

## MECHANISMS OF CADMIUM STRESS DEFENCE BY SELENIUM IN MICRO-TOM PLANTS

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**T**he contamination of environment by heavy metal pollution mainly by cadmium (Cd), which is considered as one of the more toxic metal is generated by mining, industrial activities, sewage sludge and phosphate-based fertilizers used in agriculture. Cd toxicity can increase production of reactive oxygen species (ROS) which can cause morphological, structural, biochemical and physiological dysfunctions in plants. Selenium (Se) improves plant defence systems against stressful conditions, but the biochemical approach involving antioxidant responses of Cd stress in tomato plants is poorly understood. In order to further address the modulation of Cd stress responses and their relation with Se mineral uptake; malondialdehyde (MDA) content and the activities of ascorbate peroxidase (APX) and glutathione reductase (GR) enzymes were analyzed in Micro-Tom (MT) plants exposed to 0.5 mM Cd. The results revealed different responses according with Se combination and Cd application. For instance, roots and leaves of MT treated with Se exhibited an increased APX and GR activities and decreased MDA contents when compared with plants with no Se application. These results add further information that should help unravelling the relative importance of selenium in regulating the cell responses to stressful conditions.

### Biography

Priscila L Gratao has completed her Phd from São Paulo University and Postdoctoral studies from São Paulo University. She is an Assistant Professor of Plant Physiology in São Paulo State University, FCAV-Jaboticabal-Brazil. She has published more than 30 papers in reputed journals.

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