

KARAKTERISTIK FERMENTASI RUMEN, KONSUMSI, DAN PERTAMBAHAN BERAT BADAN SAPI PERANAKAN ONGOLE DENGAN PAKAN BASAL JERAMI PADI YANG DISUPLEMENTASI GAPLEK DAN BUNGKIL INTI SAWIT

INTISARI

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Penelitian ini bertujuan untuk mengetahui pengaruh pemberian jerami padi dengan suplementasi gaplek dan bungkil inti sawit terhadap karakteristik fermentasi rumen dan kinerja sapi Peranakan Ongole (PO), serta jumlah optimum pemberian gaplek dalam ransum. Penelitian ini menggunakan 24 ekor sapi PO jantan dengan berat badan 180 – 220 kg yang dipelihara selama 3 bulan. Pemberian ransum sebanyak 2,5% berat badan ternak dalam bentuk berat kering, terdiri atas pakan basal jerami padi (20%) dan pakan suplementasi yang berupa campuran gaplek dan bungkil inti sawit (BIS) (80%). Penelitian ini menggunakan rancangan acak kelompok satu faktor. Pakan suplementasi terdiri atas lima macam kombinasi gaplek dan BIS, yaitu: 70:10 (G7B1), 60:20 (G6B2), 50:30 (G5B3), 40:40 (G4B4), dan 30:50 (G3B5). Urea ditambahkan sebanyak 2% dari jumlah gaplek dalam ransum pada setiap ternak. Variabel *in vivo* yang diamati meliputi konsumsi pakan dan pertambahan berat badan harian (PBBH). Pada akhir masa pemeliharaan dilakukan koleksi cairan rumen melalui esophagus untuk mengetahui karakteristik fermentasi rumen berupa pH, *volatile fatty acids* (VFA), N amonia (N-NH₃), dan protein mikroba. Analisis statistik dilakukan pada semua data dengan mengikuti prosedur linear umum dalam PROC GLM dari SAS. Data yang diperoleh dianalisis ragam pada taraf nyata 5%. Apabila hasil analisis didapat peubah yang berbeda nyata karena perlakuan, maka dilanjutkan dengan uji *least significant difference*. Hasil penelitian menunjukkan bahwa nilai pH rumen masih berada dalam rentang normal dengan pemberian level gaplek sampai 70%. Konsentrasi N-NH₃ paling tinggi ($P < 0,05$) ditunjukkan oleh ternak dengan pemberian pakan G5B3. Berat badan akhir ternak mengalami peningkatan yang signifikan ($P < 0,05$) dengan pemberian level gaplek sampai 60%. Pertambahan berat badan harian sapi terus meningkat seiring penambahan proporsi BIS ($P < 0,05$). Berdasarkan hasil penelitian dapat disimpulkan bahwa pemberian tepung gaplek sampai dengan level 70% tidak memberikan dampak negatif terhadap karakteristik fermentasi rumen sapi PO, tidak mempengaruhi jumlah konsumsi pakan, namun pemberian tepung gaplek dengan level 70% menghasilkan berat akhir ternak yang paling rendah. Penggunaan 50% tepung gaplek dan 30% BIS dalam pakan adalah yang paling optimal untuk meningkatkan PBBH sapi PO.

Kata kunci: Jerami padi, Gaplek, Bungkil sawit, Karakteristik fermentasi rumen, Peranakan Ongole

**RUMEN FERMENTATION CHARACTERISTICS, FEED INTAKE, AND
AVERAGE DAILY GAIN OF ONGOLE CROSSBRED BULLS
OFFERED RICESTRAW AS BASAL DIET AND
SUPPLEMENTATION OF CASSAVA FLOUR
AND PALM KERNEL CAKE**

ABSTRACT

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This study aimed to determine the effects of feeding rice straw with supplementation of cassava and palm kernel cake on the rumen fermentation characteristics and performance of Ongole crossbreds (PO) bulls, as well as determine the optimum amount of cassava in ration. This study used 24 PO bulls with bodyweight ranged from 180 to 220 kg. All bulls were raised for 3 months and offered rice straw as basal diet (20%) and a mixture of cassava flour and palm kernel cake (PKC) (80%). This study used a randomized complete block design. Bulls were divided into five groups and offered treatments consisted of five combinations of cassava flour and PKC: 70:10 (G7B1), 60:20 (G6B2), 50:30 (G5B3), 40:40 (G4B4), and 30:50 (G3B5). Urea was added at a level of 2% of the amount of cassava flour in the ration for each animal. *In vivo* variables observed included feed intake (FI) and average daily gain (ADG). Rumen samples were collected by stomach tube from all bulls before feeding on the final day of the experiment for the measurement of pH, volatile fatty acids (VFA), ammonia-N ($\text{NH}_3\text{-N}$), and microbial protein. Statistical analysis was performed on all data by following the general linear procedure in PROC GLM from SAS. The data obtained were analyzed at 5% significance level. If the analysis results obtained significantly different variables due to the treatments, then proceed with the least significant difference test. The results showed that the rumen pH values were in the normal ranges when bulls offered cassava flour up to 70%. The greatest $\text{NH}_3\text{-N}$ concentration ($P < 0.05$) was shown by bulls offered G5B3 ration. The final weight of bulls showed significant increase ($P < 0.05$) when they were offered cassava up to 60%. The ADG of bulls were increased as the proportion of BIS were increased ($P < 0.05$). Based on the results of this study, it can be concluded that cassava flour inclusion up to 70% of ration did not negatively affect rumen fermentation characteristics of PO bulls, did not affect feed consumption, but the inclusion of cassava flour with a level of 70% resulted in the lowest final weight of livestock. The addition of 50% cassava flour and 30% PKC ration was the most optimal combination to increase ADG of PO bulls.

Keywords: Rice straw, Cassava flour, Palm kernel cake, Rumen fermentation characteristics, Ongole crossbreed