

**THE EFFECT OF CHANGING THE IRRIGATION PERIOD  
ON SUGARCANE CROP**

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**ABSTRACT:** Sugarcane represents a major crop in Upper Egypt, that covers about 23.4% of the total cropped area. The common rotation period is 14 days with total amount irrigation water 10920 m<sup>3</sup> per feddan. Based on this practice, a great deal of the irrigation water amounts to 6000 m<sup>3</sup> per feddan is lost by runoff and deep percolation. In the same time, the crop is usually under stress for a non—continuous period of about 76 days per year for sandy soil. In this paper, a rotation period of 7 days is proposed. A water balance model is applied to compare between the two rotation systems with respect to both the irrigation water losses and the period of water stress. The results revealed that the water losses is reduced to about 2910 m<sup>3</sup> per feddan and the water stress period is reduced to about 34 days per year (45% reduction).