

RINGKASAN

Siti Nur Khasanah. Penelitian berjudul Pengujian Kecernaan Protein Kasar dan Serat Kasar Dedak Padi dari Berbagai Varietas Padi Secara *In Vitro*. Penelitian dilaksanakan mulai tanggal 4 Januari sampai dengan 28 Februari 2016 di Laboratorium Ilmu Nutrisi dan Makanan Ternak serta Laboratorium Ilmu Bahan Makanan Ternak, Fakultas Peternakan, Universitas Jenderal Soedirman, Purwokerto. Tujuan penelitian ini adalah untuk mengkaji kecernaan protein kasar dan serat kasar dedak berbagai varietas padi.

Materi penelitian adalah dedak dari lima varietas padi yaitu varietas IR 64, varietas Pandanwangi, padi merah varietas Aek Sibundong, ketan putih varietas Lusi, dan ketan hitam varietas Setail. Pakan basal yang digunakan adalah rumput gajah, dan bungkil kelapa. Bahan-bahan yang digunakan yaitu H_2SO_4 pekat, katalisator, NaOH 40%, HCl 0,1 N, *methyl red*, NaOH 0,5 N, H_2SO_4 0,3 N, H_2O , aseton, cairan rumen, enzim pepsin, larutan penyangga *McDougalls*, gas CO_2 , $HgCl_2$. Peubah yang diukur adalah kecernaan protein kasar dan serat kasar secara *in vitro*. Penelitian menggunakan metode eksperimental dengan rancangan penelitian Rancangan Acak Lengkap (RAL). Uji lanjut dengan Uji Beda Nyata Jujur (BNJ).

Hasil penelitian menunjukkan bahwa varietas berpengaruh nyata pada kecernaan protein kasar dan serat kasar. Kecernaan protein kasar yang tertinggi yaitu dedak padi varietas Pandanwangi (R2) yaitu $48,56 \pm 4,08\%$, diikuti oleh dedak padi varietas IR 64 (R1) sebesar $45,16 \pm 5,86\%$, dedak padi ketan putih varietas Lusi (R4) $43,94 \pm 3,70\%$, dedak padi merah varietas Aek Sibundong (R3) $37,80 \pm 0,62\%$, dan yang terendah yaitu dedak padi ketan hitam varietas Setail (R5) $28,33 \pm 3,19\%$. Uji Beda Nyata Jujur menunjukkan kecernaan protein dedak padi ketan hitam varietas Setail (R5) berbeda nyata ($P < 0,05$) dengan dedak padi varietas lainnya (R1, R2, R3, dan R4). Kecernaan protein dedak padi varietas Pandanwangi (R2) berbeda nyata ($P < 0,05$) dengan dedak padi merah dan dedak padi ketan hitam (R3 dan R5) tetapi tidak berbeda nyata dengan dedak padi varietas IR 64 dan dedak padi ketan putih varietas Lusi (R1 dan R4).

Kecernaan serat kasar tertinggi yaitu pada dedak padi merah varietas Aek Sibundong (R3) sebesar $34,09 \pm 3,68\%$, diikuti oleh dedak padi ketan hitam varietas Setail (R5) $33,91 \pm 1,73\%$, dedak padi varietas Pandanwangi (R2) $23,64 \pm 2,34\%$, dedak padi varietas IR 64 (R1) $22,85 \pm 1,04\%$, dan terendah yaitu dedak padi ketan putih varietas Lusi (R4) $12,53 \pm 1,90\%$. Uji lanjut Beda Nyata Jujur menunjukkan kecernaan serat kasar yaitu dedak padi ketan putih varietas Lusi (R4) berbeda nyata ($P < 0,05$) dengan varietas lainnya (R1, R2, R3, dan R5). Dedak padi merah varietas Aek Sibundong (R3) tidak berbeda ($P > 0,05$) dengan dedak padi ketan hitam varietas Setail (R5). Kesimpulan dari penelitian menyatakan bahwa dedak dari varietas berbeda menunjukkan kecernaan protein kasar dan serat kasar yang berbeda. Varietas padi yang berbeda menunjukkan kecernaan protein kasar dan serat kasar yang berbeda. Dedak padi varietas Pandanwangi mempunyai kecernaan protein tertinggi yaitu $48,53 \pm 4,08\%$, dan kecernaan serat kasar tertinggi adalah dedak padi merah varietas Aek Sibundong sebesar $34,09 \pm 3,68\%$.

