EFFECT OF FOLIAR APPLICATION AND SOAKING OF SEED WITH H_2O_2 ON SAME ENZYMATIC ANTIOXIDANT L

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ABSTRACT

Two field experimentswere conducted during spring and autumn seasons of L in the year 2014 at botanical garden of Department of Biology ،College of Education for Pure Sciences Ibn-Al-Haithem ، University of Baghdad .The experiments aimed to study the effect of different concentrations of glutathione (25 ، 50 ،75،100 $mg.L^{-1}$) added to control treatment and soaking of seed with H_2O_2 5،10،15 $mM.L^{-1}$ on some enzymatic antioxidant of L . The results showed an increase in total activity of Superoxide dismutase (SOD) with 100 $mg.L^{-1}$ of glutathione by 69.32% ، 40.93% for the two seasons and increased with 15 $mM.L^{-1}$ H_2O_2 by 100% ، 28.53% . The interaction between the two treatments was significant .The activity of Peroxidase (POD) was increased with 100$mg.L^{-1}$ glutathione by 29.45% ، 88.15% and with 15 $mM.L^{-1}$ of H_2O_2 175.57% ، 40.58%،also the interaction between the two treatment was significant .The total activity of Catalase (CAT) increased with 100 $mg.L^{-1}$ of glutathione by 55.47% for first season only and increased with 15$mM.L^{-1}$ of H_2O_2 by 118.29% ، 71.78% .The interaction was significant between the two factors of experiment .The result showed that the total activity of glutathione peroxidase(GPX)increased with 100 $mg.L^{-1}$ of glutathione by 30.905 ، 63.62% also increased with 15$mM.L^{-1}$ of H_2O_2 by 12.86% ، 61.40% for two seasons ، the interaction between the two treatment was significant for the first growth season. All results compared with control plants. The result showed the concentration of 100 $mg.L^{-1}$ glutathione and concentration of 15 $mM.L^{-1}$ hydrogen peroxide caused an increased for most study parameters.

Key words : L ، Glutathione ، Hydrogen Peroxide.