

Enhancement of Mulberry Leaf Yield and Water Productivity in Eastern Dry Zone of Karnataka, India

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Abstract : The field experiments were conducted during Rabi 2013 and summer 2014 at College of Sericulture, Chintamani, Chickaballapur district, Karnataka, India to find out the response of mulberry to different methods, levels of irrigation and mulching. The results showed that leaf yield and water productivity of mulberry were significantly influenced by different methods, levels of irrigation and mulching. Subsurface drip with lower level of irrigation at 0.8 CPE (Cumulative Pan Evaporation) recorded higher leaf yield and water productivity (42857 kg ha⁻¹ yr⁻¹ and 364.41 kg hacm⁻¹) than surface drip with higher level of irrigation at 1.0 CPE (38809 kg ha⁻¹ yr⁻¹ and 264.10 kg hacm⁻¹) and micro spray jet (39931 kg ha⁻¹ yr⁻¹ and 271.83 kg hacm⁻¹). Further, subsurface drip recorded minimum water used to produce one kg of leaf and to earn one rupee of profit (283 L and 113 L) compared to surface drip (390 L and 156 L) and micro spray jet (379 L and 152 L) irrigation methods. Mulberry leaf yield increased and water productivity decreased with increased levels of irrigation. However, these results indicated that irrigation of mulberry with subsurface drip increased leaf yield and water productivity by saving 20% of irrigation water than surface drip and micro spray jet irrigation methods in Eastern Dry Zone (EDZ) of Karnataka.

Keywords : cumulative pan evaporation, mulberry, subsurface drip irrigation, water productivity

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