ABSTRACT

STUDY OF USING THE ADHESIVE MATERIAL TOWARDS ORGANIC FERTILIZERS GRANULE MAKING FROM COCOA PEEL COMPOST

By

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This research aims to obtain kind of adhesive material in producing the best organic fertilizers granule, either physically or chemically. This research done by two steps. First phase was done by preliminary research for determine the best concentration. Starch concentration 1%, 2%, 3%, 4% and 5% w/v, molases concentration 5%, 10%, 15%, 20% and 25% v/v and sludge IPAL rubber concentration 5%, 10%, 15%, 20% and 25% v/v . Best concentration of that preliminary results used to the main research. 3kg dry and fine compost was put in to pan granulator, after the pan granulator is rotating than add the adhesive material starch concentration 2 % w/v, molases concentration 10% v/v, sludge concentration 25% v/v, until all the samples is formed to granule. Each treatment was repeated 3 times and 1 treatment as a control. Organic fertilizers granule produce observed from level of violence granule, percentage of the size granule 2-5mm, bulk density, water absorption, C, N , C/N ratio, P , K and pH. The result data presented on the tables and graphics from that analyzed descriptively. While

the main research showed that best granule produced on adhesive sludge IPAL rubber concentration 25% v/v that produces water absorption highest of 51,69 %, bulk density highest of 0,73%, than N, P and K highest of 0,98 %, 0,79 % and 1,86 %.

Keywords : Organic fertilizers granule, adhesive, starch, molasses, sludge