



Wetting patterns estimation in cultivation substrates under drip irrigation

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ABSTRACT

To make an accurate and reasonable estimate of the wetting pattern in cultivation substrates, 36 experimental treatments with two replications were conducted under drip irrigation. An empirical model was suggested to predict the substrate full wetting pattern at different application times for T_1 , T_2 , T_3 and T_4 . The maximum root mean square error and mean error were only 1.37 and 0.72 cm, and 1.22 and 0.71 cm for the wetted radius and depth of the full wetting pattern for T_1 , T_2 , T_3 and T_4 . The proposed model performs well in predicting the full wetting pattern and can be used to operate and manage the irrigation system.

Keywords: Wetted pattern; Wetted radius; Wetted depth; Empirical model; Drip irrigation

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