

**PENGARUH KOMBINASI JAMUR *Trichoderma viride* DAN EM-4 PADA  
PAKAN SUPLEMEN BERBASIS KULIT KACANG TANAH (*Arachis  
hypogaeae* L.) TERHADAP PARAMETER FERMENTASI  
SECARA *IN VITRO***

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**INTISARI\***

Penelitian ini bertujuan untuk mengetahui parameter fermentasi dari pakan suplemen berbasis kulit kacang tanah yang diberi kombinasi inokulan *Trichoderma viride* dan EM-4. Penelitian ini dilaksanakan pada tanggal 18 April sampai 18 Juni 2019, dilaksanakan di Laboratorium Dasar Prodi Kesehatan Hewan Departemen Teknologi Hayati dan Veteriner, Sekolah Vokasi dan Laboratorium Biokimia Nutrisi Fakultas Peternakan Universitas Gadjah Mada Yogyakarta. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) pola searah dengan enam (6) perlakuan masing-masing terdiri dari tiga (3) ulangan. Perlakuan terdiri dari P0 (Suplemen pakan berbasis kulit kacang), P1 (P0 + EM-4), P2 (P0 + *Trichoderma viride*), P3 (P0 + EM-4 25% + *Trichoderma viride* 75%), P4 (P0 + EM-4 50% + *Trichoderma viride* 50%), P5 (P0 + EM-4 75% + *Trichoderma viride* 25%). Variabel yang diamati yaitu produksi gas, nilai pH, ammonia (NH<sub>3</sub>), protein mikroba dan *Volatile Fatty Acid* (VFA). Data dianalisis dengan menggunakan *Analysis of Variance* (ANOVA), jika ada perbedaan nyata dilanjutkan dengan uji *Duncan's New Multiple Range Test* (DMRT). Hasil penelitian menunjukkan perlakuan kombinasi *Trichoderma viride* dan EM-4 pada perlakuan P2 berbeda nyata paling rendah ( $P < 0,05$ ) terhadap produksi gas inkubasi 48. Perlakuan P3 berbeda nyata paling rendah sedangkan P4 berbeda paling tinggi ( $P < 0,05$ ), terhadap produksi NH<sub>3</sub>. Perlakuan kombinasi *Trichoderma viride* dan EM-4 tidak berpengaruh nyata ( $P > 0,05$ ) pada pengukuran pH, protein mikroba dan VFA. Berdasarkan hasil penelitian dapat disimpulkan bahwa pakan kombinasi *Trichoderma viride* 75% dan EM-4 25% memiliki produksi gas maksimal yang didukung dengan sisa kandungan amonia (NH<sub>3</sub>) yang rendah di dalam rumen.

Kata kunci : Pakan suplemen berbasis kulit kacang, *Trichoderma viride*, EM-4, parameter fermentasi.

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\*Intisari Skripsi Sarjana Peternakan, Program Studi Peternakan, Fakultas Agroindustri, Universitas Mercu Buana Yogyakarta, 2019.

**THE EFFECT OF FUNGI *Trichoderma viride* AND EM-4 COMBINATION IN  
FEED SUPPLEMENT BASED ON PEANUT (*Arachis hypogaea* L.) HULLS  
ON IN VITRO FERMENTATION PARAMETERS**

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**ABSTRACT**

The purpose of the research was to determine the parameters of fermentation from supplementary feed based on peanut hull was given a combination of *Trichoderma viride* and EM-4 inoculants. This research was conducted on April 18 to June 18, 2019, at the Basic Laboratory of Animal Health Study Program, Department of Biological and Veterinary Technology, Vocational School and Laboratory of Nutrition Biochemistry, Faculty of Animal Husbandry, Gadjah Mada University, Yogyakarta. This study used one-way pattern Completely Randomized Design with six (6) treatments, each treatment consisted of three (3) replications. The treatment consisted of P0 (peanut hull based feed supplement), P1 (P0 + EM-4), P2 (P0 + *Trichoderma viride*), P3 (P0 + EM-4 25% + *Trichoderma viride* 75%), P4 (P0 + EM-4 50% + *Trichoderma viride* 50%), P5 (P0 + EM-4 75% + *Trichoderma viride* 25%). The observed variables were gas production, pH value, ammonia (NH<sub>3</sub>), microbial protein, and Volatile Fatty Acid (VFA). The data were analyzed by using Analysis of Variance (ANOVA); if there were significant differences, it was followed by Duncan's New Multiple Range Test (DMRT). The results showed the treatment combination of *Trichoderma viride* and EM-4 in P2 treatment had the lowest significant difference (P<0.05) on 48 incubation gas production. The P3 treatment was the least significantly different, whereas P4 meant the highest difference (P<0.05), towards NH<sub>3</sub> production. The combination treatment of *Trichoderma viride* and EM-4 had no significant effect (P>0.05) on measurements of pH, microbial protein and VFA. Based on the results of the study, it can be concluded that the combined feed of *Trichoderma viride* 75% and EM-4 25% had the maximum gas production supported by low residual ammonia (NH<sub>3</sub>) content in the rumen.

Key words : Feed based on peanut hulls, *Trichoderma viride*, EM-4, fermentation parameters.

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\*Abstract Thesis of S1 Animal Husbandry, Faculty of Agroindustry, University of Mercu Buana Yogyakarta, 2019.