

**THE EFFECT OF PLANT DISTANCE AND PGPR
CONCENTRATION (Plant Growth Promoting Rhizobacteria)
SUGARCANE ROOTS ON THE GROWTH OF SUGAR CANE BUD
SET (*Saccharum officinarum* L.)
VARIETY PS 862**

Supervised by Ir. Triono Bambang Irawan, MP

Ardiatan Damayanto

Plantation Plant Cultivation Study Program

Department of Agricultural Production

ABSTRACT

*Sugar cane is an important commodity because in the sugarcane stalk there is a lot of liquid sugar content which is used as the main ingredient for making sugar. There are problems especially in sugarcane plantations, namely the low productivity of sugarcane. Therefore a solution is needed to increase sugarcane productivity, one of which is by treating spacing and giving PGPR. This study aims to determine the effect of plant distance and concentration of PGPR (Plant Growth Promoting Rhizobacteria) of sugarcane roots on the growth of sugarcane bud set (*Saccharum officinarum* L.) variety PS 862. This research was conducted in September 2022 – January 2023 at the Jember State Polytechnic. This study used a factorial randomized block design with plant spacing and PGPR concentration factors, there were 12 treatment combinations and 3 replications. The spacing factor consists of 3 levels, namely the spacing of 33 cm, 40 cm, 47 cm. The concentration factor for giving PGPR consists of 4 namely (0 ml/l, 100 ml/l, 150 ml/l, 200 ml/l). Data analysis used ANOVA followed by a 5% BNJ follow-up test. The results showed that the treatment of spacing and the application of PGPR showed a highly significant interaction with the observed parameters of stem diameter, plant height, number of tillers and root volume and did not differ significantly with the observed parameters in the number of leaves.*

Keyword : *Plant Distance, Plant Growth Promoting Rhizobacteria, Cane Bud Set*