectively). Only the effect of the DWG was significant in logistic regression, and the odds rate for each gram of DWG was 0.0039, which means that pregnancy rate improved 1.17 times for recipients with 300 g of DWG. In conclusion, the DWG after embryo transfer, but not the season itself, affect pregnancy rate of *in vitro*-produced embryo recipients.

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