

**PENGARUH PENGGUNAAN STARTER HASIL  
FERMENTASI BUAH PISANG UNTUK  
MENGURANGI GAS AMONIA  
FESES SAPI POTONG**

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**INTISARI**

Penelitian ini bertujuan untuk mengetahui pengaruh penggunaan starter hasil fermentasi buah pisang untuk mengurangi gas amonia feses sapi potong. Penelitian dilakukan selama 3 bulan. Data yang diambil meliputi sifat kimia, fisik, sensoris hasil fermentasi, pertumbuhan mikrobial pada medium padat dan cair, pengukuran *optical density* (OD) 600 nm dan pengukuran produksi gas amonia pada panjang gelombang 425 nm dengan level penambahan hasil fermentasi berbeda yaitu 0% (kontrol), 1%, 3%, 5%, dan EM4 1% pertumbuhan mikrobial setelah perlakuan pengukuran kadar amonia. Data sifat fisik, kimia sensoris hasil fermentasi, pertumbuhan mikrobial pada medium padat dan cair, *optical density* (OD) 600 nm, pertumbuhan mikrobial setelah perlakuan pengukuran kadar amonia dianalisis secara deskriptif. Data pengukuran kadar amonia dianalisis menggunakan analisis variansi *Split plot*, bila menunjukkan hasil yang signifikan dilanjutkan dengan analisa *Duncan's New Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa hasil fermentasi mempunyai karakter kimia pH: 4,2, suhu 31°C, sensoris warna kuning kekeruhan, aroma segar, wangi, sedikit asam. Mikrobial hasil fermentasi dapat tumbuh pada medium padat dan cair. Penggunaan hasil fermentasi buah pisang 3% menghasilkan kadar amonia yang paling rendah yaitu 0,85 mg/L. Mikrobial hasil fermentasi dan lama berpengaruh nyata ( $P < 0,01$ ) terhadap produksi gas amonia. Kesimpulan dari penelitian ini mikrobial hasil fermentasi buah pisang dapat mengurangi gas amonia. Hasil penelitian menunjukkan bahwa perlakuan 3% penambahan hasil fermentasi buah pisang mempunyai hasil konsentrasi gas amonia yang paling rendah.

Kata kunci : Mikrobial, Fermentasi buah pisang, Gas amonia, Feses sapi potong

**THE EFFECT OF USING A FERMENTED STARTER  
BANANAS TO REDUCE AMMONIA  
GAS CATTLE FECES**

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**ABSTRACT**

The research was conducted to evaluate the effect of using a fermented starter bananas to reduce ammonia gas cattle feces. The research was conducted for 3 months. Data obtained were the chemical characteristics, sensory of fermentation product, microbial growth in solid and liquid media, measurement of optical density (OD) 600 nm and measurement of ammonia production at wave length of 425 nm with different level of addition fermentation product were EM4 1%, 0% (control), 1%, 3%, 5%, microbial growth after treatment measurement ammonia level. Descriptive analysis performed on fermentation product chemical characteristics, sensory, microbial growth in solid and liquid media, *optical density* (OD) 600 nm, microbial growth after treatment measurement ammonia level. Split-Plot, and Duncan's New Multiple Range Test (DMRT) analysis was performed on data measurement of ammonia level. Results of the experiment showed chemical characteristic (pH : 4.2 temperature: 31 °C). Sensory yellow turbidity, fresh aroma, fragrant and tend to acid. The microbial of fermentation product could be growth in solid and liquid media. The use of fermented bananas 5% produced the lowest levels of ammonia is 0,85 mg/L. The local microbial of fermentation product and length of fermentation affected significantly ( $P < 0.01$ ) on ammonia gas production. There were significant interaction between level of local microbial addition and incubation time ammonia gas production. The conclusion of the research local microbial fermented bananas could reduce ammonia gas. The results showed that treatment of 3% addition of fermented bananas have the lowest results of the concentration of ammonia gas.

Keywords : Microbial, Fermented bananas, Ammonia gas, Cattle feces