

ABSTRACT

THE GROWTH MUSTARD USING HYDROPONICS AND AQUAPONICS SYSTEMS

By

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Hydroponics is an alternative way of farming in a limited area of urban. Easy, controlled, and can be done on media without soil, even in the house. In hydroponic watering system is automatic and the environment can be controlled from plant pests, it is suitable for people who spent more routine work in the office than at home. Nutrients hydroponics is very difficult to obtain, even in Lampung no body sold. Aquaponics is to offer another alternative that could be used to grow crops in a limited area and the nutrients are easier to find because it uses fish waste. This study was conducted to know where fish waste could replace hydroponic nutrients to support the growth of mustard plants.

This research compared the yield of mustard plants using three treatments, namely L1 (hydroponics), L2 (Aquaponics using comet fish), and L3 (Aquaponics using tilapia). The study was conducted at the residence of Amin Khairi, St. Said Sabri, No. 58B, Kedaton, Bandar Lampung and Laboratory of Agricultural Engineering Department, University of Lampung. The variables tested were plant height, leaf number, root length, and the total weight of mustard.

The research showed that the growth of mustard plants at hydroponic was better than Aquaponics systems. The average plant height at week four were 24,6 cm; 9,1 cm; 14,0 cm of L1, L2, and L3, respectively. The average number of leaves at week four were 10,2; 7,2; 7,7 of L1, L2, and L3, respectively. The average root length at week four were 27,3 cm; 10,6 cm; 15,0 cm of L1, L2, and L3, respectively. The total weight of mustard plants of L1, L2, and L3 were 77,08; 9,7; 28,6 grams; respectively.