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Moisture conservation practices and nutrient management on growth and yield of *rabi* sorghum (*Sorghum bicolor*) in the Vertisols of peninsular India

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ABSTRACT

The effect of moisture conservation and nutrient management on growth and yield of *rabi* sorghum was studied at the Zonal Agricultural Research Station, Babbur Farm, Hiriya Karnataka under rainfed conditions on medium black soil during *rabi* seasons of 2007-2008 and 2008-2009. Paired row planting (30-60-30 cm) and opening of furrow in wide rows at 35 Days After Sowing (DAS) proved superior over sowing across the slope and even ridges and furrows with tied ridging in terms of grain yield (1.10 t/ha), stover yield (1.51 t/ha) and 1000 grain weight (24.6 g). Similarly application of 50% recommended dose of fertilizer (RDF + Farm Yard Manure (FYM) 2.5 t/ha + Microbial consortia (*Trichoderma*, *Azospirillum* and Phosphate Solubilizing Bacteria (PSB) recorded significantly higher plant height (121 cm), panicle length (8.7 cm), panicle diameter (7.4 cm), 1000 grain weight (24.3 g), grain yield (0.95 t/ha) and stover yield (1.42 t/ha) over other treatments but on par with the application of 100% RDF + FYM 2.5 t/ha. Paired row planting (30-60-30 cm) and opening of furrow in wide rows at 35 DAS was also superior with maximum output energy of 43350 MJ/ha, rainwater use efficiency of 5.15 Kg/ha/mm and BC ratio of 2.31. Similarly application of 50%RDF + FYM 2.5 t/ha + Microbial consortia recorded higher output energy of 39525 MJ/ha and rainwater use efficiency of 4.48 Kg/ha/mm.

KEYWORDS

Nutrient Management; Paired Row Planting; Moisture Conservation; Energy Use Efficiency; Tied Ridging; Rabi Sorghum; Yield

Cite this paper

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