ABBREVIATIONS

ABA	Abscisic Acid
APX	Ascorbate Peroxidase
ATP	Adenosine Tri- Phosphate
BSA	Bovine Serum Albumin
CAT	Catalase
DNA	Deoxyribonucleic Acid
EC	Electrical conductivity
GR	Glutathione Reductase
H_2O_2	Hydrogen Peroxide
$OH^{\cdot}$	Hydroxyl Radicals
IAA	Indol Acetic Acid
meq/l	millequivalent /liter
mg/l	millgram/liter
mg/Kg	millgram/kilogram
mg/g dry wt	millgram/gram dry Weight
NBT	nitro blue tetrazolium

PC	Potassium Citrate
POX	Peroxidase
RWC	Relative Water Content
RLWC	Relative Leaf Water Content
ROS	Reactive Oxygen Species
SA	Salicylic Acid
SE	standard Error
SOD	Superoxide Dismutase

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ABSTRACT

Salinity is one of the major a biotic stresses in agriculture worldwide. This study was carried out to evaluate the effect of salicylic acid (SA) and potassium Citrate (PC) on plant growth characters, Yield and Yield components, leaf chemical constituents, enzyme activity and fiber properties of Giza 90 and Giza 86 cotton cultivars. Plants were irrigated by sea water with concentrations (12000, 8000, 4000 ppm) followed by tab water alternately while the control treatment was irrigated by tap water only. In general salt conditions significantly decreased the growth characters, yield characters, chloroplast pigments, total soluble sugars, total soluble protein, total phenols and total free amino acids while increased proline contents, total antioxidant capacity, catalase, peroxidase and superoxide dismutase. The results clearly showed that spraying cotton plants with salicylic acid (200 ppm) and potassium citrate (2.5 g/l) under salt conditions caused enhancement of growth and yield characters and increasing of pigments, total soluble sugars, proline contents, free amino acids, and antioxidant enzyme activity. On the other hand there are No significant effects with foliar application of salicylic acid and potassium citrate found on fiber properties under salt stress.

***Key Words*:** Chemical composition, Cotton, Salicylic Acid, Salt Stress, Growth Characters, Potassium Citrate.