(CL) parameters in a short-duration protocol associated or not to lecirelin (L)(GnRH) and/or estradiol benzoate (EB). Twenty-four cyclic Santa Inês ewes were divided into 4 groups: Control animals (G1; $n = 6$) received 45 μg of d-cloprostenol (Prolise®, Tecnopec, Sao Paulo, Brazil) on Day 0. Intravaginal sponges containing medroxyprogesterone acetate (MAP60®, Tecnopec) were inserted on Day 3. Then on Day 7 sponges were removed and 400 IU of eCG and 45 μg of d-cloprostenol were administered. G2 ($n = 6$) animals underwent the same protocol as G1 but with administration of 1 mg of EB on Day 1; G3 ($n = 6$) animals underwent the same protocol as G1 but with administration of 25 μg of L (Gestran plus®, Tecnopec) 30 h after sponge withdrawal; G4 ($n = 6$) animals underwent the same protocol as G1 but with administration of 1 mg of EB on Day 1 and 25 μg of L 30 h after sponge withdrawal. Ewe ovaries were assessed via transrectal ultrasound (US), and CL were measured 4 days after ovulation. On the same day blood samples were taken to measure plasma progesterone levels via radioimmunoassay. Twenty-three out of 24 animals ovulated. One ewe from G4 that did not ovulate was taken out of the experiment. The average size of the largest pre-ovulatory follicle was 7.3 mm (G1), 7.0 mm (G2), 6.8 mm (G3), and 7.4 mm (G4) ($P > 0.05$). There were 1.8, 1.2, 2.0, and 1.4 ovulated follicles per animal in G1, G2, G3, and G4, respectively. The results for estrus start and duration after sponge withdrawal were G1: 32/38.6; G2: 37/69.3; G3: 29.3/37.3; G4: 44/68 h, respectively. Ovulation time span was G1: 65.3; G2: 88; G3: 53.3; G4: 82.4 h after sponge withdrawal. There was a high correlation of ovary mensuration and progesterone level ($r = 0.64$; $P < 0.0001$) on the fourth day after ovulation. Progesterone levels after ovulation were 2.37 ng mL^{-1} (G1); 1.5 ng mL^{-1} (G2); 3.22 ng mL^{-1} (G3) and 1.99 ng mL^{-1} (G4), being higher in G3 than in G2 ($P < 0.05$). It was seen that the EB is prejudicial to the CL function. Despite the fact that there was no significant difference of progesterone levels within G1, G3, and G4, animals in G3 displayed higher levels of progesterone; hence, there is a need for further studies using a larger number of animals and fertility test.

CNPq e Tecnopec.

440 EVALUATION OF FOLLICULAR GROWTH AFTER EXOGENOUS STIMULATION IN MICE USING ULTRASOUND BIOMICROSCOPY

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Real-time follicular dynamics studies have often been restricted to large animals because of the resolution of ultrasound equipment available. The recent advances in image technology, including significant gains in spatial resolution, allowed these evaluations to be performed in small rodents, which are important models to understand folliculogenesis. The aim of this study was to evaluate exogenous stimulated follicular growth in mice using a high resolution ultrasound. Female mice ($n = 15$) received a 5 IU i.p. injection of eCG (Vetecor®, Calier) and 48 h later a 5 IU injection of hCG (Novormon®, Schering-Plough), and were mated thereafter. In experiment 1, animals ($n = 7$) were anesthetized with ketamin/xilazin solution and evaluated at 3, 9, 15, 21, 27, 33, 45, and 51 h after eCG injection. The ovaries were identified with ultrasound biomicroscopy (UBM, Vevo 660®, Visual Sonics, Toronto, ON, Canada) coupled with real-time micro-visualization probe (RMV 707b), and the follicular population was measured, quantified, and classified into small follicles (≤449 μm) and large follicles (≥450 μm). The number of small follicles decreased ($P < 0.05$) from 30.44 ± 15.91 to 14.79 ± 7.23, and the number of large follicles (≥450 μm) increased from 0.36 ± 0.74 to 4.21 ± 4.25. For both size classes, however, statistical differences only occurred at 45 h after eCG, that is, close to the moment of hCG injection. In experiment 2, animals ($n = 8$) were evaluated every 2 h beginning 4.5 h after hCG to check for ovulations. The largest follicles achieved a mean maximum size of 596.7 ± 106.0 μm, 5.8 ± 2.3 h after hCG application. In 5 animals, large follicles were observed at 2 distinct moments, 5.0 ± 1.2 h and 10.4 ± 1.0 h after hCG, respectively. Results suggest that the later stages of follicular growth in mice are only achieved a few hours before ovulation, and that ovulations induced by hCG are not synchronized.

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441 EFFECTS OF BYPASS LIPID SUPPLEMENTATION IN THE TRANSITION PERIOD ON REPRODUCTIVE PARAMETERS IN DAIRY GOATS AFTER PARTURITION

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The use of lipids for nutrition supplementation during reproduction phases is called flushing and directly influences body weight and body condition score, which could after ovulation and fertility rate. Studies have reported the effects of its use for dairy cattle, but for goats this kind of information is incipient. The aim of this study was to evaluate the use of bypass lipid enriched in polyunsaturated fatty acids (Megalac® Arm and Hammer, Church & Dwight Company, Princeton, NJ, USA) in the transition period (i.e. 3 weeks before and after parturition) on the return of ovarian activity. This study was conducted from March to May 2009, in Piau MG (21°35′S latitude and 43°15′W longitude), Brazil. Nineteen Toggenburg ($n = 16$) and Saanen ($n = 3$) goats were equally assigned according to breed, body weight, and condition score into 4 treatments: animals received 2% dry matter of fat

