

PENGARUH KOMBINASI LEMAK, LISIN DAN METIONIN TERPROTEKSI TERHADAP PRODUKTIVITAS DAN KECERNAAN NUTRIEN PADA DOMBA

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INTISARI

Efisiensi pemanfaatan energi dan protein merupakan faktor kunci dalam peningkatan produktivitas domba, terutama ketika pakan dasar memiliki kualitas nutrisi yang terbatas. Lemak terproteksi berfungsi meningkatkan suplai energi tanpa mengganggu proses fermentasi di dalam rumen, sedangkan lisin dan metionin terproteksi berperan dalam meningkatkan ketersediaan asam amino metabolik untuk sintesis protein. Penelitian ini bertujuan untuk mengevaluasi pengaruh suplementasi lemak, lisin, dan metionin terproteksi terhadap konsumsi nutrien, pencernaan, dan performa pertumbuhan domba. Sebanyak 15 ekor domba jantan dengan bobot badan awal $\pm 13,3$ kg dibagi ke dalam tiga perlakuan, yaitu P0 (kontrol), P1 (1,5% lemak; 0,25% lisin, 0,1% metionin), dan P2 (3% lemak, 0,5% lisin, 0,2% metionin), masing-masing dengan lima ulangan. Penelitian dilaksanakan selama delapan minggu dengan pengukuran konsumsi pakan, pencernaan nutrien, pertambahan bobot badan harian, dan konversi pakan. Data dianalisis menggunakan One-Way ANOVA dan, apabila terdapat perbedaan nyata, dilanjutkan dengan uji Duncan pada taraf signifikansi 5%. Hasil penelitian menunjukkan bahwa suplementasi lemak, lisin, dan metionin terproteksi pada perlakuan P1 menghasilkan nilai konsumsi, pencernaan nutrien, dan produktivitas yang lebih tinggi dibandingkan dengan perlakuan P2 dan kontrol. Dengan demikian, dapat disimpulkan bahwa suplementasi lemak, lisin, dan metionin terproteksi pada perlakuan P1 merupakan tingkat yang paling optimal untuk meningkatkan pencernaan dan produktivitas domba.

Kata kunci: asam amino, domba, pencernaan, lemak, produktivitas.

EFFECT OF ADDED LEVELS PROTECTED FAT, LYSINE, AND METHIONINE ON PRODUCTIVITY AND NUTRIENT DIGESTIBILITY IN SHEEP

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ABSTRACT

Efficient utilization of energy and protein is a key factor in improving sheep productivity, especially when the basal diet has limited nutritional quality. Protected fat serves to increase energy supply without disrupting ruminal fermentation, while protected lysine and methionine play a role in increasing the availability of metabolizable amino acids for protein synthesis. This study aimed to evaluate the effects of supplementing protected fat, lysine, and methionine on nutrient intake, digestibility, and growth performance in sheep. A total of 15 male sheep with an initial body weight of ± 13.3 kg were divided into three treatments: P0 (control), P1 (1.5% fat; 0.25% lysine; 0.1% methionine), and P2 (3% fat; 0.5% lysine; 0.2% methionine), with five replicates per treatment. The study was conducted over eight weeks, during which feed intake, nutrient digestibility, daily weight gain, and feed conversion ratio were measured. The data were analyzed using one-way ANOVA, and when significant differences were detected, Duncan's Multiple Range Test was applied at a 5% significance level. The results showed that supplementation with protected fat, lysine, and methionine in treatment P1 resulted in higher feed intake, nutrient digestibility, and productivity compared to treatment P2 and the control. Thus, it can be concluded that supplementation with protected fat, lysine, and methionine at the P1 level is the most optimal for improving digestibility and productivity in sheep.

Keywords: amino acid, digestibility, fat, productivity, sheep.