

## ***ABSTRACT***

*The increasing need for food and the lack of land in urban areas make some people look for ways to meet their food needs. Urban farming is a way of gardening or farming in urban areas with limited land. By adding a drip irrigation system to urban farming, to simplify the watering process. Utilizing the latest IoT technology in drip irrigation, it is hoped that it will make it easier to control water in farming. In the IoT drip irrigation system, several sensors are included to support the overall work of the system. This system will implement automatic and manual watering, detecting room temperature, soil moisture and soil pH. So that they can find out how to do planting through smart urban farming with drip irrigation and know crop yields by knowing how much influence the pH value has on plants.*

*In this study, a drip irrigation system connected by IoT was used to retrieve pH value data using a pH sensor, number of leaves and leaf area, from three plants. The data that has been obtained and analyzed using the level of validity and reliability to determine the results of the data correlation, to find the level of accuracy of the pH sensor and the effect of pH on plants.*

*The results of the validation and reliability analysis show that the value of the pH sensor validation reaches 80% with consistent reliability, the correlation ranges from 0.932 with the pH sensor accuracy level reaching 93%. The effect of the pH value on the growth of pakcoy plants with a correlation of 0.056, kangkung 0.054 and sawi 0.099 and the correlation of changes in pH values after being given organic fertilizer from rabbit urine 0.032.*

*Keyword: Urban Farming, Drip Irrigation, pH Sensor, IoT*