BCS were measured weekly. Oestrous activity was tested daily using entire aproned males. Ovulation rate was evaluated by laparoscopy 7 days after positive identification of oestrous. Plasma samples were obtained weekly for progesterone assay. No differences between groups in the onset of the normal breeding season according to the reactivation of the ovulatory activity (5 September ± 4.81 days vs 22 August ± 5.62 days for M and C group respectively) or on the onset of the oestrous activity (28 August ± 5.76 days vs 25 August ± 5.96 days for M and C group respectively) were observed. Similarly, treatment with exogenous melatonin during the seasonal anoestrous did not influence the ovulation rate at the onset of the normal breeding season (1.56 ± 0.176 and 1.55 ± 0.20 corpora lutea for M and C group, respectively). We can conclude that treatment with exogenous melatonin, that was effective to induce an intensive reproductive activity during the seasonal anoestrous, does not influence the date of normal reactivation of the reproductive activity in Mediterranean goat females.

## 340. Effects of prostaglandin administration 10 days apart on estrus, ovulation and pregnancy in nulliparous dairy goats

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The objective of this study was to check the effects of prostaglandin administration (d-cloprostenol, PGF2-alfa) on estrus, ovulation and fertility in nulliparous Alpine (n=10) and Saanen (n=9) goats. Animals received two doses of 22.5 μg of PGF2-alfa 10 days apart. After 1st and 2nd PGF2-alfa dose, estrus was monitored at 12 and 4 hr interval, respectively, with buck teaser. After the onset of the second estrus (after 2nd PGF2-alfa), females were scanned transrectally (5 MHz probe) at each 4 hr until at least 8 hr after ovulation detection. Goats were artificially inseminated with frozen-thawed semen (100 millions spermatozoa per 0.25 ml straw) after first detection of ovulation. Pregnancy was checked by transrectal ultra-sound (5 MHz probe) on days 20, 25, 30, 35 and 90 after 2nd PGF2-alfa. All parameters studied did not differ between breeds (P>0.05). Overall percentages of animals in estrus after 1st and 2nd PGF2-alfa were 73.7% (14/19) and 89.5% (17/19). The average interval (mean ± SD) from 1st to 2nd PGF2-alfa administration were 44.5 ± 15.9 h and 49.9 ± 11.9 h (P>0.05), respectively. Estrous duration did not differ (P>0.05) between breeds but in general it was smaller (P<0.05) after 2nd PGF2-alfa (31.7 ± 11.1 h) than the 1st PGF2-alfa (16.2 ± 10.8 h). Ovulation occurred in average 17.6 ± 10.7 h after estrous onset. Positive correlation (r=0.57, P<0.02) was detected between time of ovulation and estrous duration. Pregnancy rate at 25 days after 2nd PGF2-alfa was 66.7% (6/9) and 50.0% (4/8) in Alpine and Saanen goats, respectively. Embryo loss, 50% (3/6) in Alpine and 75% (3/4) in Saanen goats, occurred before 35 days after 2nd PGF2-alfa in both breeds. It could be a reflex of inadequate time of insemination and/or excessive stress from transrectal ultra-sound exams during crucial time of embryonic implantation. Estrus can be efficiently synchronized in nulliparous Alpine and Saanen goats with prostaglandin administered 10 days apart. The knowledge of the time of ovulation relative to onset of estrus may help the development of artificial insemination protocols based in estrous detection and timed artificial insemination.
Key words: estrous synchronization, prostaglandin, ovulation, pregnancy.

## 341. Artificial insemination in the Majorera goat: fertility rate with semen frozen by an ultrafreezer of – 152 °C

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This experimental work tried to assess the fertilizing rate of caprine semen frozen and stored by the use of an ultrafreezer of - 152 °C. Semen of six bucks was collected, pooled and processed to reach a final concentration of 600 x $10^6$ spermatozoa/ml (glycerol 4% and 12% egg yolk); diluted semen was packaged in 0.5 ml straws containing 200 x $10^6$ motile spermatozoa each. Thereafter, semen straws were placed in the cooler (4 °C) for 4 hours and then two freezing techniques were tested: (I) straws were placed on a rack at 4 cm above liquid nitrogen for 15 min and, finally, were plunged in the liquid nitrogen (group NL); (II) straws were moved directly from the cooler (4 °C) to the ultrafreezer at – 152 °C and then were frozen and stored in the ultra-low freezer at – 152 °C (Group ULF). In addition, two periods of artificial