

ABSTRACT

Traditional lettuce cultivation has several obstacles such as height and light intensity which result in lettuce plants growing optimally. Cultivating lettuce plants indoors is one way to overcome land problems, one of which is the lack of light intensity for the growth of lettuce plants. The aim of this research is to determine the optimal performance of LED lights and neon lights and the effect of using white LED lights and yellow neon lights and to find out the effect of the distance between LED lights and neon lights on the growth of lettuce plants. Artificial light treatment, respectively using 5 watt and 10 watt LED lamps, 5 watt and 10 watt fluorescent lamps. Three artificial light treatments were carried out indoors using different light distances from the lamp to the surface of the growing medium. The three treatments are 10 cm, 20 cm and 30 cm. The sensor used is BH-1750 as a light intensity sensor. Testing the BH1750 light intensity sensor at a distance of 10, 20, 30 cm with LED light with a light intensity setting of 50% at 5 watts of power shows that good parameters are at a distance of 10 cm with a BH-1750 light sensor value of 947.5 lux and AS83 value is 1143 lux. The results obtained in this research will be sent via the blynk platform. Testing of QoS (Quality of Service) parameters shows that when there is a delay in sending and receiving data, it has a very good category with an index of 1 with a delay value of 579.425782 ms.

Keywords: *Artificial light, LED light, Neon light, QoS*