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Impact of intravaginal progesterone devices on pregnancy per AI of lactating *Bos indicus* cows and heifers submitted to an ovulation synchronization protocol

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Resumo

The objective was to evaluate the pregnancy rate of two new progesterone (P4) devices in lactating Nelore *Bos indicus* heifers and cows. In experiment 1, heifers with a BCS of 3.2 ± 0.01 and 24 to 27 months old were randomly assigned to two groups to receive different P4 devices. The animals in the F600 group (n=151) received a new P4 intravaginal device (FertilCare 600® - Monodose - MSD, Brazil) and the heifers in the Crestar0.5 group (n=149) received a new P4 device (Crestar 0.558®, MSD, Brazil). In experiment 2, lactating *Bos indicus* cows with a BCS of 2.61 ± 0.01 were divided in two experimental groups. The animals in the F600 group (n=314) received a new intravaginal P4 device (FertilCare 600®, MSD, Brazil) and the cows in the Crestar1.0 group (n=311) received a new P4 device (Crestar 1.0® - MSD, Brazil). In experiments 1 and 2, concomitantly with the treatments, the animals received 2mg of EB (Fertilcare Sincronização®, MSD, Brazil) on D0. In addition, heifers received 265µg of Cloprostenol (Ciosin®, MSD, Brazil; Experiment 1). On D8, 0.5mg of EC (Fertilcare Ovulação®, MSD, Brazil) was administered to heifers and 1mg of EC to cows, 300IU of eCG (Folligon®, MSD, Brazil) and 265µg of Cloprostenol (Ciosin®, MSD, Brazil) in all animals of the two studies. In addition, the P4 intravaginal devices were removed and a wax marking at the base of the tail was performed to observe the occurrence of estrus between D8 and D10. In both experiments the females were inseminated 48 hours after removal of the P4 device, and the estrus occurrence reading was performed at that moment. Pregnancy diagnosis and cyclicity rate were performed 30 days after TAI (D40). Statistical analysis was performed with the aid of SAS. In experiment 1, the rates of estrus (P=0.24), cyclicity in pregnancy diagnosis (P=0.88) and pregnancy (P=0.56) were similar between groups (F600 group - 66.2%, 97.7% and 43.1% and Crestar group 72.5%, 97.6% and 45.0%, respectively). In addition, the pregnancy per AI (P/AI) was higher (P=0.008) in heifers that expressed estrus during the TAI protocol (Non-estrus 32.6% and Estrus 49.0%). However, the presence of CL on D0 did not affect estrus (P=0.63) and P/AI (P=0.97). In experiment 2, the estrus rate (P=0.34) and P/AI (P=0.92) were similar between the experimental groups (Group F600 - 60.3% and 50.3% and Group Crestar 54.0% and 48.6%, respectively). However, the P/AI was higher in cows that showed estrus during the TAI protocol (No-estrus 32.7% and Estrus 51.8%; P=0.008) and in multiparous cows (primiparous 39.9% and multiparous 55.7%; P=0.001). It is concluded that the P4 Crestar 0.558® devices (heifers) and Crestar 1.0® (cows) have fertility results similar to those observed in females that received the P4 Fertilcare 600® device in ovulation synchronization protocols.