

Abstract

Terrestrial heating is so real in Mwea that it has significantly reduced water levels in the canal; a catastrophe complexed with uphazard and unscheduling of irrigation in the scheme to the detriment of crops at its termini. In that view therefore, an experiment was set out at KALRO-Mwea to investigate on the effect of irrigation scheduling on yield components and grain yield of two Nerica rice varieties. The experiment was laid out in a Randomized Complete Block Design in split-plot arrangement replicated thrice. Four irrigation schedules (Daily (control), Every 3 days, Every 5 days and Weekly) formed main plots and two rice varieties (Nerica 4 and Nerica 11) formed the sub plots. Results indicated positive influence though not significant on filled grain number, shoot biomass, root biomass, unfilled grain number, productive tillers, panicle number, 1.5 m² plot grain weight, moisture content, and on grain yield in both seasons, while significant effect was exerted on 1000-grain weight, where highest and least 1000-grain weight of 55.92 g and 41.0 g in Nerica 4 on every 3 days and weekly schedules in season 1 were recorded respectively, while significant effect was elicited on unproductive tillers in season 2 where highest of 1.783 unproductive tillers in Nerica 11 on every 5 days' schedule was recorded, while least of 0.75 unproductive tillers in Nerica 4 on weekly schedule was also recorded. Positive though insignificant effect was also observed in unproductive tillers in season 1, while the same was observed in 1000-grain weight in season 2. Grain yield (ton/ha) did not present any significant effect due to irrigation schedule treatments in both seasons, although variation in means of grain yield was observed, where highest grain yield of 1.003 tons/hectare was produced in Nerica 4 on weekly irrigation schedule in season 2, while least grain yield of 0.863 tons/hectare was produced in Nerica 11 on every 3 days' irrigation schedule in both seasons. Nerica 4 outperformed Nerica 11 in productive tillers, 1.5 m² plot grain weight, 1000-grain weight and on grain yield, while Nerica 11 outperformed it in unproductive tillers, filled grain yield, unfilled grain yield, shoot biomass, root biomass, panicle number, and on moisture content in yield. Nerica 4 on weekly schedule, while Nerica 11 on control, and on every 5 days', and both on every 3 days' schedule are recommended to farmers for adoption.