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"Gheorghe Asachi" Technical University of Iasi, Romania

EFFECTS OF DIFFERENT SALINE WATER QUALITIES ON THE ESTABLISHMENT OF ZOYSIAGRASS (*ZOYSIA TENUIFOLIA* WILLD.)

Sihem Soufi *, SarraArbaoui, Aymen Yazidi, Taoufik Bettaieb

Laboratory of Horticulture Sciences, National Agronomic Institute of Tunisia, Carthage University

Abstract

Salinity of irrigation water is one of the main environmental constraints limiting the geographical distribution of several species. In order to understand and to cope with critical environmental constraint, a pot experiment was undertaken to investigate the potential effect of irrigation with various natural saline waters gathered from arid and semiarid regions; on rooting of stem cuttings, growth and on the physiological responses of Mascarene grass (*Zoysia tenuifolia* Willd.). The obtained results indicate that rooting of stem cuttings was successfully established even under a relatively high salinity. Moreover, growth under saline conditions was not inhibited as indicated by the no significant effect of the various treatments applied neither on aerial nor on root dry weights. Although the continued irrigation of *Zoysia* plantlets with saline waters, the photochemical efficiency of PSII and the Na^+ and K^+ uptake were not altered. Platelets kept almost a K^+/Na^+ ratio > 1. Results suggest that *Zoysia* tolerate the various applied treatments which will ease their agro management and optimize their production in arid and semi arid regions.

Key words: nutrient balance, saline irrigation waters, stem cuttings, *Zoysia tenuifolia*

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* Author to whom all correspondence should be addressed: e-mail: sihemsoufi@yahoo.fr; Phone: +216 71287110