

ABSTRACT

One of the sectors of agriculture in Indonesia that plays an important role is the herbal plant farming community. One of the most commonly used herbs is mint leaves. Planting mint leaves is constrained by land availability, so the solution that can be used is the hydroponic method which can be done outdoors or indoors. Indoor hydroponic planting systems have limitations in providing sufficient sunlight, so using an artificial lighting system can provide lighting that suits the needs of the plants. The lighting source in artificial lighting is obtained from LED light technology. The use of LED lighting technology can replace sunlight as a source of lighting with the intensity needed for plants to support optimal growth. The focus of lighting is on the long exposure time with a duration of 14 and 16 hours, the lighting color combination used is red and blue, and the color ratio used is 1:1. The results of this study found that the duration of lighting time for 14 hours for the growth of mint leaf plants showed good growth results, with strong stem conditions, green and dense leaves. With maximum plant height reaching 27 cm and maximum leaf width reaching 3.5 cm. For the duration of lighting time for 16 hours shows poor growth results, with the condition of thin plant stems, shrunken and wilted leaves.

Keywords: Artificial Lighting, Hydroponics, LED, Mint Leaves