



RESEARCH PAPER

Effect of subsurface drip fertigation on jaggery quality parameters of sugarcane

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Abstract : An experiment studying the effects of various levels of fertigation duration and fertigation levels on jaggery quality parameters of sugarcane using the variety CO86032 over two crop seasons (2014-15 and 2015-16) was conducted at ZARS, V.C. Farm, Mandya. Results revealed that jaggery quality parameters like juice extraction per cent, net rendament value, reducing sugars in jaggery and jaggery hardness did not differ significantly due to fertigation duration, fertigation levels and their interaction. Whereas, significantly higher jaggery recovery (13.82 and 13.45 %) and jaggery yield (31.92 and 28.19 t ha⁻¹) was recorded with fertigation duration upto 9.5 months in plant and ratoon cane at harvest, respectively. Jaggery recovery and jaggery yield significantly not influenced by fertigation levels. The interaction between fertigation duration and levels were significant. Fertigation upto 9.5 months with 125 per cent RDF recorded significantly higher jaggery recovery (13.96 and 13.55 %) and jaggery yield (32.21 and 28.91 t ha⁻¹) in plant and ratoon cane at harvest, respectively. Statically, at par results were observed with fertigation upto 9.5 months with 100 per cent of RDF and fertigation upto 9.5 months with 75 per cent of RDF. Normal method of sugarcane cultivation with surface irrigation with 100 per cent of RDF soil application recorded lower jaggery recovery (11.87 and 11.10 %) and jaggery yield (16.70 and 13.70 t ha⁻¹) of plant and ratoon cane at harvest, respectively. Experimental results clearly indicated that sub surface drip fertigation (SSDF) helps to increase the jaggery quality parameters over normal practice of sugarcane cultivation.

Key Words : Sub surface drip fertigation, Fertigation duration, Fertigation levels, Jaggery recovery

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