

## ABSTRACT

### ANALYSIS OF IRRIGATION WATER LEVEL EFFECTON THE *LEAF WATER POTENTIAL* ( LWP ) AND TOTAL SOLUBLE SOLIDS OF MELONPLANT (*Cucumis melo L*)

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This study aims (1) to compare the growth and yield of melon plant at different irrigation water level; (2) to determine the optimum of water irrigation level to the growth and fruit quality of melon; (3) to analyze the relationship between water irrigation level and total soluble solids of melon (*Cucumis melo L*).

The research was conducted in a plastic house, the Laboratory of Land and Water Resources Engineering, and the Postharvest and Bioprocess Engineering Lab, Agricultural Engineering Department, Faculty of Agriculture, University of Lampung which was done from June until August 2015. This research was conducted at four levels of deficit irrigation, namely M1 irrigation deficit 40% ET<sub>c</sub>, M2 60% ET<sub>c</sub>, M3 80% ET<sub>c</sub>, and normal 100% ET<sub>c</sub>. The treatment was done after fruiting melon plants.

The results showed that deficit irrigation can inhibit the growth and lower fruit production. The provision of water irrigation treatments are optimal on M2 has water productivity namely one mm water will produce fruit of 1,19 g and has a soluble solids content (KPT) of 10.04 °brix, deficit irrigation can increase the content of soluble solids (KPT), the temperature of leaf surface, the value of *Leaf Water Potential* (LWP).

Keywords: Deficit Irrigation, melon (*Cucumis melo L*), dissolved solids content (KPT), *Leaf Water Potential* (LWP)