

**KUALITAS PUPUK ORGANIK CAIR URIN KELINCI YANG DIBUAT
SECARA ANAEROB DENGAN PENAMBAHAN MIKROBIA PENGIKAT
NITROGEN UREA DAN DAUN LAMTORO (*Leucaena leucocephala*)**

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan mikrobial pengikat nitrogen (*Alcaligenes sp.* dan *Arthrobacter sp.*), urea dan daun lamtoro (*Leucaena leucocephala*) secara anaerob terhadap kualitas pupuk organik cair dari urin kelinci. Penelitian ini terdapat empat perlakuan dengan masing-masing tiga ulangan. Perlakuan pertama diberi tambahan mikrobial pengikat nitrogen sebanyak 1%. Perlakuan kedua diberi tambahan urea sebanyak 1%. Perlakuan ketiga diberi tambahan tanaman leguminosa daun lamtoro sebanyak 1% serta perlakuan keempat tanpa diberi tambahan apapun sebagai kontrol. Keempat perlakuan diperam selama 20 hari dalam kondisi anaerob. Parameter yang diamati meliputi produksi gas amonia yang dilepaskan per hari oleh pupuk organik cair. Kualitas fisik pupuk organik cair meliputi volume, suhu, pH, warna dan bau. Kualitas Kimia pupuk organik cair meliputi kadar N total, P total, K total dan C-organik total serta kualitas mikrobiologis pupuk organik cair. Analisis data terhadap data hasil penelitian dengan menggunakan analisis Rancangan Acak Lengkap Pola Searah dan apabila terjadi perbedaan yang signifikan dilanjutkan pengujian *Duncan's Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa pada penambahan mikrobial mampu menekan reduksi gas amonia urin kelinci selama pemeraman dibandingkan dengan penambahan urea, daun lamtoro dan kontrol. Hasil uji kualitas kimia menunjukkan bahwa pada perlakuan penambahan urea memberikan pengaruh yang berbeda nyata dengan kontrol terhadap kadar N-total yakni sebesar 0,32%. Pengujian mikrobiologis menunjukkan bahwa pada perlakuan penambahan daun lamtoro terhadap urin kelinci menghasilkan jumlah koloni paling banyak yaitu 64×10^{10} cfu/ml.

Kata kunci : Pupuk organik cair, urin kelinci, mikrobial, daun lamtoro, urea

**QUALITY OF LIQUID ORGANIC FERTILIZER OF RABBIT URINE
ANAEROBICALLY WITH ADDITION BY NITROGEN FIXATION
BACTERIA, UREA, AND LAMTORO LEAF (*Leucaena leucocephala*)**

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ABSTRACT

This study aimed to determine the effect of Nitrogen fixation bacteria (*Alcaligenes* sp. And *Arthrobacter* sp.), Urea and leaves of Lamtoro (*Leucaena leucocephala*) anaerobically on the quality of liquid organic fertilizer from the urine of rabbits. This study contained four treatments with three replicates respectively. The first treatment was giving by 1% additional nitrogen fixation bacteria. The second treatment 1% of an additional urea. The third treatment was giving by 1% Lamtoro leaf as much as 1%. The fourth treatment is without any treatment or any additional parameters as a control. Rabbit's urine from each treatment fermented anaerobically for 20 days. Observed parameters are including ammonia gas production which performed every day. Physical quality of liquid organic fertilizer includes volume, temperature, pH, color and smell observed. The chemical quality liquid organic fertilizer including level of N total, P total, K total, C-organic total and microbiology quality was also observed. The data analysis of the survey data by using a completed randomized variance design analysis unidirectional pattern and if there is a significant difference, it would be continued by the different following test Duncan's Multiple Range Test (DMRT). The results showed that the addition of Nitrogen fixation bacteria was capable to suppress ammonia gas which release during fermentation than the additional by urea, Lamtoro leaf and control. Chemical quality test results showed that the addition of urea treatment gives a significantly different effect to control the levels of N-total which amounted to 0.32%. Microbiological testing showed that the addition of treatment lamtoro leaves to produce rabbit urine colony count at most that is 64×10^{10} cfu / ml.

Keywords: liquid organic fertilizer, rabbit urine, microbial, lamtoro leaves, urea.