

Research Article

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Yield, nutrient and water use efficiency and economics of maize as influenced by levels of irrigation and fertigation

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Summary

A field experiment was conducted during *Kharif* 2015 at Zonal Agricultural Research Station, V.C. Farm, Mandya, Southern Dry Zone of Karnataka to study the growth and yield of maize as influenced by drip fertigation. The experiment was laid out in Randomized Complete Block Design with three replications and eleven treatments comprising two levels of irrigation and four levels of fertilizers, absolute control, package of practice and paired row of spacing 45 x 75 cm. Irrigation @ 100% cumulative pan evaporation + drip fertigation 125% recommended dose fertilizer was found higher kernel yield (7763 kg ha⁻¹) and stover yield (8159 kg ha⁻¹). Higher nitrogen, phosphorus and potassium use efficiency was recorded in irrigation @ 100% cumulative pan evaporation + drip fertigation 75% recommended dose fertilizer (65, 131 and 245 kg kg⁻¹, respectively). Significantly higher water use efficiency was found in irrigation @ 75% cumulative pan evaporation + drip fertigation 125% recommended dose of fertilizer (132.17 kg ha cm⁻¹) over University of Agricultural Sciences- package (74.18 kg ha cm⁻¹). Higher cost of cultivation was recorded in irrigation @ 100% cumulative pan evaporation + drip fertigation 125% recommended doses fertilizer (Rs.37089 ha⁻¹) followed by irrigation @ 100% cumulative pan evaporation + drip fertigation 100% recommended dose fertilizer (Rs. 35379 ha⁻¹).

Key words : Drip fertigation, Water use efficiency, Nutrient use efficiency

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