

ABSTRACT

POTENTIAL OF COCOA'S EXOCARP (*Theobroma cacao* L) AS A NUTRIENT SOURCE IN *Spirulina* sp. CULTURE

By

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Spirulina sp. is a microalgae that has a high nutrient content, so it is widely used in aquaculture, health, feed, and food industries. The use of microalgae and demand of this microalgae are increasing every year, so it is necessary to make some efforts on increasing production and quality of *Spirulina* sp. the purpose of this study was to examine the use of cocoa's exocarp as a source of nutrients in cultured *Spirulina* sp..This research was conducted at the Laboratory of Aquaculture, Faculty of Agriculture, University of Lampung, Bandar Lampung. The study design used was completely randomized design (CRD). If there is a difference in treatment then using Least Significant Difference Test (LCD). The material used in this study is *Spirulina* sp. Were cultured in 250ml glass bottles with 5 treatments and 3 replications. Culture media were used containing distilled water and extract of cocoa's exocarp. The treatment used were A(0%), B(1%), C(3%), D(5%), and E(7%). The results showed that the addition of cocoa's exocarp nutrients can improve population density of *Spirulina* sp..The concentrate of nutrients by 3% in the culture medium resulted the highest population density of *Spirulina* sp. $2,362 \times 10^5$ unit's/ml at 120 hours(day 5 of culture). The water temperature, pH and light intensity of culture in the optimal range.

Keywords: cocoa's exocarp, microalgae, nutrient, *Spirulina* sp., the addition of cocoa's exocarp