

## TESTICULAR WEIGHT, OCCURRENCE OF TUBULES WITH ELONGATED SPERMATIDS AND SERTOLI CELL COUNT IN ABATTOIR CALVES. PRELIMINARY RESULTS

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It is important to know when male calves become potentially fertile in mixed suckler herds in order to avoid unwanted pregnancies. The occurrence of tubules with elongated spermatids and especially Sertoli cells is important for the development of sperms as it supports spermatogonia and its successors. The aim of this study was to investigate the appearance time of these markers during testicular development in calves slaughtered at various ages.

Carcass weight and age of 5- (n=5), 6- (n=10), 7- (n=10) and 8-month-old (n=7) male beef calves were documented and their testicles examined. After removal of their sheaths and adnexa, pure testicles were weighted. Left and right testicles were dissected and tissue samples were taken from 3 different localizations of each testis. After collection, all samples were fixed in Bouin's solution. Consecutively, these tissue samples were embedded in paraffin and finally stained with hematoxylin-eosin. Tubules with elongated spermatids and Sertoli cell count per tubule cross section for each of the six locations were histologically examined. The preliminary results include correlation and regression analyses.

Correlation between the means of testicular weight of left and right testicles and carcass weight ( $R^2=0.32$ ,  $P<0.0001$ ) was markedly higher than that between testicular weight and age ( $R^2=0.03$ ,  $P=0.0152$ ). With advancing age and slaughter weight, the P-value is slightly above 0.05 and is therefore not significant. Histological evaluation showed that increasing total testicular weight only slightly interacted with the number of tubules with elongated spermatids ( $R^2=0.10$ ,  $P<0.0001$ ) and even less with increasing age and Sertoli cell count in the testicles ( $R^2=0.02$ ,  $P=0.0017$ ). In 14 of 32 calves, 5- (n=5), 6- (n=5) and 7-month-old (n=4), elongated spermatids could not be detected. The number of Sertoli cells per tubule cross-section shows a large individual variation. A weak trend towards slightly more Sertoli cells can be detected with increasing age. This supports the hypothesis that Sertoli cell formation is almost complete at the age of five months and that only minor changes occur thereafter. Due to the absence of elongated spermatids, five months young calves still seem to be prepubertal.

Male and female calves should be separated at the latest shortly before they reach 6 months to avoid the presence of potentially fertile young males along females and, thereby, unwanted pregnancies. However, these data should be further analysed, and a larger number of samples might make the recent findings even more reliable.

**Keywords:** BOVINE, TESTIS, HISTOLOGY, PUBERTAL DEVELOPMENT

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