

PEMAGARUH UKURAN PARTIKEL SAMPEL DAN CARA. PENCUCIAN
KANTONG YANG BERBEDA TERHADAP DEGRADASI *IN SACCO*
JERAMI PADI

Ari Subekti
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Intisari

Penelitian ini bertujuan untuk mengetahui pengaruh ukuran partikel sampel dan cara pencucian kantong yang berbeda terhadap degradasi *in sacco* jerami padi. Jerami padi dikeringkan dalam oven pada 60°C kemudian digiling dengan *Willey mill* berdiameter lubang saringan 2 mm. Ukuran partikel sampel 2 mm diperoleh dari sampel yang lolos dari saringan 2 mm dan ukuran partikel sampel 1-2 mm diperoleh dari partikel yang lolos dari saringan 2 mm dan tertahan pada saringan berdiameter lubang 1 mm. Sampel jerami padi diinkubasikan dengan kantong nilon dalam rumen selama 4,8,16,24,48 dan 72 jam dengan enam replikasi. Setelah inkubasi kantong-kantong tersebut dicuci dengan pencucian dengan mesin cuci (M) dan pencucian dengan tangan (T) kemudian residu dianalisis kandungan bahan kering dan bahan organik. Nilai degradasi teori (DT) dihitung dengan rumus : $DT = a + (b \times c / c + 0,06)$. Data a, b, c, dan DT yang diperoleh dianalisis variansi menurut rancangan acak lengkap pola faktorial 2 x 2 dan rerata antar perlakuan dianalisis dengan uji *Duncan Multiple Range Test* (DMRT). DT BK dan BO dengan ukuran partikel sampel 2 mm lebih tinggi dari 1-2 mm ($P < 0,01$) dan pencucian kantong dengan mesin cuci lebih tinggi dibanding dengan tangan ($P < 0,01$). Terdapat interaksi antara faktor ukuran partikel sampel dan cara pencucian kantong pada fraksi a ($P < 0,01$) dan DT ($P < 0,01$). Perlakuan ukuran partikel sampel 1-2 mm dan pencucian kantong dengan mesin cuci menunjukkan variasi hasil DT BK dan BO yang paling kecil. Selanjutnya untuk metodologi *in sacco* disarankan menggunakan ukuran partikel sampel 1-2 mm dan pencucian dengan mesin cuci selama 6 menit.

Kata kunci : jerami padi, ukuran partikel, pencucian, degradasi, *in sacco*.

**EFFECT OF VARIATIONS OF PARTICLE SIZE AND WASHING
METHOD ON THE IN SACCO DEGRADATION OF RICE STRAW**

Ari Subekti
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Abstract

This experiment was conducted to determine the effect of particle size and washing method on the *in sacco* degradation of rice straw. Rice straw was oven-dried at 60° C and grounded by *Willey mill* with 2 mm screen diameter. The 2 mm particle size of samples (NA) were obtained by collecting particles that passed through 2 mm screen diameter and the 1-2 mm particle size of rice straw samples (A) were obtained by collecting particles that passed through a 2 mm screen and retained a 1 mm screen. Rice straw samples were incubated with nylon 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 (M) and hand washing (T) and then the residues were analyzed for dry matter (DM) and organic matter (OM). Degradation Theory (DT) was calculated by $DT = a + (b \times c) / (c + 0,06)$. The a, b, c and DT values were analyzed by variance analysis using *Complete Random Design* (CRD) of factorial design 2x2 and the differences between means were analyzed by *Duncan Multiple Range Test* (DMRT). The DT values of DM and OM of 2 mm particle size of sample was higher than 1-2 mm ($P < 0,01$), and washing machine was higher than hand washing ($P < 0,01$). There were interaction between particle size of sample and washing method for fraction a ($P < 0,01$) and DT ($P < 0,01$) values of DM and OM. Treatment 1-2 mm particle size of samples and washing machine have smallest variation on DT value of DM and OM. Then, for *in sacco* methodology suggested using 1-2 mm particle size of sample and washing machine method.

Keywords: rice straw, particle size, washing method, degradation, *in sacco*.