

METABOLISME ENERGI TERNAK DOMBA YANG DIBERI PENAMBAHAN COMPLETE RUMEN MODIFIER (CRM)

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Abstrak. Penelitian bertujuan untuk mengkaji pengaruh penambahan Complete Rumen Modifier (CRM) terhadap metabolisme energi ternak domba. Materi yang digunakan adalah 18 ekor domba lokal jantan umur 6-8 bulan. Pakan yang diberikan sebanyak 4% bahan kering dari bobot badan ternak. Pakan percobaan terdiri dari jerami padi amoniasi dan konsentrat dengan perbandingan 40% : 60%. Penelitian dirancang sesuai dengan Rancangan Acak Kelompok (RAK) sebagai kelompok adalah bobot awal domba dengan perlakuan yaitu CRM (0%, 1% dan 2%). Peubah yang diukur terdiri dari konsumsi energi (KE), energi tercerna (ET), energi termetabolis (ME), retensi energi (RE), efisiensi RE terhadap KE, dan efisiensi RE terhadap ET. Hasil penelitian menunjukkan bahwa penambahan CRM dalam pakan berpengaruh nyata ($P < 0,05$) terhadap KE, ET, ME, RE dan efisiensi RE terhadap KE, namun tidak berpengaruh nyata ($P > 0,05$) terhadap efisiensi RE terhadap ET. Berdasarkan uji orthogonal polinomial peningkatan dosis penambahan CRM dalam pakan berpengaruh sangat nyata ($P < 0,01$) secara linier menurunkan KE dengan persamaan garis $y = -170,6x + 3564,3$, dan berpengaruh nyata secara kuadrater terhadap ET, ME, RE dan efisiensi RE terhadap KE dengan persamaan garis berturut turut adalah ET : $y = 109,83x^2 - 175,33x + 1237,6$; ME : $y = 111,11x^2 - 180,81x + 1209,1$; RE : $y = 111,96x^2 - 183,55x + 1221,4$; dan efisiensi RE terhadap KE : $y = 3,9541x^2 - 4,9989x + 34,609$. Disimpulkan bahwa penambahan CRM dalam pakan berperan positif dalam metabolisme energi ternak domba dan pada dosis 2% memberikan pengaruh terbaik pada ET, ME, RE dan efisiensi RE terhadap KE.

Kata Kunci: metabolisme energi, efisiensi energi, pakan domba, complete rumen modifier (CRM), flavonoid

Abstract. The aim of this study was to examine the effect of the addition of Complete Rumen Modifier (CRM) on the energy metabolism of sheep. The material used was 18 male local sheep aged 6-8 months. The feed given was 4% dry matter of the animal's body weight. Experimental feed consisted of ammoniated rice straw and concentrate with a ratio of 40%: 60%. The study was designed according to the Randomized Block Design (RAK) as the group was the initial weight of the sheep with the CRM treatment (0%, 1% and 2%). The variables measured consisted of energy consumption (KE), digested energy (ET), metabolized energy (ME), energy retention (RE), efficiency RE to KE, and efficiency RE to ET. The results showed that the addition of CRM in feed had a significant ($P < 0.05$) effect on KE, ET, ME, RE and efficiency RE to KE, but had no significant effect ($P > 0.05$) on efficiency RE to ET. Based on the orthogonal polynomial test, the increase in the dose of the addition of CRM in the feed had a very significant ($P < 0.01$) linearly lowering KE with the line equation $y = -170.6x + 3564.3$, and had a quadratic effect on ET, ME, RE and the efficiency of RE against KE with the line equations successively is ET : $y = 109.83x^2 - 175.33x + 1237.6$; ME : $y = 111.11x^2 - 180.81x + 1209.1$; RE : $y = 111.96x^2 - 183.55x + 1221.4$; and the efficiency of RE to KE : $y = 3.9541x^2 - 4.9989x + 34.609$. It was concluded that the addition of CRM in feed had a positive role in the energy metabolism of sheep and at a dose of 2% gave the best effect on ET, ME, RE and efficiency RE to KE.

Keywords: energy metabolism, energy efficiency, sheep feed, *complete rumen modifier* (CRM), flavonoids