

ABSTRACT

TOTAL ORGANIC CARBON (TOC) ABSORPTION IN AQUAPONIC SYSTEM AND IT'S RELATION TO PHYTOPLANKTON'S ABUNDANCE AND DIVERSITY

By

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Water quality plays an important role in aquaponic aquaculture. One of the elements that can affect the water quality is Total Organic Carbon (TOC). Carbon source in the pond derived from the respiration and decomposition of organic matter. The study was conducted to determine the role of kale plant to carbon concentration on aquaponic system and to understand the relationship between carbon concentration and phytoplankton abundance as well as diversity. The treatments consists of 10, 20, and 30 stems of kale plant and without using kale plant. The data was analyzed using a completely randomized design (CRD) with 4 treatments and 3 replications. The results showed that the used of kale plant has not significant effect to the carbon concentration. There was a weak positive correlation between the concentration of carbon in phytoplankton's abundance and diversity.

Keywords : *Total Organic Carbon* (TOC), aquaponic, phytoplankton's, abundance and diversity of phytoplankton