

# Effect of impala, mountain reedbuck and springbok on carcass yield and meat quality

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**Objectives:** The study determined the effect of species on the carcass yield and meat quality of impala (*Aepyceros melampus*), mountain reedbuck (*Reduncula fulvorufula*) and springbok (*Antidorcas marsupialis*).

**Materials and Methods:** The study investigated the influence of species on the carcass yield and meat quality of impala (*Aepyceros melampus*), mountain reedbuck (*Reduncula fulvorufula*) and springbok (*Antidorcas marsupialis*). Eighteen, 12 - 14 months old impala, mountain reedbuck and springboks (n = 6) were culled from a game estate. They were then transported to the slaughterhouse on the farm for dressing. Live mass was recorded before slaughter, while the hot carcasses weight was recorded after slaughter. The dressing percentage was calculated by dividing the warm carcass weight by the slaughter weight. For meat quality analysis [pH, colour, cooking loss, Warner-Bratzler Shear Force (i.e., tenderness) and proximate] the left *longissimus thoracis et lumborum* (LTL) muscle was removed 24 h post-mortem and stored under cold storage conditions (-20 °C). All data were analysed using generalised linear model procedure of SAS v 9.4.

**Results and Discussion:** Live weight differed among species ( $P \leq 0.05$ ). The mountain reedbuck LTL muscle had the lower weight ( $P$

$\leq 0.05$ ) than the impala and springbok LTL muscle, which did not differ ( $P > 0.05$ ). There were no significant differences between carcass weights ( $P > 0.05$ ). Impala and springbok carcasses had higher ( $P \leq 0.05$ ) ultimate pH values than the mountain reedbuck. Meat colour and drip loss were not affected by species ( $P > 0.05$ ). Cooking loss and tenderness were influenced by species ( $P \leq 0.05$ ). Impala and springbok meats had higher ( $P \leq 0.05$ ) cooking loss than the mountain reedbuck. Springbok species had tender ( $P$

$\leq 0.05$ ) meat than the impala and mountain reedbuck. Ledger (1967) found that game meat was less tender or tough than meat of domestic animals of the same age. The observed variation in cooking loss and tenderness across species could be a result of the interaction of factors like pHu, proximate composition and slaughter weight. Moisture was the only proximate parameter affected by species ( $P \leq 0.05$ ) and was in the order of impala > mountain reedbuck > springbok. The moisture content of meat normally varies between 70 and 77%, depending on the fat content of the meat (Young *et al.*, 2001). Although fat content was not significant across the breeds, it ranged between 2.7 and 3.1%, these low-fat percentages may indicate high lean meat content (Ledger *et al.*, 1967), as lean meat is generally about 5-10% fat.

**Conclusion:** This study therefore, has shown that impala, mountain reedbuck and springbok meat have desirable physical meat quality attributes, and the results may be useful for improving the marketing of these three game species as a source of meat. In addition, these findings suggest that meat from these three species could be a good complementary meat to major domestic red meat.

## Reference:

Ledger, H.P., Sachs, R. & Smith, N.S., 1967. Wildlife and food production. *World Review of Animal Production* 3(11), pp. 13-37. Young, O. & West, J., 2001. Meat colour. In: *Meat Science and Applications* (edited by Y.H. Hui, W.K. Nip, R. Rogers & O. Young). pp. 39-70. New York, USA: Marcel Dekker.

**Key words:** Carcass weight, Cooking loss, Game meat, Proximate composition, Tenderness.