

Effects of salinity on plant physiology and water content of cucumis melo l. Mg 9 variety cultivated using soilless system

ABSTRACT

Major nutrients unavailability and deficiency in micronutrients will restrict crops growth under salinity conditions. But, salinity could be employed to modulate better quality produce. Thus, two (2) studies were subsequently conducted in order to evaluate suitability of salinity inclusions based on:-1) rates and 2) sources to obtain desirable yield and quality. In first study, 4.0 mS/cm sodium chloride (NaCl) rate do not have any significant differences in terms of plant physiology and yield of rock melon in compared with control set. Therefore, MG 9 cultivar as tested ascertained to be moderately tolerance towards salinity level. On the second study, three (3) sources of salinity were tested: - sodium chloride (NaCl), potassium nitrate (KNO₃) and micronutrients (MNS) at the concentrations of 4.0 mS/cm each whilst water (H₂O) and basic solution act as control set. The results demonstrated that, most of the parameters were independently influenced by salinity sources except for relative water content (RWC), leaf water potential (LWP), fruit diameter (FD), and plant fresh weight (PFW). These parameters were recorded to be reduced upon 4.0 mS/cm of MNS application. The best treatments to elevate yield and quality of rock melon in our study were:- NaCl>KCl>MNS>control.

Keyword: Salinity; NaCl; Rock melon; Soilless culture; Hydroponic; MG 9 Rock Melon