

**Karakteristik Fermentasi *In Vitro* Ransum Berbasis Jerami
Padi Fermentasi dan Onggok dengan Suplementasi
Berbagai Level Bungkil Kopra**

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INTISARI

Penelitian ini bertujuan untuk mengetahui karakteristik fermentasi (pH, VFA, NH₃, dan protein mikroba) secara *in vitro* ransum berbasis jerami padi fermentasi dan 15% onggok dengan suplementasi bungkil kopra pada berbagai level. Empat level suplementasi bungkil kopra (0, 10, 20, atau 30%) dan 15% onggok ditambahkan pada jerami padi fermentasi dengan mengikuti rancangan acak lengkap pola searah. Pakan percobaan diinkubasikan secara *in vitro* selama 48 jam sesuai dengan tahap pertama dari metode analisis pencernaan 2-tahap. Dilakukan koleksi sampel cairan rumen pada akhir masa inkubasi untuk selanjutnya diukur pH dan dianalisis kandungan VFA, NH₃, dan protein mikroba. Data yang diperoleh dianalisis statistik dengan menggunakan analisis variansi dan jika ada perbedaan antar perlakuan diuji lanjut dengan *Duncan's multiple range test*. Hasil penelitian menunjukkan bahwa suplementasi bungkil kopra berpengaruh nyata terhadap konsentrasi VFA, NH₃, dan protein mikroba. Suplementasi 30% bungkil kopra pada ransum menunjukkan konsentrasi NH₃ dan protein mikroba tertinggi (11,33 mg/100 mL dan 5,42 mg/100 mL, berurutan; P<0,05), sedangkan suplementasi 20% bungkil kopra menunjukkan konsentrasi VFA tertinggi (68,32 mM; P<0,05). Berdasarkan penelitian yang dilakukan, dapat disimpulkan suplementasi bungkil kopra sebanyak 20% pada ransum berbasis jerami padi fermentasi dan 15% onggok mampu mengoptimalkan fermentasi rumen tanpa memberi pengaruh negatif terhadap nilai pH.

Kata kunci: Karakteristik fermentasi, *In vitro*, Suplementasi, Onggok, Bungkil kopra

***In Vitro* Fermentation Characteristics of Ration Based On Ammoniated Rice Straw and Tapioca By-Product Supplemented With Various Levels of Copra Meal**

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ABSTRACT

This study was done to understand *in vitro* fermentation characteristics (pH, VFA, NH₃, and microbial protein) of ration based on ammoniated rice straw and 15% tapioca by-product with copra meal supplementation on various levels. Four different levels of copra meal supplementation (0, 10, 20, or 30%) and 15% tapioca by-product were added into ration based on ammoniated rice straw by following one way completely randomized design. The experimental feed was incubated by *in vitro* technique for 48 hours according to the first stage of the 2-stage digestibility analysis method. Rumen fluid samples were collected at the end of the incubation period for further measurement of pH and analyzed for VFA, NH₃, and microbial protein concentration. The data obtained were analyzed statistically by using analysis of variance and for any differences detected among treatments were tested with Duncan's multiple range test. The results showed that copra meal supplementation significantly influenced the concentration of VFA, NH₃, and microbial protein. Supplementation of 30% copra meal on rations showed the greatest concentration of NH₃ and microbial protein (11.33 mg/100 mL and 5.42 mg/100 mL, respectively; P<0.05), while 20% copra meal supplementation showed the greatest VFA concentration (68.32 mM; P <0.05). By this study, it can be concluded that 20% copra meal supplementation in fermented rice straw-based ration and 15% tapioca by-product were able to optimize rumen fermentation by increasing the concentration of VFA, NH₃ and microbial protein in rumen fluid without affecting pH value.

Keywords: Fermentation characteristic, *In vitro*, Supplementation, Tapioca by-product, Copra meal