

KECERNAAN *IN VITRO* PRODUK FERMENTASI TOTAL CAMPURAN KONSENTRAT BERBASIS AMPAS TAHU OLEH BAKTERI ASAM LAKTAT

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INTISARI

Tujuan dari penelitian ini adalah untuk mengetahui kecernaan hasil campuran konsentrat fermentasi berbasis ampas tahu melalui analisis *in vitro*. Bahan campuran konsentrat yang digunakan yaitu ampas tahu, dedak, dan *wheat pollard*. Terdapat tiga macam perlakuan dalam pembuatan fermentasi campuran konsentrat. Proporsi ampas tahu, dedak, dan *wheat pollard* perlakuan I, II, dan III secara berturut-turut yaitu 60%:20%:20%, 50%:25%:25%, dan 40%:30%:30%. Hasil fermentasi diuji pH, kandungan asam laktat, kecernaan *in vitro* metode *Tilley* dan *Terry* meliputi kecernaan bahan kering (BK), bahan organik (BO), dan kandungan protein mikrobia. Data yang diperoleh dianalisis variasi pola searah, bila ada perbedaan nyata akibat perlakuan dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa perbedaan proporsi ampas tahu, dedak, dan *wheat pollard* antara perlakuan I, II, dan III menunjukkan perbedaan yang nyata pada kadar asam laktat dan nilai pH medium hasil *in vitro* ($P < 0,01$). Kandungan asam laktat tertinggi terdapat pada perlakuan II. Nilai pH medium hasil *in vitro* berada di kisaran 6,9-7. Akan tetapi ketiga macam perlakuan tidak menunjukkan perbedaan nyata pada pH konsentrat fermentasi, kecernaan bahan kering, kecernaan bahan organik, dan kandungan protein mikrobia. Berdasarkan penelitian dapat disimpulkan bahwa proporsi terbaik yang dihasilkan dari fermentasi campuran konsentrat berbasis ampas tahu pada PII dengan kandungan asam laktat yang paling tinggi.

Kata kunci : *In Vitro*, Fermentasi, Bakteri Asam Laktat, Ampas Tahu

**IN VITRO DIGESTIBILITY OF TOTAL MIXED CONCENTRATE
FERMENTATION PRODUCT BASED ON TOFU WASTE
BY LACTIC ACID BACTERIA**

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ABSTRACT

The purpose of this research was to determine the digestibility of total mixed concentrate fermentation product based on tofu waste by in vitro analysis. The materials of mixed concentrate that used consist of tofu waste, rice bran, and wheat pollard. There were three kinds of treatment in produced of concentrate fermentation product. The proportion of tofu waste, rice bran, and wheat pollard for treatment I, II, and III were 60%: 20%: 20%, 50%: 25%: 25%, and 40%: 30%: 30% respectively. Fermented concentrate was tested for pH, lactic acid concentration, in vitro digestibility using Tilley and Terry method including dry matter digestibility (DMD), organic matter digestibility (OMD) and microbial protein. The data were analyzed using one way ANOVA and then continued by *Duncan's new Multiple Range Test* (DMRT). The results showed that the difference of proportion of tofu waste, rice bran, and wheat pollard between treatments showed significant differences in the levels of lactic acid and pH of rumen fluid ($P < 0,01$). The high level of lactic acid content found on the second treatment. The pH value of the medium in vitro after incubation were in the range of 6,9 to 7. But all treatment did not show significant differences in pH of concentrate fermentation, dry matter digestibility (DMD), organic matter digestibility (OMD) and microbial protein. It could be concluded that the best proportion of total mixed concentrate fermentation product based on tofu waste was the treatment II based on the highest lactic acid content.

Keywords: In Vitro, Fermentation, Lactic Acid Bacteria, Tofu Waste