

Effect of irrigation and fertigation levels on yield and nutrient uptake of brinjal (*Solanum melongena* L.)

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■ **ABSTRACT** : A field experiment was under taken in *Rabi* season of the year 2009-2010 at Agronomy Farm, Dapoli to study the effect of irrigation and fertigation levels on the yield and nutrient uptake of brinjal under drip irrigation. The soil of the experiment field was sandy clay loam in texture, moderately high in available nitrogen and phosphorus while very high in available potassium. The experiment was laid out in split plot design with main plot treatments as three plant spacing *i.e.* S_1 -75 cm x 75 cm, S_2 -75 x 50 cm x 90 cm, S_3 -175 cm x 50 cm x 50cm, and three irrigation levels *i.e.* I_1 -0.6 PE with drip, I_2 -0.4 PE with drip, I_3 -0.2 PE with drip irrigation, while sub plot treatments comprised of two fertigation levels *i.e.* F_1 -100% of recommended dose of fertilizer (RDF-150:50:50 kg ha⁻¹) through water soluble fertilizer (WSF), F_2 -80% of (RDF) through WSF. The treatment F_1 (100%) RDF through WSF recorded significantly superior yield (36.74 t ha⁻¹) over fertilizer level F_2 *i.e.* 80% RDF through WSF (32.31 t ha⁻¹). The total nutrient uptake of nitrogen (144.4 kg ha⁻¹), phosphorus (44.13 kg ha⁻¹) and potassium (203.6 kg ha⁻¹) was noticed significantly higher under the fertigation level F_1 *i.e.* 100% RDF through WSF. The maximum fertilizer use efficiency of NPK was 71.81, 62.52, 153.7 per cent, respectively under the treatment F_2 *i.e.* 80% RDF through WSF.

■ **KEY WORDS** : Brinjal, Irrigation levels, Fertilizer levels, Yield, Fertilizer use efficiency, Drip irrigation

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