ABSTRACT

Adi lailatul. 24020121140193. Growth, Chlorophyll Content, and Vitamin C Content of Pakcoy (*Brassica chinensis* L.) at Different Harvest Ages with the Application of Liquid Organic Fertilizer. Laboratory of Plant Structure and Function Biology, Department of Biology, Faculty of Science and Mathematics, Diponegoro University, Semarang, Under the guidance of Yulita Nurchayati dan Lailia Nofiana.

Pakcoy (*Brassica chinensis* L.) is a vegetable crop whose growth can be enhanced through the application of Liquid Organic Fertilizer (LOF) derived from kitchen waste. The nutritional content of pakcoy can be influenced by the harvest age and the concentration of LOF applied. This study aimed to analyze the effect of kitchen waste-based LOF concentration and harvest age on the growth, chlorophyll content, and vitamin C levels of pakcoy. The research was conducted at an experimental garden in Juwiring Village and the Plant Structure and Function Laboratory, Department of Biology, Diponegoro University. The methods involved the production of liquid organic fertilizer and the cultivation of pakcoy in polybags. The study employed a two-factor Factorial Completely Randomized Design (CRD): LOF concentration (0, 30, and 60 mL/L) and harvest age (35 and 45 Days After Planting/DAP), each with three replicates. The observed parameters included leaf number, leaf length, leaf width, leaf area, fresh weight, chlorophyll content, and vitamin C levels. Data were analyzed using *Two Way* ANOVA at a 95% confidence level. If no interaction occurred, further analysis was conducted on single factors, where POC concentration was tested using *One Way* ANOVA followed by DMRT, and harvest age was tested using a T test. The results showed that the application of POC at 60 mL/L increased leaf growth, chlorophyll content, and vitamin C content. A harvest age of 45 DAP increased vitamin C content but did not affect leaf growth or chlorophyll content. The combination of POC 60 mL/L and a harvest age of 45 days produced the highest leaf area and fresh weight. Therefore, kitchen-waste-based POC at a concentration of 60 mL/L can be recommended as an alternative nutrient source for pak choi cultivation.

Keywords : *banana peel, mustard greens, onion peel, photosynthetic pigment, rice washing water*.