Abstract

Aquaponics is a combination of aquaculture such as fish in a controlled environment and hydroponics is the production of plants using water media and in a mutually beneficial environment. Leaf size is very influential on plant growth and determines the amount of light that can be absorbed which affects plant productivity and photosynthesis. However, in determining the leaf area or leaf area on aquaponic plants, people still cannot accurately determine the leaf area so that aquaponic plants are not monitored properly which results in plants not growing perfectly and experiencing crop failure. However, manual measurements are still ineffective, resulting in errors in measurement and resulting in plants not growing properly. The test results using RMSE and MAPE which show measurements using OpenCV are more accurate than measurements using manual. Lettuce leaf area was measured using OpenC with RMSE of 4.7 and using MAPE of 7.09%.

Keywords : openCV, *aquaponic, leaf Area, webcam*