

ABSTRAK

PENGARUH FERMENTASI CAMPURAN DAUN UBI KAYU DAN JERAMI PADI TERHADAP KONSENTRASI VFA DAN NH₃ SECARA *IN VITRO*

Oleh

Siti Ahrotin Juariyah

Penelitian ini bertujuan untuk mengetahui pengaruh campuran fermentasi daun ubi kayu dan jerami padi terhadap kadar VFA dan NH₃ secara *in vitro*. Penelitian ini menggunakan metode Tilley and Terry dengan Rancangan Acak Lengkap (RAL) 4 perlakuan (P1= fermentasi jerami padi +10 % fermentasi daun ubi kayu; P2 = fermentasi jerami padi + 20% fermentasi daun ubi kayu; P3= fermentasi jerami padi + 30% fermentasi daun ubi kayu; P4 = fermentasi jerami padi + 40% fermentasi daun ubi kayu) dengan 3 ulangan. Data yang diperoleh dianalisis menggunakan analisis ragam pada taraf nyata 5% dan atau 1%, hasil analisis yang berbeda nyata di uji lanjut menggunakan uji *Polinomial Orthogonal*. Hasil penelitian menunjukkan bahwa terdapat pengaruh sangat nyata ($P < 0.01$) antara penambahan daun ubi kayu terhadap kadar VFA dan NH₃ secara *in vitro*.

Terdapat hubungan linear antara penambahan daun ubi kayu terhadap kadar VFA yaitu $Y = 54,58 + 1,54 X$ ($r = 0,94$) dengan hasil rata- rata tertinggi perlakuan P4 (113,83 mM) dan terendah P1 (69,88 mM). Sedangkan pada kadar NH₃ terdapat hubungan linear yaitu $Y = 6,09 + 0,0638 X$ ($r = 0,91$) dengan hasil rata – rata tertinggi pada P4 (8,40 mM) dan terendah P1(6,47 mM)

Kata kunci : Daun ubi kayu, Fermentasi, Jerami padi, NH₃, VFA

ABSTRACT

EFFECT OF FERMENTED MIXTURE OF CASSAVA LEAVES AND RICE STRAW ON VFA CONCENTRATION AND NH₃ IN VITRO

By

Siti Ahrotin Juariyah

The research aimed to know the effect of cassava leaves and rice straw fermentation on VFA and NH₃ *in vitro*. The research used Tilley and Terry method with Completely Randomized Design with four treatments (P1 = rice straw fermentation +10% cassava leaves fermentation; P2 = rice straw fermentation + 20% cassava leaves fermentation; P3 = rice straw fermentation + 30% leaves cassava fermentation; P4 = rice straw fermentation + 40% leaves cassava fermentation) with three replications. The obtained data was analyzed by Analysis Of Variance on 5% and or 1% significant level, than if the results significantly difference, it was analyzed with Polynomial Orthogonal Test. The results showed that there are interaction significantly effected ($P < 0.01$) between the addition of cassava leaves to VFA and NH₃ *in vitro*. There is linear relationship between the addition of cassava leaves to VFA is $Y = 54,58 + 1,54 x$ ($r = 0,94$) with the highest average result of treatment P4 (113,83 mM) and the lowest P1 (69,88mM). While in NH₃ there is a linear relationship that is $Y = 6,09 + 0,0638 X$ ($r = 0,91$) with the highest average result of P4 (8,40 mM) and the lowest P1 (6,47 mM).

Keyword : Cassava leaves, Fermentation, NH₃, Rice straw , VFA