

**PENGARUH SUBSTITUSI SERABUT KELAPA (COCOPEAT) PADA
PUPUK ORGANIK BERBAHAN DASAR EKSKRETA
AYAM PETELUR TERHADAP KUALITAS DAN
APLIKASI PADA TANAMAN**

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh substitusi *cocopeat* terhadap kualitas fisik, kimia, dan biologis pupuk organik kompos ekskreta ayam petelur pada berbagai level *cocopeat* yang berbeda. Penelitian terdiri dari lima perlakuan, perlakuan pertama yaitu dengan penambahan *cocopeat* 0%(T₀) sebagai kontrol, perlakuan kedua dengan penambahan *cocopeat* 5%(T₁), perlakuan ketiga dengan penambahan *cocopeat* 10%(T₂), perlakuan keempat dengan penambahan *cocopeat* 15%(T₃), dan perlakuan kelima dengan penambahan *cocopeat* 20%(T₄) level substitusi *cocopeat*. Parameter yang diamati meliputi kualitas fisik yaitu suhu, pH, warna, bau, dan tekstur kompos. Kualitas kimia terdiri dari kadar air, kadar abu, bahan organik, C-organik, C/N rasio, N total, P total, dan K total pupuk organik kompos. Kualitas biologi terdiri dari jumlah daun, panjang akar, tinggi, dan berat panen kangkung. Data yang diperoleh diuji statistik dengan analisis variansi rancangan acak lengkap pola searah dan apabila menunjukkan perbedaan dilanjutkan dengan uji beda *Duncan's New Multiple Range Test* (DMRT). Hasil penelitian tertinggi pada setiap parameter ialah Bahan Organik pada perlakuan T₃ (15%), Karbon pada perlakuan T₂ (10%), C/N pada perlakuan T₁ (5%), Kalium pada perlakuan T₂ (10%), fosfor pada perlakuan T₄ (20%), Nitrogen pada perlakuan T₄ (20%), Kadar Air pada perlakuan T₂ (10%), Kadar Abu pada perlakuan T₃ (15%), dan parameter kualitas biologis tertinggi secara keseluruhan pada T₄ (20%). Kesimpulan penelitian ini, level penambahan *cocopeat* pada perlakuan 20% (T₄) memberikan hasil yang lebih baik pada peningkatan kualitas kimia dan biologi.

Kata kunci : Pupuk organik kompos, Ekskreta, *Cocopeat*, Kualitas pupuk kompos

**THE EFFECT OF COCONUT FIBER WASTE (COCOPEAT)
SUBSTITUTION TO COMPOST FERTILIZER QUALITY
EXCRETA CHICKEN LAYER MATERIAL AND
APPLICATION IN PLANT**

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ABSTRACT

This research aims to decide the influence of *cocopeat* substitution against the physical, chemical, and biological quality of organic fertilizer compost of laying hens in different levels of *cocopeat*. The study is consisted by five treatments which are treatment the addition of *cocopeat* 0% (T_0) as a control, then treatment with the addition of *cocopeat* 5% (T_1) as the second one, continued by treatment with the addition of *cocopeat* 10% (T_2), then treatment with the addition of *cocopeat* 15% (T_3), the last is treatment with the addition of *cocopeat* 20% (T_4). Parameters which is observed contain physical quality, temperature, pH, color, smell, and compost texture. Moreover, chemical quality covers moisture content, ash content, organic matter, C-organic, C/N ratio, N total, P total, and K total organic fertilizer compost. Still, biological quality comprises the number of leaves, the length of the roots, height, and weight of crop crops in the parameters. Data obtained is statistically tested in analysis of variances in random design of the direct pattern and when the difference is continued with the different tests of the Dunn's New Multiple Range Test (DMRT). The research results highest on every parameter is organic material on the treatment T_3 (15%), Carbon at T_2 treatment (10%), C/N at treatment T_1 (5%), Potassium on treatment 2 (10%), Fospor on T_4 treatment (20%), Nitrogen on T_4 treatment (20%), The Water levels on treatment T_2 (10%), Ash Content on treatment T_3 (15%), and highest quality parameters biological overall on T_4 (20%) highest overall in T_4 (20%). Thus, the addition of level 20% of *cocopeat* (T_4) provides better results in the increase of chemical and biological qualities.

Keywords : Organic compost fertilizer, Excreta, *Cocopeat*, compost quality