



# EFFECT OF FRUIT STAGE BASED IRRIGATION SCHEDULING ON YIELD, QUALITY AND IRRIGATION WATER USE EFFICIENCY OF LITCHI (*LITCHI CHINENSIS* SONN.) CV. SHAHI

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**ABSTRACT**

A field experiment was conducted to study the efficacy of deficit irrigation (DI) of the litchi crop under quantitative deficit (100, 60, 40 and 20 % of ETc) and temporal deficit irrigation with irrigations starting from 1<sup>st</sup> February (pre flowering), 1<sup>st</sup> March (flowering) and 1<sup>st</sup> April (fruit development) under basin (B) and drip (D) irrigation systems. Drip irrigation system recorded the highest fruit weight (22.6 g) at 60 % ETc with irrigation starting from flowering stage. The prolonged moisture stress between two irrigations under basin system resulted in lowest fruit length (3.4 mm), fruit diameter (2.8 mm) and highest fruit cracking percentage (10.2%). Deficit irrigation with drip system (60 % ETc) resulted in higher reducing sugar content (10.2 %) in the litchi pulp. Highest irrigation water use efficiency (57.1 g/m<sup>3</sup>) was observed in case of drip irrigation having irrigation at 20 % of ETc and irrigation starting from fruit development stage (1<sup>st</sup> April). Deficit irrigation showed great potential to increase the irrigation water use efficiency of litchi production without affecting the fruit quality and with slight deviation in potential yield.