

Ratio Energy and Protein of Dietary Based on Rice Straw Ammoniated on Productivity of Male Simenthal Cattle

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Abstract : Background: Livestock productivity is greatly influenced by the energy and protein balance in diet. This study aimed to determine the energy and protein balance of male Simenthal cattle diet with protein and energy levels. The experimental design used was a randomized block design (RBD) 2x3x3 factorial design. There are two factors namely A level of energy diet that is 65% and 70% TDN. Factor B is a protein level of diet used were 10, 12 and 14% and each treatment is repeated three times. The weight of Simenthal cattle used ranged between 240 - 300 kg. Diet consisted of ammoniated rice straw and concentrated with ratio 40:60. Concentrate consisted of palm kernel cake, rice brain, cassava, mineral, and urea. The variables measured were digestibility of dry matter, organic matter and fiber, dry matter intake, daily gain, feed efficiency and blood characteristic. Results: There was no interaction between protein and energy level of diet on the nutrients intake (DM intake, OM intake, CP intake), weight gain and efficiency ($P < 0.01$). There was an interaction between protein and energy level of diet on digestibility (DM, OM, CP and allantoin urine ($P > 0.01$)). Nutrients intake decreases with increasing levels of energy and protein diet, while nutrient digestibility, Average daily gain and feed efficiency increases with increasing levels of energy and protein diet. Conclusions: The result can be concluded that the best treatment was A2B1 which is energy level 70% TDN and protein 10%, where are dry matter intake 7.66 kg/d, daily gain 1.25 kg/d, feed efficiency 16.12%, and dry matter and organic matter digestibility 64.08 and 69.42% respectively.

Keywords : energy and protein ratio, simenthal cattle, rice straw ammoniated, digestibility

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