

**EFFECT OF SOAKING TIME IN HOT WATER TREATMENT  
and APPLICATION of GIBBERELLINS on the GROWTH of  
SUGARCANE BUD SET (*Saccharum officinarum* L.)**

**VARIETIES PS 862**

**Advisor; Dr.Ir, Nanang Dwi Wahyono, M.M**

**Aulia Farah Fa'izah**

Program Study of the Cultivation of plantation crop  
Departement of Agriculture Production

**ABSTRACT**

Sugarcane (*Saccharum officinarum* L.) is a plant that has high economic value, because it is the main raw material for sugar production. In addition to conventional seedling methods, the problem that is often faced by sugarcane farmers is the availability of quality seeds, thus affecting the productivity of sugarcane plants. Therefore, it is necessary to conduct this research with the aim that the sugarcane seeds are protected from disease, it is necessary to treat them using the Hot Water Treatment (HWT) system. To increase the growth of sugarcane plants quickly, treatment was carried out with Gibberellin (GA3) Growth Regulating Substances (ZPT). This research was conducted from August 2021 to November 2021 in Situbondo. The experimental design used was a factorial Randomized Completely Block Design (RAK) consisting of 2 factors with 3 replications. The first factor is the immersion time (W), namely the length of immersion for W1 10 minutes, W2 20 minutes and W3 30 minutes. The second factor is the concentration of Gibberellins (G), namely G1 45 ppm, G2 65 ppm and G3 65 ppm. Observational data obtained were tested using the F test (Anova) and if it showed significantly different results, it would be further tested using DMRT at a level of 5%. The results showed that the concentration of gibberellins had a significant effect on plant height (cm) at 51 HST, 65 HST and 79 HST. The effect of gibberellin concentration significantly affected the number of leaves aged 65 HST and 79 HST. The effect of gibberellin concentration had a significant effect on stem diameter at 79 HST. And the concentration of gibberellins significantly affected the number of tillers aged 37 HST and 51 HST. The treatment duration of immersion and the interaction between soaking time and the concentration of gibberellins did not significantly affect sugarcane plant parameters.

**Keywords:** Sugarcane (*Saccharum officinarum* L.), hot water immersion, gibberellins