

## ABSTRACT

### RESPONSE OF WEEDS AGAINST OLD FERMENTED CACAO PULP LIQUIDS AS BIOHERBICIDE

By

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Weed is the one of intruder organism that could decrease the production of agriculture because of weed is the main rival plants to get the plants's medium. Its necessary to do the controlling in order to press the competition between the plants and weed. Weed's controlling usually do chemically. Its caused the chemical controlling is efficient for time, energy and cost. But if the chemical controlling do over and over its shall egive negative effect to environment and the operator. That's why its really need to do the alternative controlling that's not harmful to environment. The utilization of cacao's pulp isn't knowing yet in society generally, and its caused the waste's trouble in the first process of cacao's processing. Because the trouble, the research do with hope could decrease the waste from cacao's pulp and produce the usefull product as bioherbicide that no harmful the environment.

The research did in Botanical Garden at District of natar, South Lampung, started from December 2011 to July 2012. There were two observatoried, the first observatoried arranged in structural single designed with ten treatment of duration from cacao's pulp fermentation, were : 0 week (without fermentation ), 1 week, 2 weeks, 3 weeks, 4 weeks, 5 weeks, 6 weeks, 7 weeks, 8 weeks, and controled (used the water). The treatment arranged in Complete Randomized Group Design and each treatment was refrained 3 times. On second observatory did with Strip Plot Design with 3 refrain. Treatment arranged in Factorial. The first factor is 8 time of cacao's pulp fermentation with 1 control. The second factor were 7 kinds of weed, they were *Mimosa invisa*, *Borreria latifolia*, *Richardia brasiliensis*, *Asystasia gangetica*, *Setaria aplicata*, *Axonopus compressus*, and *Cyperus kyllingia*. Both of separated observatory's mean did with BNJ in 5%. Homogeneity between the treatment tested with Bartlett and aditivity tested with Tukey. The purpose of this research were knowing about : (1) the effect of fermentation's duration of cacao's pulp liquid to the level of poisoning in weed; (2) the effect the few kind of weed to level of poisoning; and (3) the interaction between fermentation's duration and the kind of weed in effecting the level of weed's poisoning.

The result showed : (1) The liquid fermentation of cocoa pulp is applied pre-Emergence did not affect the growth of weeds, while if applied post-Emergence

into the weeds are very effective in toxic to weed; (2) the liquid of cocoa pulp fermented for 4 to 5 weeks could poison weeds very well., (3) Applications liquid fermentation of cocoa pulp effectively in poisoning the group of broadleaf weeds (*Mimosa invisa* , *Borreria latifolia*, *Richardia brasiliensis*, and *Asystasia gangetica*) and group of grass (*Axonopus compressus*), whereas (*Setaria plicata*) and group puzzles (*Cyperus kyllingia*) were resistant to the application of liquid of cocoa pulp fermented; (4) the interaction between fermentation time and type of weeds in influence the percentage of toxicity.

Keywords: Bioherbicide, Fermentation, Weeds, Cocoa Pulp