THE EFFECT OF INFLUENCE OF HWT IMMERSION AND PGPR (*Plant Growth Promoting Rhizobacteria*) SUGARCANE ROOTS ON THE GROWTH OF SUGARCANE SEEDS OF BUD SET (*Saccharum officinarum* L) PS 881 VARIETY

Supervised by Ir. Triono Bambang Irawan, MP

Muhammad Fatkhur Rojak
Study Program Plantation Cultivation Study Program
Department Agricultural Production Department

ABSTRACT

Sugarcane (*Saccharum officinarum* L.) is a plantation commodity that plays an important role in the consumption of sugar in Indonesia. There are problems found, especially in sugarcane plantations, namely the low productivity of sugarcane, this is due to the long-term use of chemical fertilizers, which reduces fertility in the soil and its growth is not uniform. Therefore, a solution is needed to increase sugarcane productivity so that sugarcane becomes uniform, one of which is HWT treatment and PGPR. This study aimed to determine the effect of soaking time of HWT and the application of PGPR (*Plant Growth Promoting Rhizobacteria*) sugarcane roots on the growth of sugarcane seedlings from bud set (*Saccharum Officinarum L.*) PS 881 variety. This study was conducted in January – April 2022 at P3GI. (Indonesian Sugar Plantation Research Center) Pasuruan. This study used a factorial randomized block design with the factor of immersion time of HWT and concentration of PGPR, there were 15 treatment combinations and 3 replications. The immersion time factor for HWT consists of 5 levels (without immersion, 10 minutes, 20 minutes, 30 minutes, 40 minutes). The concentration factor for PGPR consisted of 3 (50 ml/l, 100 ml/l, 150 ml/l). Data analysis using ANOVA followed by a 5% BNJ follow-up test. The results showed that the treatment duration of immersion in HWT and administration of PGPR showed a very significant interaction with the observed parameters of plant height, number of leaves, number of tillers, wet weight of roots and dry weight of roots and did not differ significantly on the parameters observed in stem diameter.

Keywords: *Hot Water Treatment, Plant Growth Promoting Rhizobacteria, bud set*