

KARAKTERISTIK FERMENTASI RUMEN, KECERNAAN NUTRIEN, DAN PERTAMBAHAN BOBOT BADAN HARIAN SAPI PERANAKAN ONGOLE YANG DIBERI PAKAN BASAL JERAMI PADI DAN KONSENTRAT BERBAHAN PAKAN LOKAL

INTISARI

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Penelitian ini bertujuan untuk mengetahui karakteristik fermentasi rumen, kecernaan nutrien, dan pertambahan bobot badan harian (PBBH) sapi Peranakan Ongole (PO) yang diberi pakan basal jerami padi dan konsentrat dengan kandungan energi dan protein yang berbeda. Pada penelitian ini digunakan 24 ekor sapi PO berjenis kelamin jantan, berumur ± 1 tahun yang memiliki bobot badan 220 ± 20 kg. Ransum yang diberikan terdiri atas jerami padi (JP) sebanyak 5 g BK/kg BB/ekor/hari dan tiga jenis konsentrat, yaitu perlakuan pertama (P1) konsentrat dengan proporsi 100% konsentrat komersial HQFS (PK 11,0 dan ME 9,37 MJ/kg), perlakuan kedua (P2) konsentrat dengan proporsi gaplek 92%, urea 3%, dan molases 5% (PK 8,09% dan ME 12,05 MJ/kg), dan perlakuan ketiga (P3) konsentrat dengan proporsi gaplek 50% dan *wheat pollard* 50% (PK 9,27% dan ME 11,27 MJ/kg). Penelitian dilakukan selama 14 minggu. Data yang dikoleksi berupa konsumsi pakan, karakteristik fermentasi rumen (pH, *volatile fatty acids*, N-mikroba, dan amonia), pertambahan bobot badan harian ternak, kecernaan pakan *in vivo*, dan nilai *income over feed cost* (IOFC). Data yang diperoleh dianalisis variansi dengan mengikuti rancangan acak lengkap pola searah; jika hasil analisis didapat perbedaan yang nyata maka dilanjutkan dengan *Duncan's multiple range test*. Hasil penelitian menunjukkan konsumsi nutrien (BK, BO, dan NDF), PBBH, dan total VFA perlakuan P1 (konsentrat komersial 100%) yang tertinggi, kemudian P3 (gaplek 50% dan *wheat pollard* 50%) dan terakhir P2 (gaplek 92%, urea 3%, dan molases 5%) ($P < 0,05$). Kecernaan BK dan NDF dengan nilai P3 yang tertinggi, kemudian P2 dan terakhir P1 ($P < 0,05$). Pemberian dengan pakan basal jerami dan konsentrat dengan proporsi gaplek 50% dan *wheat pollard* 50% (PK 9,27% dan ME 11,27 MJ/kg) mampu memberikan hasil keuntungan tertinggi berdasarkan perhitungan *income over feed cost*.

Kata kunci: Karakteristik fermentasi rumen, kecernaan, pertambahan bobot badan harian, Peranakan Ongole, jerami padi, konsentrat lokal.

RUMEN FERMENTATION CHARACTERISTIC, NUTRIENT DIGESTIBILITY, AND AVERAGE DAILY GAIN OF ONGOLE CROSSBRED BULLS FED RICE STRAW AND CONCENTRATE MADE OF LOCAL FEEDSTUFFS

ABSTRACT

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This research was intended to determine the effect of feeding rice straw and concentrate made of local feedstuffs on the rumen fermentation characteristic, feed digestibility, and productivity of Ongole crossbred bulls. Animals used in this research was 24 head of yearling Ongole crossbred bulls weighted at 220 ± 20 kg. All bulls were offered 5 g DM/kg BW/head/day rice straw as basal diet and three different types of concentrate which are T1 with 100% of commercial concentrates (11% CP and 9,37 MJ/kg); T2 with 92% of cassava powder, 3% of urea, and 5% of molasses (8,09% CP and 12,05 MJ/kg); and T3 with 50% of cassava powder and 50% of wheat pollard (9,27% CP and 11,27 MJ/kg). All bulls were kept in controlled stalls for 14 weeks. Parameters observed were feed intake, average daily gain (ADG), rumen fermentation characteristics such as pH, volatile fatty acid (VFA), N-microbes, ammonia (NH_3), *in vivo* digestibility and in the end of experiment, income over feed cost (IOFC) also calculated. The data obtained were analyzed using a completely randomized design with a unidirectional pattern. If the results of the analysis obtained significant differences then it was continued with Duncan's multiple range test. The result of this study showed that the nutrient intake (DM, OM, and NDF), ADG, and VFA total from T1 (100% of commercial concentrate) were the highest value followed by T3 (50% of cassava powder dan 50% of *wheat pollard*) and T2 (92% of cassava powder, 3% of urea, and 5% of molasses) ($P < 0.05$). The T3 showed the highest result followed by T2 and T1 ($P < 0.05$) on the digestibility of dry matter and NDF. Feeding rice straw and concentrate with 50% of cassava powder and 50% of wheat pollard (9.27% CP and 11.27 MJ/kg) can provide the best profit among the treatments based on the Income Over Feed Cost (IOFC) calculation.

Kata kunci: rumen fermentation characteristic, digestibility, average daily gain, Ongole crossbred bulls, rice straw, local concentrate.