Abstract
The mainly goal of a irrigation system design is to choose the appropriate components and layout to attain adequate distribution of water (and fertilizer) throughout the field. The experiment intends to study the evolution of the saturated disc versus superficial wetted area, evaluating the effect of the water-soil relationship that may affect the soil water’s distribution and storage. The experiment was accomplished in deformed soil conditions, being applied 1 L of water every one hour until the wetted front to reached the bottom of box, by emitters with different rates (2, 4 and 8 L h⁻¹). The soil wetted volume measurements was carried out. The saturated disc and wetting front process was monitored by rule. The results could be concluded, that: there is a direct relationship between the saturated disc evolution and the superficial wetted area for laboratory conditions, which demonstrated the possibility in advancing water losses during wetted bulb formation process.

Keywords
Irrigation, wetted bulb, TDR probe