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Effects of antral follicles count (AFC), weight and age on the pregnancy rate after FTAI of Nellore heifers

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The aim of this study was to evaluate the effects of antral follicles count (AFC), weight and age on the pregnancy rate of Nellore heifers. The experiment was carried out at São Judas Farm, county of Anastácio-MS. A total of 139 PO heifers aged between 13 and 28 month, with a mean weight of 323 ± 43.9 kg, maintained on pasture and considered suitable for reproduction from 275 kg regardless of age, were used. For the follicular counting procedure, an ultrasound device with SonoScape A5 VET® transrectal transducer was used on random days of the estrous cycle. All follicles ≥ 2 mm in diameter in both ovaries were counted to characterize AFC, with the operator rotating approximately 180 °, so that all follicles were counted without repetition. Immediately after folicle counting, with the aid of "cineloop" the conference of the AFC was performed. After follicle counting, the animals were weighed and submitted to the FTAI protocol. On D0, animals received 2 mg of estradiol benzoate (i.m.; RIC-BE®, Agener União, Brazil) and intravaginal device with 1 g of P4 (Primer®, Agener União, Brazil). On D8 P_4 devices were removed and IM 1 mg estradiol cypionate (ECP®, Zoetis, Brazil), 150 µg d-cloprostenol (Prolise®, Arsa, Argentina) and 300 IU eCG (Folligon®, MSD, São Paulo Brazil). AI was performed after 48 hours of withdrawal from the device. The animals were submitted to the diagnosis of gestation 30 days after the AI with the aid of transrectal ultrasonography. The data were analyzed by PROC GLIMMIX and PROC LOGISTIC of SAS, and the effects included in the model were: age, weight, AFC and pregnancy. The variables that did not have significant effects were removed from the model. There was no effect of heifer weight (P = 0.097) and AFC (P = 0.1687) on the pregnancy rate for FTAI, but age had a significant effect (P = 0.008), the greater the age the higher the pregnancy rate. Mean AFC was 21.2 ± 9.2 follicles between the animals and no difference (P> 0.05) was observed between the ages. The pregnancy rate at 30 days was 21.6%. It was concluded that AFC did not differ between heifers from 13 to 28 months and had no influence on pregnancy, nor did weight change the pregnancy rate. However, pregnancy is influenced by age till 28 months.