

Metabolisme Energi Ternak Domba yang Diberi Penambahan *Complete Rumen Modifier* (CRM)

ABSTRAK

**Miftahuddin Ahmad
D2A020026**

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 dengan bobot $18,60 \pm 2,11$ Kg yang ditempatkan pada kandang individu serta dikelompokkan menjadi 6 kelompok berdasarkan bobot badan. Masing – masing kelompok diacak untuk menerima tiga perlakuan yaitu penambahan CRM 0%, 1% dan 2% berdasarkan bahan kering (BK) ransum. Penelitian dirancang sesuai dengan Rancangan Acak Kelompok (RAK). Konsumsi BK masing – masing domba adalah 4% dari bobot badan ternak dengan imbangan BK jerami padi amoniasi dan konsentrat adalah 40% : 60%. Peubah yang diukur adalah konsumsi energi (KE), energi tercerna (ET), energi termetabolis (ME), retensi energi (RE), efisiensi RE terhadap KE, efisiensi RE terhadap ET, efisiensi RE terhadap ME dan efisiensi konversi heksosa menjadi VFA (EKH). Hasil penelitian menunjukkan bahwa penambahan CRM dalam pakan berpengaruh nyata ($P < 0,01$) terhadap KE, ET, ME, RE, efisiensi RE terhadap KE, efisiensi RE terhadap ET, efisiensi RE terhadap ME dan EKH. Uji orthogonal polinomial menunjukkan peningkatan taraf CRM dalam pakan meningkatkan KE, ET, ME, dan RE secara quadrater ($P < 0,01$) dengan titik puncak berturut turut pada taraf CRM 0,62%; 0,80%; 1,05%; 1,09% dan secara linier ($P < 0,01$) meningkatkan efisiensi RE terhadap KE, efisiensi RE terhadap ET, efisiensi RE terhadap ME dan EKH. Disimpulkan bahwa penambahan CRM pada taraf 2% mampu menghasilkan efisiensi energi yang optimal pada ternak domba.

Kata Kunci : *complete rumen modifier* (CRM), efisiensi energi, metabolisme energi.

Sheep Energy Metabolism with the Addition of Complete Rumen Modifier (CRM)

ABSTRACT

**Miftahuddin Ahmad
D2A020026**

The aim of the 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 with a body weight of 18.60 ± 2.11 Kg which were placed in individual pens and grouped into 6 groups based on body weight. Each group was randomized to receive three treatments, namely the addition of CRM 0%, 1% and 2% based on the dry matter (DM) ration. The study was designed according to the Randomized Complete Block Design (RCBD). Dry matter intake of each sheep is 4% of the live weight of sheep with dry matter ratio ammonium rice straw and concentrate is 40% : 60%. The variables measured were energy intake (EI), digested energy (DE), metabolized energy (ME), energy retention (RE), RE efficiency to EI, RE efficiency to DE, RE efficiency to ME and energy conversion efficiency of hexose into VFA (ECEH). The results showed that the addition of CRM in diet had a significant effect ($P < 0.01$) on EI, DE, ME, RE, RE efficiency to EI, RE efficiency to DE, RE efficiency to ME and ECEH. The orthogonal polynomial test showed that the increase in the level of CRM in the diet increased the EI, DE, ME, and RE responded to quadratic ($P < 0.01$) with a peak point at the CRM level of 0.62%; 0.80%; 1.05%; 1.09% respectively, and linearly ($P < 0.01$) increased the RE efficiency to EI, RE efficiency to DE, RE efficiency to ME and ECEH. It was concluded that the addition of CRM at the level of 2% was able to produce optimal energy efficiency in sheep.

Keyword : complete rumen modifier (CRM), energy efficiency, energy metabolism.