

DEGRADASI BAHAN KERING DAN BAHAN ORGANIK LIMA BAHAN
PAKAN DALAM RUMEN SAPI PERANAKAN FRIESIAN HOLSTEIN

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INTISARI

Penelitian ini bertujuan untuk mengetahui nilai degradasi bahan kering dan bahan organik secara *in sacco* lima bahan pakan. Penelitian menggunakan 3 ekor sapi peranakan *Friesian Holstein* yang difistula pada bagian rumennya, diberi ransum terdiri dari hijauan dan konsentrat dengan perbandingan 70 : 30. Hijauan yang digunakan adalah *Pennisetum purpuroides* dan konsentrat yang digunakan terdiri dari bekatul padi (41%), tepung ketela (41%), bungkil kedelai (10%), molasses (5%), urea (2%) dan mineral (1%). Bahan pakan bungkil kedelai (B. ked), bekatul padi (B. padi) dan bungkil biji kapok (B. kapok) diinkubasikan dalam rumen selama 2, 4, 8, 16, 24, 48 dan masing masing 4 ulangan. *P. purpuroides* (Pp), *Gliricidia* (Gli) jam pengamatannya ditambah 72 dan 92 jam. Residu setelah inkubasi dianalisis bahan kering (BK) dan bahan organik (BO) dan kinetika kehilangan BK dan BO digunakan untuk menghitung degradasi teori $\{DT\} = a + ((be)/(c+kp))$ dengan model eksponensial $P = a + b(1 - \exp^{-ct})$. Data fraksi a, b, c dan DT dari BK dan BO dianalisis variansi CRD (Completely Randomized Design) dengan pola searah dan bila terdapat perbedaan nyata dilanjutkan uji Duncans dan T-test. Hasil penelitian menunjukkan perbedaan yang nyata ($P < 0,05$) fraksi a, b, c dan DT. DTBK dari B. ked paling tinggi ($P < 0,05$) dibanding bahan pakan lainya masing-masing 68,98%; 49,25%; 42,56%; 37,17% dan 30,17% untuk B. ked, Bek. padi, Gli, B. biji kapok dan Pp. DTBO B. ked paling tinggi ($P < 0,05$) dibanding bahan pakan lainya masing-masing 67,98%; 50,36%; 38,53%; 35,16% dan 26,73% untuk B. ked, Bek. padi, Gli, B. biji kapok dan Pp. Hasil penelitian dapat disimpulkan bahwa nilai degradasi yang tertinggi pada B. ked diikuti Bek. padi, Gli, B. biji kapok dan Pp.

(Kata kunci : Bahan pakan, Degradasi, Bahan kering dan bahan organik, Sapi Peranakan Friesian Holstein)



Degradation of Dry matter and Organic matter of Five
Fed Ingradients in rumen of Friesian Holstein Cattle
Grade

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ABSTRACT

The experiment was carried out to study the degradation *in sacco* of dry matter and organic matter from five feed ingredients. Three (3) fistulated cattle of Friesian Holstein Grade (FHG), were used in this study. The animals were fed by ration composed of forages and concentrate with 70:30 ratio. The forages applied by *Pennesitum purpuroides* and concentrate composed by 41% rice-bran, 41% cassava, 10% soy-bean meal, 5% molasses, 2% urea, and 1% mineral. The soy-bean meal, rice-bran and kapok-seed meal were incubated for 2, 4, 8, 16, 24 and 48 hours into rumen with 4 replications. The *P. purpuroides* (Pp) and gliricidia (Gli) observation lasted in 72 and 92 hours prologer duration. The incubated residual were analysed on dry-matter (DM), organic matter (OM) and loss kinetical of DM and OM were needed to calculate theoretical degradation (TD) with formulation $\{TD\} = a + \frac{b}{c + kp}$. with exponential formula $P = a + b(1 - \exp^{-ct})$. The a, b, c and TD fractions from DM and OM were analysed by a one way classification of variance analyses (CRD), followed the significant means were compared by Duncan's test (DMRT) and independent T-test. The results indicated that there were significant differences ($P < 0,005$) between treatments on a, b, c and TD fractions. The TD of DM from soy-bean meal the highest ($P < 0,05$) compared to other ingradient ; the values were 68,98%; 49,25%; 42,56%; 37,17% and 30,17%, respectively for soy-bean meal, rice-bran, gliricidia, kapok seed-meal and *P. purpuroides*. TD of OM for soy-bean meal the highest significantly ($P < 0,05$) compared to others. The values were 67,98%; 50,36%; 38,53% 35,16%; and 26,73%, respectively for soy-bean meal, rice-bran, gliricidia, kapok-seed meal and *P. purpuroides*. It was concluded that highest TD was obtained for soy-bean meal, followed by rice bran, gliricidia, kapok-seed meal, and *P. purpuroides*, respectively.

(Key words : Fed ingradient, Degradation, Dry-matter, Organic-matter, Cattle of Friesian Holstein Grade)