

## عنوان مقاله:

Optimization of BioPot compositions made from water hyacinth and coconut coir for improving the growth and yield of chili (*Capsicum annum* L)

## محل انتشار:

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## نویسندگان:

*Department of Agrotechnology, Faculty of Agriculture and Animal Science, University of Muhammadiyah Malang, - - - Indonesia*

*Undergraduate student of Agrotechnology Department, Faculty of Agriculture and Animal Science, University of - - - Muhammadiyah Malang, Indonesia*

*Kediri, East Java, Indonesia - - -*

## خلاصه مقاله:

Purpose An attempt to improve the quality and quantity of chili production through good and effective nursery still needs some development and advancement. Polybag as seedling pot made from polyethylene has non-biodegradable properties that causes environmental impacts, so alternative biodegradable pot which is derived from renewable organic material, namely BioPot, is urgent. The suitable BioPot compositions to complete the nursery stage successfully still need further research and improvement. This research aimed at optimizing BioPot compositions made from water hyacinth and coconut coir for improving the growth and yield of chili. Methods The experiment was carried out using simple RCBD, three replication, one control (polybag) and 5 BioPot compositions (percentage of water hyacinth and coconut coir) as treatments labelled as PO<sub>1</sub> (۴۰:۶۰), PO<sub>۲</sub> (۵۰:۵۰), PO<sub>۳</sub> (۶۰:۴۰), PO<sub>۴</sub> (۷۰:۳۰) and PO<sub>۵</sub> (۸۰:۲۰). The data were analyzed by ANOVA (F-test), then by means of HSD (Tukey test)  $\alpha$  ۵% as well as response surface analysis. Results The results showed that PO<sub>۳</sub> and PO<sub>۴</sub> showed no difference in all observations of the growth of chilli. The highest yield of chili was obtained using PO<sub>۴</sub> (۷۰% water hyacinth and ۳۰% coconut coir) although the number was not significantly different from PO<sub>۳</sub> and PO<sub>۵</sub> (۶۰-۸۰% water hyacinth and ۲۰-۴۰% coconut coir), except in fruit length variable. Conclusion BioPot made from ۷۰% water hyacinth and ۳۰% coconut coir (PO<sub>۴</sub>) .was the optimum composition based on scatter plot, contour plot, and surface plot

## کلمات کلیدی:

Agricultural waste, BioPot, Nursery, Seedling container

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<https://civilica.com/doc/1392009>



