

PENGARUH CAMPURAN SERASAH BAMBU DAN *SLUDGE* BIOGAS KOTORAN SAPI PERAH SEBAGAI MEDIA TANAM TERHADAP PERTUMBUHAN TANAMAN KANGKUNG

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INTISARI

Penelitian ini dimaksudkan untuk mengetahui kualitas media tanam *sludge* biogas sapi perah dengan penambahan kadar serasah bambu yang berbeda terhadap pertumbuhan tanaman kangkung darat (*Ipomoea reptans Poir.*). Penelitian terdiri dari tahapan seperti persiapan, pemeliharaan selama 30 hari, pengujian nutrisi media tanam (uji kadar air, karbon organik, nitrogen, fosfor, kalium, dan rasio C/N), pengamatan, serta pengukuran pertumbuhan tanaman (parameter panjang daun, lebar daun, jumlah daun, tinggi tanaman, diameter batang, dan bobot segar total). Penanaman dilakukan dalam polibag diameter 20 cm yang berisi 2 kg media tanam. Penyiraman dilakukan pagi dan sore hari dengan dosis 200 ml setiap pemberian air. Kontrol dan perlakuan dibagi secara berurutan dengan perbandingan antara komposisi *sludge* sapi perah dan serasah bambu yaitu 100%:0% (P0), 75%:25% (P1), 50%:50% (P2), dan 25%:75% (P3). Setiap perlakuan dilakukan 3 kali pengulangan, serta pengujian sampel laboratorium. Data dianalisis dengan menggunakan rancangan acak lengkap pola searah, lalu data yang berbeda nyata diuji lebih lanjut dengan memakai *Duncan's New Multiple Range Test*. Komposisi media tanam P2 (*sludge* biogas sapi perah 50% + serasah bambu 50%) menghasilkan pertumbuhan tanaman kangkung darat paling optimal yakni panjang daun 10,94 cm; lebar daun 2,79 cm; jumlah daun 15,33 helai; tinggi tanaman 69,74 cm; dan bobot segar 31,84 g.

(Kata kunci: *sludge* biogas, serasah bambu, tanaman kangkung)

THE EFFECT OF BAMBOO LITTER AND DAIRY COW MANURE BIOGAS SLUDGE MIXTURE AS PLANTING MEDIA ON THE GROWTH OF KANGKONG PLANTS

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ABSTRACT

This study aims to determine the quality of dairy sludge biogas planting media with the addition of different levels of bamboo litter on the growth of land kangkong (*Ipomoea reptans Poir.*) plants. The research consisted of stages such as preparation, maintenance for 30 days, examination of growing media nutrients (testing moisture content, organic carbon, nitrogen, phosphorus, potassium, and C/N ratio), observation, as well as measurement of plant growth (parameters leaf length, leaf width, leaf numbers, plant height, stem diameter, and total fresh weight). Planting was done in 20 cm diameter polybags containing 2 kg of planting media. Watering was done in the morning and evening at a dose of 200 ml per application. Control and treatments were divided sequentially by the ratio between the composition of dairy sludge and bamboo litter, namely 100%:0% (P0), 75%:25% (P1), 50%:50% (P2), and 25%:75% (P3). Each treatment was repeated 3 times, as well as laboratory sample testing. Data were analyzed using a randomized complete block design One-way ANOVA, then significantly different data were further tested using Duncan's New Multiple Range Test. The composition of the P2 planting media (50% dairy biogas sludge + 50% bamboo litter) produced the most optimal growth of land kangkong plants, namely leaf length of 10.94 cm; leaf width of 2.79 cm; number of leaves 15.33 strands; plant height of 69.74 cm; and fresh weight of 31.84 g.

(Keywords: biogas sludge, bamboo litter, kangkong plants)