

PENAMPILAN PRODUKSI DAN KUALITAS DAGING DOMBA EKOR TIPIS PADA PEMBERIAN PAKAN TAMBAHAN LEMAK TAK JENUH TERPROTEKSI DENGAN METODE KOMBINASI PENYABUNAN DAN KAPSULASI

INTISARI

Penelitian ini bertujuan mengevaluasi efek lemak tak jenuh terproteksi terhadap cairan rumen secara *in vitro*, dan efek lemak tak jenuh terproteksi terhadap penampilan produksi dan terhadap kualitas daging domba secara *in vivo*. Penelitian berlangsung 2 tahap. Tahap pertama mempelajari efek proteksi lemak tak jenuh sebagai pakan tambahan domba terhadap parameter fermentasi cairan rumen secara *in vitro*. Tiga minyak yaitu minyak ikan lemuru (MIL), minyak biji bunga matahari (MBBM) dan minyak jagung (MJ) masing-masing dibuat sabun dengan kombinasi penyabunan dan kapsulasi. Hasil penelitian menunjukkan bahwa ketiga minyak berpengaruh tidak nyata ($P>0,05$) terhadap pH, protein mikrobial, VFA, dan NH_3 , kecuali terhadap pencernaan bahan kering (BK) dan bahan organik (BO) sangat rendah ($P<0,01$) dibanding tanpa sabun. Tahap dua mempelajari penampilan produksi domba pada pemberian pakan tambahan MIL terproteksi dengan konsentrasi NaOH yang berbeda dalam penyabunan. Dua puluh domba ekor tipis jantan umur 5 – 6 bulan dengan bobot awal 8 – 14 kg dibagi 4 perlakuan yaitu P0 ransum basal (50% rumput gajah + 50% konsentrat), P1 (ransum basal +sabun MIL dengan NaOH 10%), P2 (ransum basal + sabun MIL dengan NaOH 20%) dan P3 (ransum basal + sabun MIL dengan NaOH 30%) dengan rancangan acak lengkap. Ulangan masing-masing 5 kali. Hasil penelitian menunjukkan bahwa perlakuan berpengaruh tidak nyata ($P>0,05$) terhadap konsumsi BK, protein kasar (PK), lemak kasar (LK), TDN, pertambahan bobot badan harian (PBBH) dan kolesterol darah. P2 memberikan hasil PBBH tertinggi yaitu $130,95 \pm 19,29$ g/ekor/hari sekaligus kadar kolesterol terendah yaitu 58,67 mg/dl. Tahap kedua masih dilanjutkan dengan mengevaluasi kriteria karkas dan kualitas daging domba pada pemberian pakan tambahan MIL terproteksi dengan konsentrasi NaOH yang berbeda dalam penyabunan. Duabelas ekor domba dipotong untuk P0, P1, P2 dan P3. Hasil penelitian menunjukkan bahwa perlakuan berpengaruh tidak nyata ($P>0,05$) terhadap bobot potong, bobot karkas dan persentase karkas, kualitas fisik daging (pH, daya ikat air, susut masak dan keempukan), dan kualitas kimia daging (kadar BK, PK, LK, asam lemak jenuh dan asam lemak tak jenuh) kecuali pada EPA dan DHA meningkat sangat nyata ($P<0,01$). Kesimpulan proteksi lemak tak jenuh dengan metode kombinasi penyabunan dan kapsulasi tidak mengganggu fermentasi mikrobial rumen dan aman dari degradasi didalam rumen (ditunjukkan dengan pencernaan *in vitro* BK dan BO yang sangat rendah). Pemberian sabun MIL dengan NaOH yang berbeda tidak mengganggu penampilan produksi dan berpengaruh tidak nyata terhadap kualitas daging domba, kecuali pada EPA dan DHA yang secara nyata meningkat.

Kata kunci : Lemak terproteksi, Parameter fermentasi, Penampilan produksi, Kualitas daging

PERFORMANCE AND MEAT QUALITY OF THIN TAILED SHEEP IN SUPPLEMENTARY FEEDING LEMURU FISH OIL PROTECTED BY SAPONIFICATION AND CAPSULATION METHODE

ABSTRACT

This study was aimed to evaluate the effects of unsaturated fat protected against rumen fluid in vitro, and the effects of unsaturated fat protected against production performance and on the meat quality. The study lasted in two stages. The first stage studied the protective effects of unsaturated fat as sheep feed supplement on fermentation parameters of sheep rumen fluid in vitro. Three oil comprising lemuru fish oil (LFO), sunflower seed oil (SSO) and corn oil (CO) each made with a combination of saponification and capsulation. The results showed that the three oils were not significantly affecting ($P > 0.05$) pH, microbial proteins, VFA, and NH_3 , except for significantly low digestibility of dry matter (DM) and organic matter (OM) ($P < 0.01$) compared with no soap. Stage two studied the performance of sheep production on supplementing MIL protected with different NaOH in saponification. Twenty rams aged 5-6 months early weighing 8-14 kg were divided into 4 treatments, namely P0 basal feed (50% elephant grass + 50% concentrate), P1 (basal feed + soap LFO with NaOH 10%), P2 (basal feed + soap LFO with NaOH 20%) and P3 (basal feed + soap LFO with NaOH 30%) with completely randomized design and 5 replication each. The results showed that the treatment effect was not significant ($P > 0.05$) on the consumption of DM, crude protein (CP), crude fat (EE), TDN, daily gain and blood cholesterol. P2 yield the highest daily gain 130.95 ± 19.29 g/head/day of cholesterol at the same time low of 58.67 mg/dl. Stage two is continued for studying the criteria of lamb carcass and meat quality in supplementary feeding MIL protected with different saponification optimization. Twelve sheep were slaughtered for P0, P1, P2 and P3. The results showed that the treatment effect was not significant ($P > 0.05$) to slaughter weight, carcass weight and carcass percentage, the physical quality of meat (pH, water holding capacity, cooking losses and tenderness), and chemical quality of the meat (DM levels, CP, EE, saturated fatty acids and unsaturated fatty acids) except in EPA and DHA increased very significantly ($P < 0.01$). Conclusively, protection of unsaturated fats did not interfere with rumen microbial fermentation and was safe from degradation in the rumen (shown with in vitro DM digestibility and very low OM). Giving soap MIL with different NaOH concentration did not disturb production performance, and was not significant on quality of sheep meat production, except in EPA and DHA which were significantly increased.

Keywords: Protected fat, Fermentation parameters, Production performance, Meat quality



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