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Physiological responses of grain soaking with Aspirin on two cultivars of wheat plant

Ebtihal. M. Abd Elhamid, Salwa A Orabi and Mervat Sh. Sadak*

Botany Department, Agricultural and Biological Division, National Research Centre, Giza, Egypt. P.O. 12622.

Abstract : A pot experiment was carried out at the green house of National Research Centre, Dokki, Egypt, during two winter seasons of 2013/ 2014 and 2014/ 2015. To investigate the physiological role of Aspirin (acetyl salicylic acid) with different concentrations on growth, some biochemical aspects and yield of two wheat cultivars (Giza 168 and Giza 10). Wheat grains were soaked for 6 hours in different concentrations of Aspirin (2 mM and 4 mM). The obtained data show that, Aspirin treatment improved wheat plant growth and yield via increasing growth parameters (plant height, number of tillers and leaves /plant and dry weight of plant), antioxidant enzymes (polyphenol oxidase PPO, phenyl alanineammonia lyase PAL, catalase CAT and peroxidase POX), total phenol contents, antioxidant activities (DPPH) and nucleic acids contents (deoxyribo nucleic acid DNA and ribonucleic acid RNA). Data clearly show that, higher concentration (4 mM) of Aspirin was more effective than lower concentration (2 mM) in improving plant growth parameters, some biochemical aspects and yield parameters (spikes number/plant, spikes weight/plant and grains weight/plant).
Key words : Aspirin, biochemical aspects, DPPH activity, growth, Wheat, yield.

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