

T130 EFFECT OF BREED ON EMBRYO PRODUCTION IN SUPEROVULATED EWES

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BACKGROUND-AIM

The efficiency of an embryo transfer programme can be affected by many factors including the genotype of the ewe. The objective of the study was to evaluate the effect of ewe donor breed on ovulation rate, embryo recovery rate, and number of transferable embryos in superovulated ewes.

METHODS

Fifty four ewes from three breeds (18 Dorper (D), 18 Charollais (Ch) and 18 Pelibuey (P)) were superovulated. Ewes were synchronized with intravaginal sponges containing 20 mg of micronized fluorogestone acetate (FGA; Chronogest, Intervet) inserted for 12 days together with 75 µg of prostaglandins (Prosolvin, Intervet) per donor administered on day 10, considering as day 0 the day of sponge insertion. The FSH for superovulation was administered every 12 hours during 4 days through 8 intramuscular injections in a descending protocol (50, 46, 46, 30, 30, 26, and 14 mg). The treatment started on day 10, 60 h before sponge removal and finished 24 h after. The ewes were inseminated 20 h after estrous onset through laparoscopy with 300 x 10⁶ spermatozoa as fresh semen from a ram of the same breed of the donor with known fertility. Embryo recovery was attempted on day 7 after estrus and ovulation rate was determined through laparoscopy at the same time. The embryos were evaluated considering its morphological characteristics. The results were analyzed by analysis of variance or logistic regression as required and tested using a P≤0.05.

RESULTS

Ovulation rate was similar in P and Ch ewes (21.16 ± 1.80 vs 18.2 ± 0.99), however their responses were higher compared to the response of D ewes (10.7 ± 0.86). There were no significant differences in embryo recovery rate between Ch and P ewes (75% vs 87%) and between Ch and D ewes (75% vs 63%). However, the results were higher in P compared to D ewes (87% vs 63%). The number of transferable embryos was different among the three breeds, being higher in P compared to Ch, and Ch compared to D ewes (18.6 vs 12.8 vs 4.6, respectively).

CONCLUSIONS

The results showed differences between breeds in the response to the superovulatory treatment administered.

T131 EFFECTS OF TWIN PREGNANCY ON PLACENTAL CHARACTERISTICS OF EWES AND BIRTH WEIGHT OF MORADA NOVA LAMBS

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BACKGROUND-AIM

The placenta of mammals is the organ responsible for regulating the fetal growth and viability. As the pregnancy progresses, the cotyledons develop, which increases the maternal-fetal contact surface. Given the prolificacy of Morada Nova sheep, the aim of this study was to investigate whether placental features and lamb weight at birth could be altered by simple or twin pregnancies.

METHODS

The experiment was carried out at Embrapa-Brazilian Agricultural Research Corporation, São Carlos, Brazil. Forty-three Morada Nova sheep (44 months; 42.3±0.53kg) underwent an estrus synchronization protocol followed by controlled breeding. Sheep were kept on a single batch in semi-intensive production system throughout the gestational period. After uterine ultrasonography (Day30 of gestation), sheep were classified according to the number of fetuses: Simple Pregnancy (S, n=24) or Twin Pregnancy (TW, n=19). All births were supervised and no obstetric intervention was required, which resulted in 62 lambs at term. Immediately after parturition, the lamb birth weight (LW) and the total placental weight (PW) were individually measured on automatic scales. Subsequently, the cotyledons were dissected and evaluated for number (CN), diameter (CD), total cotyledon weight per placenta (TCW), and the mean cotyledon weight per placenta (MCW). Data were submitted to analysis of variance (Tukey test; p<0.01).

RESULTS

Twin-births showed significantly higher values (p<0.01) of PW, CN, TCW and MCW compared to single-births (PW: 455.5±24.3 vs 317.4±23.9 g; CN: 74.0±2.2 vs 62.1±3.3; TCW: 111.8±6.5 vs 72.1±3.9 g; MCW: 1.51±0.1 vs 1.19±0.1 g). No significant difference was observed for CD (21.26±0.6 vs 20.06±0.8 mm). LW was lower in Group TW (2.32±0.07 vs 2.94±0.08 kg; p<0.01). Although CD has not been different between groups, a more expressive growth of cotyledonary tissue in twin pregnancies indicates that the placenta of Morada Nova sheep has developed efficient mechanisms to support a multiple gestation. Also observed in other breeds, the lower lamb weight from twin calving did not compromise the viability of lambs.

CONCLUSIONS

The placental morphology of the Morada Nova sheep adapts according to the type of pregnancy, and no detrimental condition is observed in lambs born from twin births.