Study of Drought Stress on Varieties of Fig Tree (*Ficus carica* L.) in the Arid Region of Tunisia

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Abstract

In situ conservation, it is the most effective means to allows evolutionary conservation of species, keeping the varieties' characteristics and safeguarding cultivars from disappearance. This study was conducted to evaluate fig cultivars under different water stress conditions. Forty-four fig varieties kept in the collection installed in the Institute of Arid Regions (IRA) of Médenine have been selected for this study.

Methods: Propagation of plant material is done by woody cuttings and the pot experiment was carried out under field conditions at the Faculty of Sciences of Tunis (FST) in summer 2021. The duration of the drought experiment was 50 days. During the experiment, physiological parameters such as relative water content (RWC), leaf temperature, chlorophyll content (SPAD values) were recorded in three times: at the beginning, at half time 1 (Mid -I, 15 days from the start of the test, T15) and at half-time 2 (Mid-II, 30 days from the start of the test, T30) and growth parameters such as the number of leaves, plant height and stem diameter were measured. Results and conclusion: Subsequently, data processing was carried out and showed that 7 varieties proved their tolerance to drought stress and a varietal catalog of the IRA collection was prepared which could be very useful for sustainable agriculture and adapted to climate change.

Keywords: fig, conservation, IRA Médenine, drought stress

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