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Reproductive seasonality in Saanen goats managed in southeast Brazil

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The aim of this study was to characterize the reproductive seasonality during the period of one year in Saanen goats managed in southeastern Brazil. The study was carried out in a dairy goat farm located in Niterói, Rio de Janeiro (Latitude 22° 52 ' 30 " south). A total of 24 Saanen goats (3.2 ± 2.1 years old) were used and kept under intensive management system. Every three months, representing each season of the year, was conducted the goats weighing in a proper balance and the evaluation of the body condition score (BCS) (Detweiler, G., Annual Goat Field Day, v.23, p.127-133, 2008). Every 14 days, the blood was collected through jugular venipuncture in vacuum tube (Vacutainer®, BD, New Jersey, USA) without anticoagulant, to obtain serum. The progesterone (P4) concentration was analyzed by Radioimmunoassay technique using commercial kits (MP Biomedicals, Inc, Orangeburg, NY). For the calculation of cyclicity frequency, it was considered as non-cyclical goats, animals with values of P4 ≤ 1.0 ng/mL for two consecutive measurements. The body weight, BCS and hormonal data were submitted to Kruskal-Wallis test and Dunn (P < 0.05). No differences (P > 0.05) in the body weight and BCS among the four seasons (65.1 ± 22 kg; BCS: 3.4 ± 0.4) were found. With respect to P4 concentrations and the frequency of cyclical goats, it were obtained greater values (P < 0.05) from late-March until the early-August (3.3 ± 1.1 ng/mL) with a peak from May to July (3.9 ± 0.5 ng/mL). In these months, 93.8% (22/24) of the goats were cyclical, compatible with the breeding season. From the late-August to the mid-December were obtained the lowest (P < 0.05) P4 values (0.2 ± 0.4 ng/mL). In this period of time, only 12.5% (3/24) of goats extended the breeding season until the mid-September. In sequence, 100% (24/24) of the goats came into seasonal anestrus. The back of reproductive activity and P4 values, similar to those found in previous station, began in mid-December to early-March (3.9 ± 2.6 ng/mL) with a peak at the late-February until March (6.7 ± 2.3 ng/mL). From December to March, 38.9% (9/24) and 61.1% (15/24) of the goats showed continuous and alternating estrus cycles (transition phase), respectively. In the peak period (Feb-mar), 83.3% (20/24) of the goats were cyclical. These results endorse hormonal methods (estrus synchronization and induction of synchronized estrus) or natural (male effect, flushing or light treatment) more appropriate according to the time of year in the region. Saanen goats, managed under tropical climate in southeastern Brazil, have a breeding season set from March until mid-August with the transitional phase to the anestrus in September. It is extends to mid-December at the new one transition phase for the reproductive season in March.