EFFECT OF DRIP IRRIGATION, PLANTING METHODS AND FERTIGATION ON YIELD, QUALITY AND WATER USE EFFICIENCY OF SUGARCANE (SACCHARUM SPECIES HYBRID)

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Abstract
Field experiments were conducted during 2007-08 and 2008-09 crop seasons at Coimbatore to quantify water use and water saving by drip irrigation in sugarcane. Various planting methods (paired row, trench and pit) and fertigation of nitrogen and potassium at 100% and 75% of the recommended dose of fertilizers (RDF) were tried as treatments in drip irrigation. Water saving of 40% in the plant crop and 52% in the ratoon was brought about by drip irrigation. The cane yield under paired row planting (60/120 cm) with drip irrigation was found equivalent to the yield with planting in ridges drawn 90 cm apart with furrow irrigation. Yields recorded with fertigation of N and K (while P was given as basal) at 75% RDF was on par with that of fertigation at 100% RDF in all planting methods under drip irrigation, indicating possibility of a 25% economy in N and K fertilizers when the crop is fertigated.

Key words: Drip irrigation, Sugarcane, Planting methods, Fertigation, Water use efficiency.