

PENGEMBANGAN PRODUK SAMPING *BIODEGRADABLE POT* (*BIOPOT*) BERBAHAN BAKU LIMBAH KAYU DARI PT KUTAI TIMBER INDONESIA

INTISARI

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Biopot merupakan pot yang terbuat dari 100% bahan alami sehingga menghasilkan produk organik. *Biodegradable pot* atau *biopot* adalah salah satu alternatif pengganti *polybag*. *Biopot* dibuat dari berbagai jenis bahan, salah satunya limbah kayu. Selain kayu, pembuatan *biopot* juga memerlukan bahan tambahan agar menghasilkan *biopot* yang baik.

Penelitian ini bertujuan untuk mengetahui karakteristik *biopot*, seperti densitas, kadar air, daya serap air, dan biodegradabilitas dari *biodegradable pot* yang dihasilkan, serta menentukan sampel *biopot* terbaik berdasarkan karakteristik fisik dan biodegradabilitas. *Biopot* dibuat dengan campuran limbah kayu, tapioka, dan asam sitrat yang menggunakan mesin *hot press*. Penelitian ini menggunakan pendekatan Taguchi dengan *orthogonal array* $L_9(3^4)$. Metode analisis data yang digunakan adalah *Signal-to-Noise Ratio* (SNR), ANOVA, dan Uji Kruskal-Wallis.

Berdasarkan hasil pengujian, karakteristik *biopot* yang dihasilkan, yaitu densitas bervariasi antara 0,587 gram hingga 0,670 gram, kadar air bervariasi antara 12,81% hingga 16,55%, daya serap air bervariasi antara 8,97% hingga 21,43%, dan biodegradabilitas bervariasi antara 24,64% hingga 53,02%. Selanjutnya, sampel *biopot* terbaik adalah sampel C yang ditentukan menggunakan metode *Grey Relational Analysis* (GRA).

Kata kunci: *Asam sitrat, Biodegradable pot, Limbah kayu, Taguchi, Tapiok*

***DEVELOPMENT OF BIODEGRADABLE POT (BIOPOT) SIDE PRODUCT
MADE FROM WOOD WASTE FROM PT KUTAI TIMBER INDONESIA***

ABSTRACT

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Biopot is a pot made from 100% natural materials, resulting in an organic product. A biodegradable pot, or biopot, is one alternative to plastic polybags. Biopots can be made from various materials, one of which is wood. In addition to wood, the production of biopots also requires supplementary materials to obtain good-quality products.

This research aims to determine the characteristics of biopots, such as density, moisture content, water absorption, and biodegradability of the produced biodegradable pots, as well as to identify the best biopot sample based on physical characteristics and biodegradability. Biopots were produced using a mixture of wood waste, tapioca starch, and citric acid with the aid of hot press machine. The study employed the Taguchi method with an $L_9(3^4)$ orthogonal array. Data analysis methods used included Signal-to-Noise Ratio (SNR), ANOVA, and the Kruskal-Wallis test.

Based on the test results, the characteristics of the produced biopots showed that density ranged from 0,587 gram to 0,670 gram, moisture content ranged from 12,81% to 16,55%, water absorption ranged from 8,97% to 21,43%, and biodegradability ranged from 24,64% to 53,02%. Furthermore, the best biopot sample was identified as sample C which was determined using the Grey Relational Analysis (GRA) method.

Keywords: Biodegradable pot, Citric acid, Taguchi, Tapioca starch, Wood was