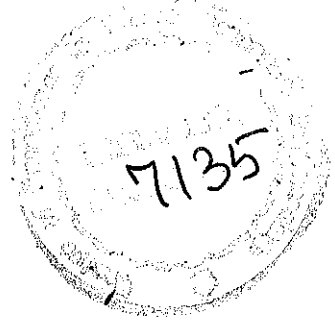
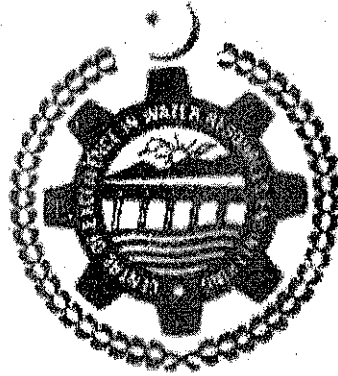


**THESIS**

**IMPACT OF COMPOST ADMIXTURE ON INFILTRATION  
AND IRRIGATION PERFORMANCE**



By

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2009-PG-WRM-23

For the Degree of

**Master of Science**

**IN**

**WATER RESOURCES MANAGEMENT**

**CENTRE OF EXCELLENCE IN WATER RESOURCES ENGINEERING**  
University of Engineering and Technology, Lahore, Pakistan

2011

## ABSTRACT

Water is an important life-supporting resource and is essential for food production. The continued decrease in supply of irrigation water has diverted the attention of researchers towards finding new ways for efficient irrigation management. This study investigates the effect of compost admixture on the infiltration and flow properties of water on the field having a loamy sand texture soil. There were nine experimental plots having width of 3.5 meter and a length of 45 meter each and 5% compost by weight up to a depth of 3 cm was placed on compost treated plots. A single iron ring was used for infiltration measurement. Water was applied with the help of Cut Throat Flume. The water front advance rate was measured by installing iron stacks at an interval of 3 meter along the length of border.

SIRMOD software was used to simulate the waterfront advances in blocked end borders. SIRMOD simulated results were compared with the observed water advances and found promising in all experimental plots during irrigations. Results of study revealed that the compost admixture improves the irrigation performance by increasing water advance rate to the tune of 23.96% to 26.83% and increasing water distribution uniformity from 13.51% to 14% during 1<sup>st</sup> and 2<sup>nd</sup> irrigation respectively. The application of commercial compost admixture amendment in soil is costly. However, it may be very economical if farmers prepare their own compost or the governments subsidize the compost costs to increase the crop yield and save water.