

## SUMMARY

The people of Indonesia have widely used hydroponic cultivation technique because they can be an alternative to cultivating plants using water media. Tofu liquid waste contains nutrients needed by plants, but excess nutrients can also interfere with plant growth. One of the most widely cultivated plants using hydroponic cultivation techniques is lettuce (*Lactuca sativa* L.). The purpose of this study was to determine the effect of tofu wastewater on the growth and chlorophyll content of hydroponically cultivated lettuce and to determine the tofu wastewater concentration that could be tolerated by hydroponically cultivated lettuce. Research and observations were carried out in the Plant Physiology Laboratory, Faculty of Biology, Jenderal Soedirman University, Purwokerto, Central Java. This research was conducted in 3 months.

The research carried out using the Randomized Block Design (RBD) method. The treatment used was the concentration of tofu liquid waste which consisted of four levels, namely 0%, 5%, 10%, and 15%. Data analysis including plant growth and chlorophyll content which determined by analysis of variance (ANOVA), with Duncan's advanced test at an error rate of 0.05. The results showed that tofu liquid waste had an effect on the growth and chlorophyll content of lettuce plants. The highest average yield of fresh weight was 34.04 g and the plant height was 42.75 cm as shown by the tofu liquid waste concentration of 5%. The highest average number of leaves was 11 as shown by the tofu liquid waste concentration of 10%. The highest chlorophyll content of lettuce plants was indicated by the 0% of tofu wastewater concentration was 16.173  $\mu\text{g/mL}$ .

The effect of tofu liquid waste on the growth of hydroponically cultivated lettuce can affect the growth of lettuce plants both in plant weight, number of leaves and plant height, but concentrations that are too high actually make the growth of lettuce plants decrease. Lettuce plants are able to tolerate the concentration of tofu liquid waste up to the highest concentration of 15%. The best tolerance concentration for plant growth is indicated by the concentration of tofu liquid waste of 5%.

Keywords: *chlorophyll, hydroponics, lettuce, tofu liquid waste*