EFFECTS OF ELECTRICAL CONDUCTIVITY OF IRRIGATION WATER ON THE GROWTH AND PRODUCTION OF SOLANUM LYCOPERSICUM L. VAR. CERASIFORME GROWN IN GREENHOUSE

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Tomato (Solanum lycopersicum L.) is commonly included among the species that are moderately tolerant to salinity, even if its tolerance varies in relation to genotype and the plant’s organ. With regard to the latter aspect, it was found that the negative effects of salinity become apparent with electrical conductivity values of the circulating solution starting from 2.5 - 3.0 dS m\(^{-1}\) for the fruit, from 4.5 - 5.0 for the stems and leaves and from 6 for the roots. It was found that the negative effects of salinity become apparent with electrical conductivity values of the circulating solution starting from 2.5 - 3.0 dS m\(^{-1}\) for the fruit, from 4.5 - 5.0 for the stems and leaves and from 6 for the roots. Furthermore, cultivars with small fruits slow, less marked reductions in fruit weights and of production. They may therefore represent a solution for environments with only saline water. The aim of the research was to study in tomato cerasiforme “Naomi” cultivated in greenhouse the residual effects of irrigation carried out for 10 consecutive years with saline water. At 75 - 90 and 105 days after transplantation, five plants and a corresponding soil sample from 0 to -40cm, were collected from each lot. On each plant were recorded: the number and the weight of marketable fruits per cluster, and the epigeal biomass dry weight (stems + leaves + fruits). On each soil sample the electrical conductivity of extract saturated (ECe) was determined. The use of irrigation water with ECw fluctuating around 2 dSm\(^{-1}\) over a decade, determined values of ECe in the soil above the tolerance limit only for the fruit production (3.8 compared to 2.5 - 3.0). With ECw equal to 6 + 10 dSm\(^{-1}\), levels of ECe exceeded those considered detrimental to the production of dry epigeal biomass (stems+leaves+fruits). The effects of increasing ECe on the fruit production were constantly determined through the reduction of fruit dry unit weight.