

Cocoa Rind Waste Compost and Planting Distance on the Growth of *Saccarum Edule Hasskarl*

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ABSTRACT

Coco rind is a waste that if not used can cause environmental problem around the plantation. One way to utilize cocoa rind is by making it into compost which can be used as organic fertilizer. Different planting distance will affect on the number of plant population per unit area and will indirectly affect the absorption of nutrients, water and other growth factors. The purpose of this study was to determine the effect of the utilization of compost from cacao rind waste on the growth of *Saccarum edule Hasskarl* plant with different planting distance. The design used was to factor randomized block design with 2 replications, then there are 18 treatment combinations. In this research, the first factor of cacao rind composts comparison with cow manure consisted of three levels, they are: P1 = 50 kg; 10 kg; P2 = 50 kg; 30 kg; P3 = 50 kg; 50. While the second factor uses the planting distance which consisted of three levels, they are: J1= 100 cm X 150 cm; J2= 100 cm X 100 cm; J3= 100 cm X 50 cm. Based on the research results, it shows that the best treatment of cocoa rind compost and cow manure, which affects on the number of buds is treatment P3 on 5 WAP, while the best used for the plants' height is P2 on 3 WAP, and the best used for the leaves' length is treatment P2 on 2 to 4 WAP.

Keywords: Compost, Planting Distance, *Saccarum edule Hasskarl*

INTRODUCTION

Saccharum edule Hasskarl is a plant native to Southeast Asia and around Pacific which spread over the lowlands to the highlands. *Saccarum edule Hasskarl* is a perennial plant (plants that can live for several years continuously). It is generally can be harvested after 5-10 m the abnormal flowering system around 2-3 years (Can den Bergh 1994). Its height can reach 1,5-4 meters tall, with the abnormal flowering system, the flowers still wrapped in the leaf midrib or husk, the size of a banana (Martin 1984). To this day, *Saccharum edule Hasskarl* is still conventionally cultivated (vegetative propagation by stem cuttings) in a not so large planting area, while the demand of this vegetable is quite high. The reasons why this vegetable is still conventionally cultivated are, among others, the lack of availability of seeds, the lack of information on cultivation technology, the lack of information on the suitability of vegetables with the existing production system. Production increase also affects the productivity of

a commodity, including *Saccarum ideal Hasskarl* plant. One way to increase production is by fertilizing made of cacao rind. Coco rind is one of the wastes that if not used can cause environmental problems around the plantation. One way to utilize the cacao rind is making it into organic fertilizer (Goenadi, 1997).

Cacao rind waste produced in a large amount will cause problems if not handled properly. This solid waste production reaches 60% of the total fruit production Darmono and Tri Panji (1999). Suggested that cacao rind can be used as a source of plant nutrients in the form of compost, animal feed, biogas production and sources of pectin (Spillane, 1995). As organic materials, cacao rinds have nutrient and compound composition has a potential to be used as a medium to grow plants. Water content of bulk cocoa is about 86%, and the organic material content is about 55.6% (Soedarsono etc., 1997). Stated that cacao rind compost have around pH 5.4, total N of 1.30%, organic C of 33.71%, P₂O₅ 0.186%, K₂O 5.5%, CaO 0.23%, and MgO 0.59% (Didiek and Yufnal, 2004). The use of different planting distance will affect the number of plant population per unit area and indirectly affect the absorption of nutrients, water and other growth factors. At planting distance