

عنوان مقاله:

Effects of fiber source on apparent digestibility and ruminal fermentation parameters in sheep fed high-concentrate diets

محل انتشار:

دوفصلنامه علوم و فناوری دامداری، دوره 2، شماره 1 (سال: 1393)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Sixteen rams (mean age: 13 mo; mean live weight: 40.0 ± 2.4 kg) were randomly allotted to four dietary treatments in a completely randomized design (4 rams per treatment). Diets (dry matter basis) contained 65% concentrate and 35% alfalfa hay (control diet, T1), 35% wheat straw (T2), 35% barley straw (T3) or 35% maize straw (T4). Total-tract apparent digestibility for dry matter, organic matter, neutral detergent fiber (ADF), acid detergent fiber (ADF), and crude fat was not affected by the diet ($P > 0.05$). Among straws, maize straw had the highest crude protein digestibility of 63%, compared with wheat straw (48%) and barley straw (54%). Greater nitrogen balance was recorded for diets containing alfalfa hay and maize straw. Gas production volume after 72 h incubation, was higher in the diet containing alfalfa hay or maize straw compared to that containing barley or wheat straw. Ruminal fluid pH and $\text{NH}_3\text{-N}$ were not affected by straw type. In conclusion, the diet containing maize straw was superior to diets containing either wheat or barley straw in terms of crude protein digestibility, nitrogen balance, and in vitro ruminal fermentation parameters. This associative effect of fiber type in high-concentrate diets could be important in practical sheep feeding, as it may affect the animal performance.

کلمات کلیدی:

straw, digestibility, forage: concentrate ratio, sheep

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