

**PERBEDAAN KARAKTERISTIK FISIK DAN KIMIA FESES SAPI  
PERANAKAN ONGOLE DAN SAPI PERANAKAN FRIESIAN  
HOLSTEIN DI PUSAT INOVASI AGROTEKNOLOGI  
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**INTISARI**

Penelitian ini bertujuan untuk mengetahui karakteristik fisik dan kimia feses sapi Peranakan Ongole (PO) dan sapi Peranakan Friesian Holstein (PFH) yang diolah di Pusat Inovasi Agroteknologi Universitas Gadjah Mada. Hasil penelitian ini diharapkan mampu memberikan informasi tentang karakteristik fisik dan kimia feses sapi PO dan sapi PFH sehingga dalam penanganan limbah dapat diketahui perlakuan yang tepat agar memperoleh hasil yang optimal. Penelitian ini menggunakan sampel feses sapi PO dan PFH masing-masing sebanyak 5 ekor yang berada di Pusat Inovasi Agroteknologi. Koleksi sampel dilakukan selama 7 hari, kemudian sampel yang diperoleh dilihat karakteristiknya. Karakteristik fisik yang diamati adalah warna, konsistensi, berat, dan volume. Karakteristik kimia yang diamati meliputi kadar air, total karbon (C), total Nitrogen (N), dan rasio C/N. Data hasil penelitian diuji secara Independent Sample T-test. Analisis data dilakukan dengan menggunakan program *Statistical Package for Social Science* (SPSS). Hasil penelitian menunjukkan bahwa semua karakteristik fisik dari feses sapi PO dan PFH berbeda nyata, yaitu warna (coklat kehijauan dan coklat kehitaman), konsistensi (agak padat dan lembek), berat ( $8,56 \pm 0,46$  dan  $16,00 \pm 0,77$  kg/hari), dan volume ( $8,50 \pm 0,44$  dan  $16,23 \pm 0,82$  liter/hari). Karakteristik kimia yang berbeda nyata yaitu, kadar air ( $74,47 \pm 0,67$  dan  $78,03 \pm 0,28\%$ ), kadar karbon ( $27,54 \pm 1,80$  dan  $36,12 \pm 1,01\%$ ), kadar nitrogen ( $1,6 \pm 0,13$  dan  $1,4 \pm 0,03\%$ ) dan rasio C/N ( $17,19 \pm 2,59$  dan  $25,07 \pm 0,81$ ). Berdasarkan penelitian ini dapat disimpulkan bahwa secara umum karakteristik feses yang dimiliki oleh sapi PO dan PFH berbeda. Feses sapi PFH lebih baik jika diolah menjadi biogas sedangkan feses sapi PO menjadi pupuk kompos.

Kata kunci : Karakteristik feses, Sapi Peranakan Ongole, Sapi Peranakan Friesian Holstein.

**DIFFERENCES OF PHYSICAL AND CHEMICAL FECES CHARACTERISTICS OF ONGOLE CROSSBRED AND FRIESIAN HOLSTEIN CROSSBRED COWS IN AGROTECHNOLOGY INNOVATION CENTER UNIVERSITAS GADJAH MADA**

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**ABSTRACT**

This study was aimed to determine the physical and chemical feces characteristics of Ongole crossbred (PO) and Friesian Holstein crossbred (PFH) cows in Innovation Center of Agrotechnology Universitas Gadjah Mada. The results of this research was expected to provide information about the physical and chemical feces characteristics of PO and PFH cows therefore the best treatment for feces processing can be known in order to obtain optimal results. This research used the samples feces of five PO cows and five PFH cows in Agrotechnology Innovation Center Universitas Gadjah Mada. Collection of samples carried out for seven days, then observed for the characteristics of samples. Physical characteristics observed were color, consistency, weight, and volume. The chemical characteristics that observed include moisture content, total carbon (C), total nitrogen (N), and C/N ratio. Data were tested by Independent Sample T-test. Data was analysis using Statistical Package for Social Science (SPSS) program. The results showed that all the physical characteristics of feces of PO and PFH cows were significantly different (greenish brown and brownish), the consistency (somewhat dense and soft), weight ( $8.56 \pm 0.46$  and  $16.00 \pm 0.77$  kg/day), and volume ( $8.50 \pm 0.44$  and  $16.23 \pm 0.82$  liter/day). Chemical characteristics were significantly different, the moisture content ( $74.47 \pm 0.67$  and  $78.03 \pm 0.28\%$ ), carbon content ( $27.54 \pm 1.80$  and  $36.12 \pm 1.01\%$ ), nitrogen content ( $1.6 \pm 0.13$  and  $1.4 \pm 0.03\%$ ), and C/N ratio ( $17.19 \pm 2.59$  and  $25.07 \pm 0.81$ ). It can be concluded that in general the characteristics of feces of PO cow and PFH cow are different. PFH cow feces is better use for biogas, and PO cow feces for compost.

Key word: Feces characteristics, Ongole crossbred, Friesian Holstein crossbred.