

Pengaruh Perbedaan Ukuran Partikel Sampel dan Metode Pencucian Kantong Terhadap Degradasi *In Sacco* Jerami Kacang Tanah Pada Sapi Peranakan Friesian Holstein

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INTISARI

Penelitian ini bertujuan untuk mengetahui nilai degradasi *in sacco* jerami kacang tanah pada ukuran partikel sampel dan proses pencucian kantong yang berbeda. Jerami kacang tanah digiling dengan *Wiley mill* dengan diameter lubang saringan 2mm. Partikel berukuran <2mm (P2) diperoleh dari sampel yang lolos dari saringan 2mm dan partikel berukuran 1-2mm (P1) diperoleh dari sampel yang tertahan pada saringan 1mm. Sampel diinkubasikan dalam rumen selama 4, 8, 16, 24, 48 dan 72 jam, dengan 6 ulangan. Setelah inkubasi, kantong dicuci menggunakan mesin cuci (A) dan dicuci secara manual dengan tangan (B), kemudian residu dianalisis kandungan bahan kering dan bahan organiknya. Degradasi Teori dihitung dengan rumus: $DT = a + ((b) / (c + 0,06))$. Data yang diperoleh dianalisis variansi menggunakan CRD (*Completely Randomized Design*) pola faktorial 2x2 dan dilanjutkan dengan uji *Duncan Multiple Range Test* (DMRT). Degradasi bahan kering dan bahan organik partikel berukuran <2mm (P2) lebih tinggi ($P < 0,05$) dibanding ukuran partikel 1-2mm (P1) yaitu masing-masing 47,78% vs 39,98% dan 51,65% vs 43,28%. Cara pencucian dengan mesin (A) menghasilkan degradasi bahan kering dan bahan organik lebih tinggi ($P < 0,05$) dibanding dengan pencucian dengan tangan (B) yaitu masing-masing 45,19% vs 42,57% dan 48,98% vs 45,95%. Terdapat interaksi ($P < 0,05$) diantara perlakuan. Dari penelitian disimpulkan bahwa degradasi bahan kering dan bahan organik sampel berukuran <2mm lebih tinggi dibanding sampel berukuran 1-2mm, sedangkan pencucian menggunakan mesin memiliki degradasi bahan kering dan bahan organik lebih tinggi dibanding secara manual.

Kata kunci: Jerami Kacang Tanah, Ukuran Partikel, Proses Pencucian, Degradasi *In Sacco*.

**Effect Differences of Particle Size and Washing Method
Toward The In Sacco Degradation of Peanut Straw in
Friesian Holstein Hybrid**

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ABSTRACT

This study was conducted to determine the in sacco degradation of peanut straw on differences of particle size and washing method. Particle size of sample used is <2mm (P2) and 1-2mm (PI). Peanut straw was grounded by Wiley mill with 2mm screen diameter. The <2mm particle size of samples were obtained by collecting particles that passed through 2mm screen diameter and the 1-2mm particles size of peanut straw samples were obtained by collecting particles that passed through a 2mm screen and retained a 1mm screen. The sample was incubated with polyester bag in the rumen for 4, 8, 16, 24, 48 and 72 hours, with six replication. After incubation, the bags were washed by washing machine (A) and manual washing (B) and then the residues were analysis for dry matter (DM) and organic matter (OM). Degradation Theory (DT) was calculated by $DT = a + ((bc)/(c + 0,06))$. Data obtained was analyzed by variance analysis using Completely Randomized Design (CRD) of factorial design 2 x 2 and the differences between means were analyzed by Duncan Multiple Range Test (DMRT). The dry matter and organic matter degradation on particles with <2mm of size (P2) was higher ($P < 0,05$) than that with 1-2mm of size (PI), i.e. 47,78% vs 39,98% and 51,65% vs 43,28%, respectively. Washing method with machine (A) resulted dry matter and organic matter degradation that was higher ($P < 0,05$) than that of manual method, i.e. 45,19% vs 42,57% dan 48,98% vs 45,95%, respectively. There were interaction ($P < 0,05$) between treatments. This experiment concluded that dry matter and organic matter degradation on <2mm particles size was higher than 1-2mm particle size, while on washing machine it was higher than that on manual washing.

Key words: peanut straw, particle size, washing method, in sacco degradation