

the effects were highly significant ( $p < 0.01$ ). The adjusted average (AA) to KI was of  $355.0 \pm 1.5$  days; the S and SB explained most of the variation. The AA for P was  $1.6 \pm 0.01$  kids/birth; the most significant effect was for BN. AFB showed an AA of  $17.3 \pm 0.1$  months; the main effect factor was SB, with AA extremes to the goats born in winter and spring ( $17.3 \pm 0.1$  vs.  $18.0 \pm 0.1$  months), since the latter reach the effective puberty at a time of long days. These latter values are too high for the specie, extending the unproductive phase.

## P52

### Effect of dietary supplementation on the progesterone level in Florida goat breed

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Fifteen adult Florida breed goats were fed for 10 months (from December to September) on different dietary levels. Goats were selected according to the last kidding and live weight (LW). Animals were sorted in two groups: H-group received twice the energetic requirement for maintenance of LW, while L-group received the maintenance needs. Data were recorded after a 15-days period of adaptation to supplementary diet. Progesterone (PG) was analyzed by RIA test. One-way ANOVA was performed for data analysis and revealed significant difference regarding PG plasma levels between months in both groups ( $p < 0.001$ ). H-group had a significantly higher PG level compared to L-group during May ( $1.01 \pm 0.19$  vs.  $0.57 \pm 0.04$ ;  $p < 0.05$ ), June ( $1.14 \pm 0.19$  vs.  $0.65 \pm 0.14$ ;  $p < 0.04$ ) and July ( $1.45 \pm 0.27$  vs.  $0.76 \pm 0.05$ ;  $p < 0.01$ ). PG reached significantly upper levels in January in both groups. However this parameter dropped significantly in L-group. Results demonstrated that the non-breeding period was extended to 149 and 154 days in L and H-group respectively ( $p > 0.05$ ). Anoestrus started earlier (February) in L-goats while in H-group began in April. Therefore the onset of the breeding season was also different in both groups with sexual resumption in August in H-group, and in June in L-group. It was concluded that plasma progesterone level was affected by nutrition in the Florida goat breed and could control the reproductive performance. Supported by INIA-FEDER RTA2008-00042-00-00.

## P53

### Effect of the buffer system, crioprotectant and presence of antioxidant on goat sperm cryopreservation

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Our aim was to study the effect of the buffer system Tes-Tris (TEST) compared to the Tris and citric acid buffer system on goat sperm cryosurvival. Both systems were simultaneously tested in a 1% (w/v) soybean lecithin or in a 15% (v/v) powered egg yolk-based media supplemented both with 5% glycerol. Also, we assessed the effect of the inclusion of 5 mM of butylated hydroxytoluene (BHT) as an antioxidant. Briefly, fresh ejaculates from six Blanca de Rasquera bucks (1 year old) were collected by an artificial vagina and immediately mixed in

equal quantities. The pooled semen was washed by centrifugation, and then the pellet was split into eight equal aliquots and re-suspended in one of the eight different extenders before freezing. No differences were found in post-thaw sperm viability, determined by eosine-nigrosine stain (mean  $\pm$  SE,  $n = 6$ ), between the extenders with TEST ( $36.4 \pm 3.0$ ;  $29.7 \pm 6.3$ ) or TRIS ( $35.3 \pm 3.3$ ;  $40.7 \pm 4.1$ ) buffer system in soybean lecithin and egg-yolk based media samples, respectively. Likewise, post-thaw sperm viability was similar for TEST ( $35.4 \pm 2.6$ ;  $38.1 \pm 3.9$ ) and TRIS ( $40.2 \pm 2.2$ ;  $40.8 \pm 2.3$ ) buffer systems supplemented with BHT in soybean lecithin and egg-yolk based media samples, respectively. However, the sperm motion parameters of the samples, analysed by a computer-assisted sperm analysis system (ISAS<sup>®</sup>), were different ( $p < 0.01$ ) between extenders, suggesting that more analysis should be tested. Supported by INIA (RZ2009-00008-00-00), Generalitat de Catalunya (2009SGR0621 and CUR-DIUE) and FSE.

## P54

### AI optimization by hormonal synchronization with vaginal sponge in the Payoya goat breed

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A cross-field assay was carried out to study hormonal variation in the Payoya goat breed within an AI program. Twenty five goats were submitted to an oestrous synchronization treatment with vaginal sponges (20 mg Chronogest, Intervet) for 12 days. Goats were injected PFG2 $\alpha$  (0.2 ml, Estrumate, Schering-Plough) and PMSG (400 UI, Foligon, Intervet) 48 h after sponge removal. Blood samples were taken after sponge removal and AI at a fixed time (AIFT) with frozen-thawed sperm was performed after 46 h of sponge removal. Progesterone, estradiol, LH and FSH were analyzed for hormonal profile of the periovulatory period. Pregnancy diagnosis confirmed 40–45 days after AI by ultrasound diagnose. Pregnancy rate was 53%. Non-pregnant goats showed LH and FSH peak 36 h before ovulation. Although an early peak of LH and FSH was an important factor of reproductive failure, conception was not affected by a 20 h delay of these peaks regarding AI. It was concluded that goats with advanced cycles (FSH and LH preovulatory peaks before AIFT) may reduced the pregnancy rate of the farm and therefore a double AI should be performed in these cases. Supported by INIA-FEDER TRT-2006-0020.