

Dimas Handoko Tirto, 2007, Response of growing reproductive stage of soybean (*Glycine max* (L.) Merr.) cv. Argo Mulyo under gibberelic acid treatment. This thesis, was under supervisory by Drs. II. Hery Purnobasuki, M.Si., Ph.D. and Dr. Y. Sri Wulan Manuhara, M.Si., Department of Biology, Faculty of Mathematics and Natural Sciences, Airlangga University.

ABSTRACT

Soybean is a highly economic plant that has important value of its pods and seeds production. But in Indonesia, the level of soybean production is still low. It is caused by a several factors, including the constriction of planting area, cultivars failure-selection which are not appropriate with environment physical condition, and the highly number of flowering abscission. Flowering abscission is the most factors of the lowness of soybean production. Therefore, in this present study, the influences of GA₃ treatment to the growing reproductive stage of soybean plant (*Glycine max* (L.) Merr.) were observed, with the result of the increasing of soybean production. The GA₃ treatments were given through the soybean flower in full-blossom stage at the various concentrations of 0, 50, 75, 100, 125 mg/L. The data are percentage of flower turned to pods and total seeds weight of each plant, analyzed by using one way ANOVA ($\alpha = 5\%$). The results showed there is significance influence of gibberelic acid to percentage of flower turned to pod compare to control. The highest percentage which is 74%, was found in concentration at 50 mg/L. On the other hand, gibberelic acid treatment was not show any effect on seed weight when analyzed using one way ANOVA ($\alpha = 5\%$), eventough there were an increase of seed weight from all treatments compare to control. The highest total weight seeds per soybean plant, which is 132,9 g, was found in gibberelic acid treatment with concentration at 50 mg/L.

Keywords : gibberelic acid, *Glycine max* (L.) Merr., flower turned to pod percentage, seed weight