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饲喂水平对杜寒F1代公羔羊体内主要矿物质含量及分布的影响

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Effects of Feeding Levels on Major Mineral Contents and Their Distribution in Dorper Small-Tail *Han* Lambs F1

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摘要 本文旨在研究饲喂水平对杜寒F1代公羔羊体内主要矿物质含量及分布规律的影响。选用杜寒F1代公羔羊21只,随机分为3组,即自由采食组(AL组)、70%限饲组(IR70组)和40%限饲组(IR40组),每组7个重复,每个重复1只,AL组体重达到35 kg时进行比较屠宰试验,测定各组织中钙、磷、镁、钠、钾含量。结果表明:饲喂水平对羔羊体增重、骨骼、肌肉、皮、脂肪、内脏(包括血液)增重影响显著(AL组>IR70组>IR40组)($P<0.05$),对羊毛重影响不显著($P>0.05$);在各组织中,仅有IR70组内脏(包括血液)中钙含量显著高于IR40组($P<0.05$),AL组和IR70组内脏(包括血液)中磷含量显著高于IR40组($P<0.05$);在分布上,骨骼是钙、磷、镁、钠的主要储存部位,分别占机体总量的98.5%、83.4%、71.7%和41.5%,而钾主要储存于肌肉中,占机体总量的49.4%。结果提示,饲喂水平提高,羔羊各组织重量显著增加(除羊毛重外),骨骼、肌肉和皮中钙、磷、镁、钠、钾含量均无显著变化,饲喂水平为维持需要时,钙和磷含量最低。骨骼是钙、磷、镁和钠的主要储存部位,而钾主要储存于肌肉中。

关键词: 羔羊 饲喂水平 分布 主要矿物质元素 屠宰试验

Abstract: This experiment was conducted to investigate the effects of feeding level on major mineral contents and their distribution in Dorper Small-Tail *Han* male lambs F1. Twenty one lambs were randomly assigned into three groups with 7 replicates in each group and 1 lamb per replicate. Lambs were fed 100% (AL group), 70% (IR70 group) and 40% (IR40 group) of *ad libitum*, respectively. A slaughter trial was performed when live weight of lambs in AL group reached 35 kg, and Ca, P, Mg, Na and K contents in different tissues were measured. The results showed as follows: body weight gain and weight of bone, muscle, leather, fat and viscera (blood included) were significantly affected by feeding level (AL group>IR70 group>IR40 group) ($P<0.05$), but fleece weight was not significantly affected ($P>0.05$); it was only in viscera (blood included) that Ca content of IR70 group was significantly higher than that of IR40 group ($P<0.05$), and the P content of IR40 group was lower than that of the other two groups ($P<0.05$); bone was the main storage tissue for Ca, P, Mg and Na, accounting for 98.5%, 83.4%, 71.7% and 41.5% of the total in the body, while K was mainly stored in muscle, accounting for 49.4% of the total in the body. The results indicate that tissue weight of lambs (except for leather) increases with the increasing of feeding level, and major mineral contents of bone, muscle, leather do not change significantly. When lambs are fed at the maintenance requirement, the contents of Ca and P reach the lowest. Bone is the main storage tissue for Ca, P, Mg and Na, and muscle is the main storage tissue for K.

Keywords: lamb, feeding level, distribution, major mineral contents, slaughter trail

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