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Quantitative changes of peroxidase and catalase activity and gene expression in some potato cultivars challenged against *Ralstonia solanacearum*

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Ralstonia solanacearum can trigger the systemic defence response in the infected plants and Peroxidase (POD) and Catalaze (CAT) are two key enzymes in induced systemic resistance process. Three potato cultivars Nicola, Kara and Spunta were evaluated against *R. solanacearum* under greenhouse condition. Disease assessment showed that Nicola was highly resistant with disease index 25%. Meanwhile Spunta was highly susceptible with disease index 72% on different trend Kara showed moderately susceptible reaction with disease index 56%. (POD) and (CAT) activity were assessed spectrophotometrically and after 1200 h of inoculation Nicola had the highest (POD) and (CAT) activity on a different trend Spunta had the lowest activity for both enzymes. While Kara showed intermediate (POD) and (CAT) activity. In order to confirm the enzyme activity results, the relative expression of (POD and CAT) genes were quantified by real-time reverse transcription RT-qPCR analysis. Nicola had the highest gene expression ratio 3.3 followed by Kara with 1.6. The lowest gene expression was scored in Spunta with 0.6 expression ratio after 1200 h of infection. After 1200 h of inoculation the gene expression of catalase was scored while, Nicola scored the highest gene expression with 1.8 expression ratio Spunta had the lowest gene expression ratio 0.6 but Kara had a moderate gene expression with 1.49.

Biography

Eman El-Argawy has completed her PhD from Aleandria University, Egypt and Post-doctoral studies from Faculty of Agriculture, Damanhour University. She is the Director of Mushroom production facility in Damanhour Univerrsity. She has published good papers in the field of plant pathology, microbiology and biocontrol in reputed journals.

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