



## Energy requirement of free-ranging Kurdi-e Khorasan sheep at three physiological stages in mountainous rangelands of north-eastern Iran

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### Abstract

This study aimed to determine daily maintenance energy requirement of free-ranging Kurdi-e Khorasan (KK) sheep in mountainous rangelands of north-eastern (NE) Iran during gestation, lactation and dry periods. Range vegetation were analysed for quality during vegetative growth, flowering and seed production stages. Ninety sheep were randomly weighed from three different flocks to determine animal unit (AU) weight. The weights of AU in gestation, lactation and dry periods were 59.3, 47.1 and 49.4 kg, respectively. The metabolizable energy for maintenance of free-ranging KK sheep was estimated as 14.69, 12.37 and 11.12 MJ/day during gestation, lactation and dry periods, respectively. The dry matter intake required to meet the maintenance energy of KK sheep during gestation, lactation and dry periods was 1.6, 1.4 and 1.3 kg/day, respectively. The energy requirement of sheep in mountainous rangeland was considerably higher than reported values for plain rangelands in NE Iran.

**Keywords:** Forage quality, Maintenance energy requirement, Phonological stage, Sheep