Abstract
Light is an essential component in the photosynthesis process in plants. Leaves are only able to absorb about 1-5% of the available solar energy. In grapevines, the ideal duration of irradiation is at least 6 hours per day. However, the application of light intensity control systems in grapevines has not been optimally implemented in various cultivation locations. Therefore, there is a need for a light intensity monitoring system that utilizes the Wireless Sensor Network method and Fuzzy Logic as its control mechanism. LDR sensors are used to monitor the light intensity around the greenhouse environment, and actuators in the form of LED lights will operate according to the input value that has been initiated. The initiated data will be sent through a transmitter using the wireless sensor network method and received by the receiver. This initiation process will use Fuzzy Logic as the output controller of the lamp brightness level. Based on the results of the 7-day experiment displayed on the real-time monitoring website, the leaves of the grape vines have grown from 5 cm to 5.1 cm.

Keywords : Grapes vine, WSN, fuzzy logic, IoT