

Influence of Season of Birth on Pubertal Characteristics of Male Goat Kids

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Abstract- This study was conducted to determine the impact of season of birth on pubertal characteristics of male goat **kids**. In this experiment 18 crossbred (Nubian × Saanen), newly born, single male goat kids were employed. Six kids were born in winter, 6 in summer and 6 in autumn. They were weighed immediately after birth and were followed up every week until the age of puberty. The pubertal characteristics were weight at birth, weaning weight, preputial separation, scrotal circumference at puberty, weight and age at puberty, volume of the first ejaculate, individual motility percent and mass motility of semen, percentages of live and abnormal morphology spermatozoa and the concentration of spermatozoa. The results of this experiment revealed that the season had a significant ($p < 0.05$) effect on the pubertal characteristics. In summer the birth weight (2.48 ± 0.19 kg); weaning weight (9.35 ± 0.60 kg) and pubertal weight (17.90 ± 1.03 kg) were the least. While scrotal **circumference** is the longest in winter (23.08 ± 0.83 cm) and the puberty age is the shortest (25.00 ± 0.00 weeks) in autumn. The season had no effect ($p > 0.05$) on ejaculate volume, individual motility, mass motility and sperm cell concentration, however, the sperm cell concentration is lower in summer. Furthermore, in summer the percentage of abnormal sperms increased and the percentage of live sperms decreased ($P < 0.06$). The percentages of abnormal and live sperms in summer were 9.83 ± 2.06 and 85.00 ± 2.21 , respectively. It is concluded that season has variable effects on the pubertal characteristics of crossbred male goat kids. The most important features in summer are the decrements in body weights and the percentage of live sperms, and the increment of the percentage of abnormal sperms. Furthermore, in autumn kids attain puberty earlier and in winter the prepuce detaches earlier and the scrotal circumference is longer.

Keywords- Crossbred; Goats; Male; Puberty; Season of Birth