

## **Influence of dietary supplementation with mannan oligosaccharide on testicular histology of Saidi rams**

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Eighteen Saidi rams were used in this trial to study the impact of adding mannan oligosaccharide (MOS; active MOS<sup>®</sup>) on the histological examination of testes. MOS is commercially available as BioMos<sup>®</sup>, which is a nutritional supplement manufactured by MOS<sup>®</sup> Matrix nutrition, LLC, USA was used in this experiment. Animals were randomly divided into three equal groups. The initial average live body weight were 24.00, 24.08 and 24.17 kg for groups 1, 2, and 3, respectively. The first group did not receive MOS and served as a control group (CO), while the second (MOS<sup>1</sup>) and third (MOS<sup>2</sup>) groups were supplemented with 2 and 4 g MOS /kg diet, respectively. At the end of the experimental period (6 months), final body weights were 44.17, 48.50 and 45.83 kg, respectively. Five animals from each experimental group were slaughtered. After slaughtering, specimens of testes were taken and prepared for histological structure. The collected samples of testes were immediately immersed in 10 % neutral buffered formalin (40% conc.) and then carefully embedded in paraffin for histological examination. The samples were sectioned into slices of 5 µm thickness using rotary microtome. Sections were stained with haematoxylin and eosin (Gu and Li., 2004). Testicular sections of (Co) group revealed that convoluted seminiferous tubules were lined with sertoli cells and spermatogenic cells at different stages of development. All the experimental groups were similar to the control one except that MOS<sup>1</sup> group showed plentiful and more apparent elongated spermatids. In addition, leydig cells in MOS<sup>2</sup> group were more developed in comparison to other experimental groups. In conclusion, dietary supplementation with MOS to Saidi rams' diets seems able to improve their reproduction and fertility.

**Keywords: Mannan oligosaccharides, testicular histology, Saidi rams**