

## ABSTRACTS: 34TH ANNUAL MEETING OF THE BRAZILIAN EMBRYO TECHNOLOGY SOCIETY (SBTE)

AI and IATF

**Effect of long-acting progesterone use at early diestrus on pregnancy maintenance in beef and dairy recipient cattle****Adomar Laurindo Neto<sup>1,2</sup>, Felipe Lopes Ruas<sup>2</sup>, Bruno Silva Espírito Santo<sup>3</sup>, Júlio Barboza Silva<sup>1</sup>, Moacir Ferreira Duarte Júnior<sup>3</sup>, Danilo Francisco Campos Pereira<sup>3</sup>, Izabelle Pereira Lacerda<sup>2</sup>, José de Oliveira Carvalho<sup>2</sup>, Guilherme Pugliesi<sup>1</sup>**

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We tested in the present study the hypothesis that supplementation with long-acting P4 (iP4) at different times of the initial diestrus improves the pregnancy rates in dairy and beef recipients submitted to timed-embryo transfer (TET). Recipients in good body condition score (BCS) had their estrous cycle synchronized with E2/P4 based protocol in three experiments (Exp. 1 to 3). On Day -10, all animals received an intravaginal P4 device (1g) and an im administration of 2mg estradiol benzoato. After 8 days, the P4 devices were removed and 0.530mg PGF2 $\alpha$ , 300IU eCG and 2mg estradiol cypionate were im administered. In Exp. 1, dairy heifers (n=76) and lactating dairy cows (n=104) were randomly assigned to 2 experimental groups: C group (n= 89) and iP4D4 Group (n= 91). For Exp. 2 and 3, suckled beef recipients were used. In Exp. 2, recipients were assigned in two experimental groups: C group (n= 147) and iP4D7 group (n= 144); whereas, in Exp. 3 recipients were randomly assigned in three experimental groups: C group (n= 85), iP4D4 group (n= 86) and iP4D7 group (n= 81). Recipients in the iP4D4 and iP4D7 groups received an im administration with 150mg long-acting iP4 (Sincrogest®, Ourofino, Cravinhos, Brazil), respectively, on Days 4 or 7 (day of ET). Nine days after P4 device withdrawal (Day 7), all recipients were evaluated by transrectal ultrasonography (US) and those bearing an well developd CL received an fresh or vitrified IVP embryo from a commercial laboratory. In Exp. 2 and 3, the CL area was also determined by US at the time of TET. The pregnancy diagnosis was performed by US on 30 days of pregnancy in Exp. 1 and Exp. 2, and on 30 and 60 days in Exp. 3. The data were analyzed using a logistic regression model by PROC GLIMMIX (SAS). In Exp. 1, pregnancy rate did not differ ( $P>0.1$ ) between the C group (38.2% [34/89]) and iP4D4 group (49.5% [45/91]); however, a parity effect indicated a greater ( $P<0.05$ ) pregnancy rate in heifers (57.9% [44/76]) than cows (30.8% [32/104]). In Exp. 2, the pregnancy rate was greater ( $P<0.05$ ) in the iP4D7 group (45.0% [65/144]) than in the C group (34.0% [50/147]). Also, a tendecny for greater ( $P=0.08$ ) pregnancy rate was observed for recipients with small CL ( $\leq 2.75$  cm<sup>2</sup>) that were treated with iP4 on Day 7 than the control recipients (46.4% [32/69] vs. 32.6% [28/86]). In Exp. 3, no significant effects ( $P>0.1$ ) of treatment group or CL size were detected on pregnancy rates at days 30 and 60. Pregnancy rates in the C, iP4D4 and iP4D7 groups were, respectively, 49.4% (42/85), 53.5% (46/86) and 56.8% (46/81). In conclusion, the beneficial effects of long-acting iP4 supplementation at early diestrus on pregnancy maintenance may vary according to the experimental conditions, but its use at the moment of FTET is an interesting alternative to enhance fertility of beef recipients, specially in those with a small CL. Acknowledgments: FAPESP (2012/04004-8) and Ourofino Saúde Animal and Tecplan companies