

## ABSTRACT

Fahmi Nur Aida Latif. 24020117140045. **Effect of Cold Storage Duration Red Dragon Fruit (*Hylocereus costaricensis*) and White Dragon Fruit (*Hylocereus undatus*) on Antioxidant Activity and Fruit Quality.** Plant Structure and Function Biology Laboratory, Department of Biology, Faculty of Science and Mathematics, Diponegoro University, Semarang. Supervised of Dr. Yulita Nurchayati, S.Si., M.Si and Prof. Dr. Dra. Endah Dwi Hastuti, M.Si.

Post-harvest storage is carried out to control the rate of respiration and transpiration so that the quality of the fruit can be maintained well until it reaches consumers. Temperature affects the lifespan and quality of the fruit so it is necessary to store at the correct temperature. The use of cold temperatures can reduce the activity of respiration, transpiration, aging, and the growth of microorganism. However, prolonged cold storage can lead to reduce fruit quality. Red dragon fruit (*Hylocereus costaricensis*) and white dragon fruit (*Hylocereus undatus*) are the most popular types of dragon fruit and easily found in Indonesia. This study aims to determine the effect of dragon fruit type, cold storage duration, whether there is an interaction between the two treatments, and to determine the treatment interaction that produces the best antioxidant activity and fruit quality. The study use RAL 2x4 factorial pattern. The first factor is the type of fruit used in the form of red and white dragon fruit then packaged in plastic. The second factor is the length of storage which is 0, 7, 14, 21 days at temperature  $\pm 10^{\circ}\text{C}$ . Data were analyzed using ANOVA with a confidence level of 95% and continued with DMRT if significant. The result showed the treatment of fruit type treatment had a significant effect on antioxidant activity, vitamin C content, and total sugar content. The cold storage duration treatment significantly influenced the antioxidant activity and vitamin C content. Both treatments showed an interaction that produced the best antioxidant activity and fruit quality was white dragon fruit and stored for 7 days.

Keywords : *post-harvest, dragon fruit, antioxidant activity, fruit quality*