

## Nitrogen and water use efficiency of bhendi (*Abelmoschus esculentus* L. Moench) as influenced by drip fertigation

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### Abstract

A field study was conducted on a sandy loam soil at Rajendranagar, Hyderabad to investigate the influence of trickle fertigation on yield and resource use efficiency of bhendi during the summer seasons of 2003 and 2004. The experiment consisted of 12 treatments: three drip irrigation (0.5, 0.75 and 1.0 Epan) + three fertigation rates (60, 90 and 120 N kg ha<sup>-1</sup>), furrow irrigation +120 kg N ha<sup>-1</sup>, family drip system + 120 kg N ha<sup>-1</sup> and a control (drip at 1.0 Epan + 0 kg N ha<sup>-1</sup>) and was laid out in a randomized block design with three replications. Results show that yield and water use efficiency differed significantly among the treatments. Consistently high yields (4188 and 4153 kg ha<sup>-1</sup> in 2003 and 2004 respectively) and water use efficiency (8.23 and 8.10 kg ha<sup>-1</sup> mm<sup>-1</sup>) were noted when the crop was drip irrigated at 1.0 Epan and fertigated with 120 kg N ha<sup>-1</sup>. Higher agronomic use efficiency and agronomic use efficiency for the extra nitrogen applied were, however, observed for fertigation at 60 kg N ha<sup>-1</sup>. Furrow irrigated crop showed 54% and 57% lower yield than drip irrigated at 1.0 Epan and fertigated with 120 kg N ha<sup>-1</sup> during 2003 and 2004 respectively.

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