THE EFFECT OF PGPR OF SUGAR CANE ROOTS AND VARIOUS PLANTING MEDIA ON THE GROWTH RATE OF SUGAR CANE SEEDLINGS (Saccharum officinarum L.) VARIETY PS 862 WITH THE BUD SET METHOD

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ABSTRACT

One of the factors that can affect the decline in sugarcane production is modern agriculture that uses inorganic fertilizers. One way to overcome this problem is by using PGPR. In addition to PGPR, manure is also a good alternative to increase soil fertility. This study was conducted in the agricultural land of the Field Lab, Jember State Polytechnic. This study aims to determine the effect of PGPR and manure, as well as to determine the effect of interaction between the two on the growth of sugarcane plants. This study used Factorial RAK, treatment 1 PGPR concentration and treatment 2 cow and goat manure. Each factor consists of 3 levels and is repeated 3 times. The first factor is TO (control) = top soil : sand (1 : 1) and urea as much as 2 grams/application, T1 = top soil : sand : cow manure (1 : 1 : 1), T2 = top soil : sand : goat manure (1 : 1 : 1) The second factor is PO (control) = without PGPR, P1 = PGPR 125 ml + water 875 ml (1000 ml) = 12.5%, P2 = PGPR 150 ml + water 850 ml (1000 ml) = 15%. The results of this study are that there are parameters that show significant differences, namely plant height, number of leaves, number of shoots, stem diameter, and wet weight of the frame. The use of PGPR and manure on the growth of sugarcane plants can be an alternative to replace inorganic fertilizer.

***Keywords** : sugarcane, PGPR, manure, bud set*