

Abstract:

Irrigation scheduling helps the farmer to know when to irrigate, water flow rate (quantity), and duration of water supply to the farm. Improper irrigation activities can lead to irrigation water loss by percolation and surface runoff, soil erosion due to surface runoff, leaching of the useful minerals through percolation, high energy consumption in pumping irrigation water and increase in operation and maintenance cost. Irrigation scheduling can help in reducing such problems and boost productivity. The main objective of this study was to evaluate the effectiveness of the irrigation scheduling strategies that are currently being practiced in Perkerra irrigation scheme. Four fields of 0.5 ha in average cultivated with maize crop, were selected to assess and compare irrigation water use efficiencies. Data collection included soil types, crops grown, soil water monitoring, meteorological data, irrigation system, discharge received per plot level and a total times irrigation is done. The average interval for applying irrigation water was found to be 2 to 3 days irrespective of rainfall. Over irrigation to saturation is common in Perkerra Irrigation Scheme. Measurements carried out on the Perkerra irrigation scheme showed that there can be losses of more than 100%. The water use efficiency in PIS is very low and there should be improvements. The determined results were then used to evaluate the most efficient and reliable schedule for future irrigation and also to provide needed information for improvement of irrigation interval for Perkerra Irrigation scheme.