

ABSTRAK

PENGOLAHAN LIMBAH TERNAK KAMBING MENJADI PUPUK ORGANIK CAIR DENGAN PENAMBAHAN BIOAKTIVATOR TERHADAP KANDUNGAN UNSUR HARA MAKRO (C, N, P, K) DAN UNSUR HARA MIKRO (Co, Zn)

Meningkatnya kegiatan usaha peternakan tentunya akan membawa dampak berupa kerusakan lingkungan jika tidak disertai dengan upaya manajemen sumberdaya yang baik. Urin merupakan salah satu limbah cair yang dihasilkan dari kegiatan peternakan kambing. Urin yang dihasilkan ternak merupakan hasil metabolisme yang memiliki nilai manfaat yaitu kadar N dan K yang sangat tinggi, mudah diserap tanaman serta mengandung hormon pertumbuhan tanaman. Penelitian ini dilakukan untuk mengolah limbah urin kambing menjadi pupuk cair dengan penambahan bioaktivator dengan perbandingan 70% urin kambing dan 30% bioaktivator. Bioaktivator yang digunakan yaitu MOL bonggol pisang, kubis dan rumput laut. Tujuan penelitian ini adalah untuk mengetahui pengaruh variasi penambahan bioaktivator pada urin kambing dan kemudian dibandingkan dengan standar teknis yang tercantum dalam Permentan N0.70 tahun 2011. Hasil penelitian menunjukkan bahwa terdapat pengaruh penambahan bioaktivator terhadap kualitas pupuk organik cair yang dihasilkan. Melalui uji statistic One-way ANOVA diketahui bahwa penambahan bioaktivator berpengaruh nyata terhadap kandungan unsur hara C-Organik namun tidak berpengaruh nyata terhadap kandungan unsur hara N-Total, P-Total, K-Total, Co dan Zn. Selain itu diketahui bahwa hasil pupuk organik cair pada reaktor Y1 mendapatkan skoring tertinggi dengan penambahan bioaktivator MOL bonggol pisang, kubis dan rumput laut sebanyak 5%, 10% dan 15% menghasilkan kandungan unsur hara C-Organik, N-Total, P-Total, K-Total, Co dan Zn sebesar 50,39%, 1,164%, 0,0031%, 0,31%, -0.01% dan 0,304% dengan GI sebesar 99,86%.

Kata Kunci : Urin kambing, bioaktivator, pupuk organik cair

ABSTRACT

Goat Livestock Waste treatment into Liquid Organic Fertilizer by Adding Bioactivator to Macro Nutrient Content (C,N,P,K) and Micro Nutrient (Co,Zn)

Increasing livestock business activities will certainly have the effect of environmental damage if it is not accompanied by good resource management efforts. Urine is one of the liquid wastes produced from goat farming activities. The urine produced by livestock is the result of metabolism which has a beneficial value of very high levels of N and K, is easily absorbed by plants and contains plant growth hormones. This research was conducted to treat goat urine waste into liquid fertilizer with the addition of bioactivators with a ratio of 70% goat urine and 30% bioactivator. Bioactivators used are banana hump local microorganism, cabbage and seaweed. The purpose of this study was to determine the effect of variations in the addition of bioactivators on goat urine and then compared with the technical standards listed in Permentan No. 70 of 2011. The results showed that there was an effect of adding bioactivators to the quality of the liquid organic fertilizer produced. Through the One-way ANOVA statistical test, it was found that the addition of bioactivators had a significant effect on the content of organic C-nutrients but did not significantly affect the nutrient content of N-Total, P-Total, K-Total, Co and Zn. Besides that, it is known that the yield of liquid organic fertilizer in reactor Y1 gets the highest score with the addition of banana hump local microorganism, cabbage and seaweed bioactivator as much as 5%, 10% and 15% resulting in C-organic nutrient content, N-Total, P-Total, K-Total, Co and Zn amounted to 50.39%, 1.164%, 0.0031%, 0.31%, -0.01% and 0.304% with GI of 99.86%.

Keyword: Goat urine, bioactivator, liquid organic fertilizer