Kata kunci : *in vitro*, dedak, varietas padi, protein kasar, serat kasar.

SUMMARY

Siti Nur Khasanah. The study entitled testing of in vitro digestibility of crude protein and crude fiber of rice bran from 5 rice varieties. The research was conducted from 4th of January until 28th February 2016 in the Laboratory of Animal Nutrition and Feed Science, and Laboratory of Animal Feed Stuff Science, Faculty of animal science, University of Jenderal Soedirman, Purwokerto. The purpose of this study was to assess the digestibility of crude protein and crude fiber of rice bran of five rice varieties.

The materials of research was bran from five rice varieties among others IR 64, Pandanwangi, red rice varieties Aek Sibundong, glutinous rice varieties Lusi, glutinous rice varieties Setail. Basal feed used was composed of grass and soybean meal. Materials for in vitro digestibility of crude protein and crude fiber were H₂SO₄, catalisator, NaOH 40%, HCl 0,1 N, *methyl red*, NaOH 0,5 N, H₂SO₄ 0,3 N, H₂O, aseton, rumen fluid, *enzyme pepsin*, solution *McDougalls*, CO₂, HgCl₂. The parameters were *digestibility of crude protein and crude fiber*. The Research used experimental methods with Completely Randomized Design. If the difference varieties was significant then it was tested using Honestly Significant Difference test (HSD).

The results showed that the varieties of rice had a significant effect on digestibility of crude protein and crude fiber. The mean digestibility of crude protein was highest for rice bran variety of Pandanwangi (R2) $48.56 \pm 4.08\%$, followed by rice bran variety of IR 64 (R1) $45.16 \pm 5.86\%$, rice bran of glutinous rice variety of Lusi (R4) $43.94 \pm 3.70\%$, rice bran of red rice variety of Aek Sibundong (R3) $37.80 \pm 0.62\%$, and the lowest was rice bran of glutinous rice variety of Setail (R5) $28.33 \pm 3.19\%$. Honestly significant difference test showed that rice bran of glutinous rice variety of Setail (R5) significantly ($P < 0.05$) differed to the other rice bran (R1, R2, R3, and R4). The digestibility of crude protein of rice bran variety of Pandanwangi (R2) significantly ($P < 0.05$) differed to rice bran of red rice variety of Aek Sibundong and rice bran of glutinous rice variety of Setail (R3 dan R5) but not significantly differed to rice bran variety of IR 64 and rice bran of glutinous rice variety of Lusi (R1 dan R4).

The highest mean digestibility of crude fiber was rice bran of red rice variety of Aek Sibundong (R3) $34.09 \pm 3.68\%$, followed by rice bran of glutinous rice variety of Setail (R5) $33.91 \pm 1.73\%$, rice bran variety of Pandanwangi (R2) $23.64 \pm 2.34\%$, rice bran variety of IR 64 (R1) $22.85 \pm 1.04\%$, and the lowest was rice bran of glutinous rice variety Lusi (R4) $12.53 \pm 1.90\%$. Honestly significant difference test showed that rice bran of glutinous rice variety of Lusi (R4) significantly ($P < 0.05$) differed to other varieties (R1, R2, R3, dan R5). Rice bran of red rice variety of Aek Sibundong (R3) did not significantly differed to rice bran of glutinous rice variety of Setail (R5). The conclusion of this study is that the varieties of rice showed different in vitro digestibility of crude protein and crude fiber. Rice bran variety of Pandanwangi has the highest digestibility of protein $48.53 \pm 4.08\%$ and the highest digestibility of crude fiber is rice bran of red rice variety of Aek Sibundong $34.09 \pm 3.68\%$.

Key words : in vitro, bran, varieties of rice, crude protein, crude fiber.