



Effect of putrescine and pyridoxine (vitamin B6) on the antioxidant defense systems and free radical scavenging activity in canola plants

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Abstract : A pot experiment was conducted in the screen of the National Research Centre during two successive seasons (2013/2014 & 2014/2015) to study the response of canola plant seeds to soaking in pyridoxine (vitamin B6) or putrescine at the concentrations of (50, 100 and 200 mg/l). The obtained results revealed that presowing treatments of canola seeds with pyridoxine (vitamin B6) and putrescine significantly promoted plant growth criteria (shoot length, shoot dry weight, root length, root dry weight) and yield criteria (seed yield/pod, weight of seeds yield and yield of pods number / plant). Presowing treatment of canola seeds with putrescine, especially at 100 mg/l and pyridoxine at 200 mg/l significantly increased the ascorbic acid content in the seeds, reduced glutathione in seeds, total phenols in seeds. PAL enzyme activity in leaves, Polyphenol oxidase (PPO) activity in leaves, ascorbate peroxidase (APX) activity in leaves and DPPH free radical scavenging activity in seeds (%) were significantly increased as a result of putrescine and pyridoxine treatments.

Keywords: putrescine and pyridoxine (vitamin B6), antioxidant defense systems, free radical scavenging, canola plants.

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