

***PERFORMANCE DATA ANALYSIS OF ONION WATERING EQUIPMENT  
BASED ON INTERPRETATION OF RESULTS AND IMPLICATIONS FOR  
EFFICIENCY LEVEL***

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**ABSTRACT**

*In the cultivation of shallots, factors such as soil moisture and temperature become crucial aspects in determining the quality of the produced bulbs. The remote-controlled onion watering device is an innovation in agricultural technology developed to enhance the effectiveness and efficiency of irrigation. To ensure the operational performance of the device, testing and analysis were conducted on several aspects, including irrigation range, soil moisture level, and device speed. Testing was performed under various conditions with throttle positions at 100%, 50%, and 25%, as well as pusher pipe positions fully open (1.27 cm), 50% open (0.5 cm), and 25% open (0.25 cm). The results of the study indicated that the maximum irrigation range achieved was 110 cm to 120 cm using a sprayer stick with 3 holes. In the soil moisture test, the highest increase in Relative Humidity (Rh) reached 28%, and the highest speed the device could achieve was 0.1814 m/s over a distance of 10.7 meters with a duration of 58.57 seconds.*

**Key words:** *Watering onions, Pusher pipe, Throttle, Sprayer.*