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supplementation 21 days before and after parturition (T1), only before parturition (T2), or only after parturition (T3); the control group received no supplemental fat (T4). Goats were fed a complete mixture of napier grass and corn silage in a 50:50 forage/concentration ratio 4 times daily. Transrectal ultrasonography (5-MHz transducer; Aloka SSD 500®, Tokyo, Japan) was performed daily from 10 days after parturition until detection of ovulation. Estrous onset and its duration were detected daily with a fertile buck. Statistical analysis were performed using all tests at the 95% confidence interval with a SAEG® program (Funarbe, Viçosa, Brazil). The results are presented as mean ± SD. The interval (days) from parturition to first estrus was 20.5 ± 2.2 (T1), 30.0 ± 17.4 (T2), 20.2 ± 2.1 (T3), and 19.0 ± 2.5 (T4), and to first ovulation was 26.3 ± 4.0 (T1), 22.4 ± 3.3 (T2), 24.4 ± 1.1 (T3), and 24.2 ± 3.6 (T4) ($P > 0.05$). The diameter of ovulatory follicles (mm) was similar ($P > 0.05$) for T1 (7.21 ± 0.30), T2 (6.86 ± 0.31), T3 (6.66 ± 0.27), and T4 (7.32 ± 0.64). The number of ovulations was also not different ($P > 0.05$) for T1 (1.5 ± 0.3), T2 (1.2 ± 0.2), T3 (1.4 ± 0.2), and T4 (1.0 ± 0.0). A negative correlation ($r = -0.68$; $P < 0.005$) was detected between body condition score at the parturition and the interval from parturition to the first estrus, as well as to the first ovulation ($r = -0.48$; $P < 0.05$). A positive correlation ($r = 0.47$; $P < 0.05$) was found between body weight on the day of ovulation and the number of ovulations. These data show the importance of body weight and condition score to reproductive performance after parturition. No significant differences were registered among all treatments on reproductive parameters for goats after this amount of lipid supplementation. There is a need for more studies to be done using different supplement concentrations in order to achieve better reproductive performance after parturition.

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442 ULTRASONOGRAPHIC TESTICULAR ECHOTEXTURE IN NELORE BULLS

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The objective of this research was to determine the minimum area representative of the testicular parenchyma echotexture in Nelore bulls, and to evaluate the presence of echotexture homogeneity between the right and left testicles and between different regions of testicle. Twenty-nine Nelore bulls raised under extensive management and free of reproductive disorders were used. The average body weight was 352.8 ± 51.0 kg and age ranged between 18 and 24 months. Echotexture was assessed using a portable ultrasonography device equipped with a 7.5-MHz linear transducer. All measurement was done by a single, experienced operator, and scanner settings that affect image attributes (i.e. brightness, depth, and total gain, focus [illegible]) were [illegible]. [illegible] The frozen images were obtained with minimal artifacts [illegible] and recorded as .bmp files in a USB pen drive connected to the ultrasound device. Echotexture was defined in terms of mean pixel value quantified using values from 0 (black) to 255 (white) through the ImageJ 1.31 software. After the selection of a specific area of testicular parenchyma, the average intensity of the gray pixels in the selected region was calculated by the software and expressed in 256 gray-scales. Squared selections of 400 (20 × 20), 1600 (40 × 40), 3600 (60 × 60), and 6400 (80 × 80) pixels were assessed from images of the extremitas capitata, middle, and extremitas caudata regions of both testicles to determine the minimum sampling area of an image needed to represent the echotexture of testicular parenchyma. The normal distribution verification (Lilliefors test) of the variable mean pixel value was tested in each area, followed by variance analysis. The averages were compared through Tukey's test with 5% significance. There was no significant difference between the different pixel areas assessed ($P > 0.05$), indicating that all areas sound a representation of testicular echotexture. Furthermore, the extremitas capitata, middle, and extremitas caudata regions showed no significant difference in echotexture ($P > 0.05$) regardless of the area analyzed, and there was no significant difference between the right and left testicles ($P > 0.05$) in any of the assessed areas. In conclusion, this research shows that testicular echotexture assessments can be made on [illegible] areas of 400, 1600, 3600, or 6400 pixels, and that images can be captured from any region of any testicle.

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443 BIOLOGICAL FACTORS AFFECTING OOCYTE COLLECTION AND EMBRYOS PRODUCTION IN A COMMERCIAL OVUM PICKUP-IVP SYSTEM IN HOLSTEIN AND MONTBELIARD BREEDS

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The aim of this work was to identify biological factors affecting oocyte collection, embryo production, and subsequent pregnancy rates through a retrospective study conducted from 381 commercial ovum pickup (OPU)-IVP sessions performed on high genetic Holstein and Montbeliard donors. Oocytes were recovered using an ultrasound scanner SC 200 (Pie Medical, Maastricht, the Netherlands) equipped with a 7.5-MHz annular-array transducer. Donors were superstimulated at Day 12 of presynchronized cycle with FSH (Stimufol®, Rhone-Merieux, Lyon, France) divided in 5 decreasing doses over 2.5 days. Cumulus–oocyte complexes (COCs) were collected [illegible] after last FSH injection and matured [illegible] HEPES plus FCS, FSH, estradiol, and EGF. They were then fertilized in fert-TALP with frozen–thawed semen. Zygotes were cultured for 7 days on a monolayer of Vero cells in B2 medium. Day 7 embryos were transferred as fresh into recipients. The effects of [illegible] were analyzed by ANOVA ([illegible], SAS Institute, Cary, NC, USA). From all collected animals, most [illegible] of the donors were cows ([illegible] collected as early pregnant and 31.9% previously inseminated) and