



Alleviation of Water Stress effects on Corn by Polyamine compounds under Newly Cultivated Sandy Soil conditions

*¹Ahmed M.A., ² Magda A.F. Shalaby and ³ M.B.A. El-komy.

¹Field Crops Research Department, National center, Dokki, Cairo, Egypt

²Botany Department, National Research center, Dokki, Cairo, Egypt

³Maize Research Department, Field Crops Institute, Agricultural Research Center, Giza, Egypt

Abstract: Two Field experiments were carried out at private farm in newly cultivated sandy land at new Salheyia Region, El – Sharkeiya Governorate, Egypt in the summer seasons of 2014 and 2015 years, to study alleviation of water stress effects on corn by polyamine compounds. Water stress was imposed by skipping an irrigation at vegetative growth , i.e. at 35 days age (I₂) and / or at 49 days age (I₃) , tasseling and silking stage, i.e at 63 days age (I₄) and at grain filling stage, i.e at 77 days after planting date (I₅). Putrescine and specmidine was foliar applied at 0, 50 and 100 mg/l for each compound. Water stress decreased the yield and its components. The most sensitive growth stage of corn to water stress was the vegetative growth stage at 35 days after planting, followed by the growth stage at 45 days after planting. Foliar application of polyamine compounds, i.e. putrescine and specmidine alleviated the perious water stress adverse effects on corn; increased yield and its components. The most favorable treatments to alleviate the water stress effect on yield and its components of corn plants were 100 mg/l from putrescine and/or specmidine. The data were disused in terms of interaction of water stress and polyamine compounds on corn plants.

Keywords: water stress, corn, puterscine, spermidine.