

ABSTRACT
STUDY OF HYDROPONIC GROWTH MEDIA FROM MIXED
MATERIALS OF BAGLOG WASTE AND RICE HUSK CHARCOAL

By

Dyah Isworo

This study aims to determine the physical properties of planting media such as consistency (impact test and soak saturated), bulk density, water holding capacity, hardness, pH, and EC of mixed media from baglog waste and rice husk charcoal materials. Effects of the mixed media on the growth of pak choi was also analyzed.

This research was conducted at Agricultural Engineering Department of Lampung University in July - September 2017. Experimental design used in this research was completely randomized design (CR) with three replications. The first factor was the composition of the mixed media with 5 levels of baglog and rice husk ratios: 2 : 1, 1 : 1, 1 : 2. The second factor was binder/glue contents with 3 levels i.e. 0%, 10%, and 20% of media weight.

The results showed that rice husk planting media had the best crop yields when compared with pure baglog waste planting medium. The composition of the media significantly affected hardness and bulk density, but did not affect the water

holding capacity. The treatment combination of M5P2 (pure rice husk charcoal + 10% binder), known to have the the highest yield, had the water holding capacity of 352,13%, bulk density of 0,517 g/cm³ and the hardness of 3,671 N/cm².

Keywords: baglog waste, growth media, hydroponic, rice husk charcoal.

ABSTRAK
KAJIAN MEDIA TANAM HIDROPONIK DARI CAMPURAN BAHAN
BAKU LIMBAH BAGLOG DAN ARANG SEKAM

Oleh
Dyah Isworo

Penelitian ini bertujuan untuk mengetahui karakteristik sifat fisik media tanam diantaranya Uji Konsistensi (uji benturan dan rendam jenuh), *Bulk Density* Media, Daya Serap Air, Kekerasan, serta pH dan EC Media. Serta menganalisis pertumbuhan tanaman pak choi dengan media hasil pencampuran antara limbah baglog dan arang sekam.

Penelitian ini dilaksanakan di Jurusan Teknik Pertanian Universitas Lampung pada bulan Juli – September 2017. Rancangan yang digunakan dalam penelitian ini adalah rancangan acak lengkap dengan tiga ulangan. Faktor pertama adalah komposisi media dengan 5 perlakuan yaitu limbah baglog, 2(balgog) : 1 (arang sekam), 1(baglog) : 1(arang sekam), 1 (baglog) : 2 (arang sekam), arang sekam. Faktor kedua adalah perekat dengan 3 perlakuan yaitu 0%, 10%, dan 20% dari berat media.

Hasil penelitian menunjukkan bahwa media tanam arang sekam memiliki hasil tanaman terbaik jika dibandingkan dengan media tanam limbah baglog murni, namun terdapat perlakuan yang juga menghasilkan tanaman seperti perlakuan M4P3 (campuran 1 limbah baglog : 2 arang sekam + perekat 20%). Komposisi media berpengaruh terhadap kekerasan media, nilai BD media tetapi tidak berpengaruh terhadap daya serap air sehingga menghasilkan berat berangkas segar yang beragam. Kombinasi perlakuan M5P2 (arang sekam murni + perekat 10%) memberikan hasil terbaik yaitu nilai daya serap air 352,13%, BD media 0,517 g/cm³ dan kekerasan media 3,671 N/cm².

Kata kunci : limbah baglog, arang sekam, media tanam, hidroponik.