



RESEARCH PAPER

Evaluation of fertigation and drip irrigation on growth, yield and quality parameters of bhendi [*Abelmoschus esculentus* (L.) Moench]

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Abstract : Field experiments were carried out during the *Kharif* season in 2008 and 2009 at Eastern block farm, Tamil Nadu Agricultural University, Coimbatore, to find out Effect of drip irrigation regimes and fertigation levels on plant growth, yield parameters, quality parameters and water use efficiency of bhendi. The treatment includes two irrigation regimes in main plot and eight fertigation levels in sub plot and replicated thrice. Drip irrigation at 100% PE resulted in higher yield parameters of bhendi viz., fruit length, fruit weight and fruit girth and also significantly higher fruit yield of bhendi (13,606 kg/ha) followed by irrigation at 75% PE (12,454 kg/ha). Drip fertigation at 150% RDF with P through water soluble fertilizer registered significantly higher fruit yield (14,434 and 14,711 kg/ha during 2008 and 2009, respectively). The crude protein, crude fibre, ascorbic acid and mucilage of bhendi was significantly higher under irrigation regime of 100 and fertigation at 150% RDF with P as WSF. In both the years, drip irrigation resulted in considerable saving of irrigation water besides enhancing WUE. Highest net return was realized in bhendi with M_2S_8 (Drip irrigation at 100% PE with fertigation level of 150% RDF with P as WSF) recorded a net return of Rs.2, 60,082. However, the B: C ratio was higher with drip irrigation at 100% PE along with fertigation schedule of 75% RDF with P as basal (12.88).

Key Words : Root characters, Yield, Quality parameters, Nutrient uptake, WUE, Economics

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