Potential of *Moringa oleifera* leaf meal in improving reproductive efficiency of rabbit bucks in hot climate

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Target Audience: Rabbit Farmers, Livestock researchers, Nutritionist, Rabbit breeders

**Abstract**

Several parts of the plant *Moringa oleifera* are used for therapeutic purposes in farm animals. The leaves have been traditionally used as an ingredient in some herbal formulations as a blood purifier, cholesterol reducing agent, immune and possibly reproductive enhancers in farm animals. This experiment was conducted to determine the effect of varied levels of supplemental *Moringa oleifera* leaf meal (MoLM) on sperm storage and production potential of rabbit bucks in hot climate (26.8±30.7°C). In a 168-day feeding trial, a total of 20 rabbit bucks were allotted to four dietary treatments containing 0, 2.5, 5.0 and 7.5% MoLM with five replicates per treatment in a completely randomised design. At the end of the feeding trial, the rabbits were sacrificed; testes and epididymides excised, weighed and homogenized separately for sperm cell count in the homogenate to determine sperm reserves. Daily sperm production was estimated from testicular sperm reserves. Testicular and epididymal sperm reserve of bucks were significantly (p<0.05) influenced by the dietary treatments. The testicular weight was not significantly different among the dietary treatments. However, testicular sperm reserve (x10^6 sperm cells/ml) in the left, right and paired testes of the bucks fed treatments 1 (52.96±11.12) and 2 (55.22±16.78) were not significantly different from each other but they were significantly (p<0.05) higher than those fed treatments 3 (15.52±3.53) and 4 (14.4±1.53). Epididymal sperm reserves (x10^6 sperm cells/ml) of bucks fed T1 (118.95±4.01) and T2 (120.16±3.24) were significantly (p<0.05) higher than those on T3 (76.56±6.18) and T4 (68.65±6.58). The daily sperm production (x10^6 sperm cells) in paired testes of bucks fed Treatments 1 (15.40±0.46) and 2 (16.10±0.05) were not significantly different from each other but both were significantly (p<0.05) higher than those fed Treatment 4 (4.20±0.07). This suggest that feeding rabbits with *Moringa oleifera* leaf meal up to 2.5% as a supplement improved sperm production and sperm reserves, while above this level it reduced sperm storage potential and daily sperm production.

**Keywords:** Moringa leaf meal, Sperm reserves, Sperm production, Rabbits