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# Growth Ability and Carcass Characteristics of Purebred and Crossbred Lambs of Dhamari and Tehami Sheep Breeds in Yemen

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**Abstract**

The objective of this study was to analyse and evaluate the effect of reciprocal crossing Dhamari and Tehami sheep breeds on pre-weaning growth and carcass traits of their purebred and crossbred offspring. The study was conducted at the Central Highlands Research Station (CHRS) at the Agricultural Research & Extension Authority (AREA) Dhamar - Yemen, 100 km south of the capital city, Sana'a. Data were analysed as a completely randomised design, using a general linear model (GLM) procedure of Statistical Analysis Software (SAS 2008) to determine effects of genotype of lambs, sex, litter size, ewe age and ewe weight at lambing and year breeding on growth ability and carcass characteristics.

Effect of lamb genotype, litter size and ewe weight at lambing on lamb weights at birth, weaning and pre-weaning average daily gain were highly significant ($p < 0.001$). Also significant was the effect of ewe age at lambing on weaning weight and pre-weaning average daily gain ($p < 0.05$). Additionally, the regression of lamb weaning weight on lamb birth weight was highly significant ($p < 0.001$). Fasting live weight, hot and cold carcass weights were significantly ($p < 0.001$) affected by genotype. Hot and cold dressing percentages were significantly affected by genotype ($p < 0.05$, $p < 0.01$, respectively). Effect of genotype on percentages of leg, prime quality cuts, moisture, crude protein and ash was significant ($p < 0.05$). Significant correlations were found between fasting live weight and cold carcass weight, and percentages of leg, loin, shoulder, breast, and flank, and area of loin-eye muscle and first quality cuts ($p < 0.001$). Positive and high correlations were also found between cold carcass weight and hot carcass weight and first quality cuts percentage. Results indicated that proper choice of indigenous sheep breeds and crossbreeding to take advantage of their biodiversity can significantly improve growth ability of lambs and increase meat production in Yemen.

**Keywords:** Carcass quality, crossbreeding, Dhamari, growth ability, sheep, Tehami

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