

Rice Growth and Yield under Rain Shelter House as Influenced by Different Water Regimes

Abstract

A pot experiment was conducted to evaluate the effect of different water regimes on growth and yield of rice (*Oryza sativa* L.) variety MR220. Water regimes applied were flooded (5 cm above the soil surface), saturated (water given just to saturate the soil) and field capacity (periodic irrigation applied to maintain the desired level). Significantly higher values were recorded for plant height, number of tillers, shoot and root biomass in flooded rice followed by saturated and field capacity condition. Similar trends were observed for physiological parameters like stomatal conductance, SPAD values and water use efficiency. Yield and yield components were also influenced by the water regimes. Under the field capacity condition, rice plants received comparatively less water than flooded and saturated condition, which resulted in impaired rice growth that reduced grain yield and lowered harvest index.

Keyword: Growth, Yield, Water regimes, Rice, MR220