



Performance of Direct-Seeded Rice in Relation to Water and Weed Management Scenarios in a Sandy Loam Soil

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Abstract: A study was conducted to monitor the performance of direct seeded rice under differential water and weed management scenarios. The treatments included four water management scenarios as main plots viz. continuous shallow flooding, irrigation of 5 cm depth at 20 kPa, irrigation of 5 cm depth at 20 kPa + kept flooded for 5 days after application of herbicide and shallow flooding during crop establishment + 40 kPa during mid-season + subsequent irrigation at 20 kPa. The treatments included four weed management scenarios as sub plots viz. weedy, weed free, pre-emergence (pendimethalin @ 1 kg a.i. ha⁻¹) + post-emergence (bispyribac @ 20-25 gm a.i. ha⁻¹) at 20-25 DAS and early post emergence (propanil @ 4 kg a.i. ha⁻¹ + pendimethalin 1 kg a.i. ha⁻¹) at 12 DAS. Among the yield attributes, thousand grain weight was statistically significant among the two scenarios. Among the two management practices, the highest average yields under water and weed management scenarios were 3.07 t ha⁻¹ (flooded scenario) and 4.93 t ha⁻¹ (weed free scenario) respectively. However, the highest grain yield was 6.10 t ha for continuous shallow flooded irrigation under the weed free management scenario. The grain yield was lowered significantly with water stress and the weed management practices.

Key Words: Direct seeded rice, Grain yield, Soil matric potential, Water management, Weed management
