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SELENIUM FORMS ALTERS PROTEIN CONTENT IN FRUITS OF TOMATO UNDER CD STRESS

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Cadmium (Cd) is probably the most damaging metal to plant species, with a long biological half-life. It can be taken up by plants, disrupting the control of the cell redox state and trigging a number of complex biochemical pathways. Selenium (Se) improves plant defense systems against stressful conditions but the biochemical approach involving protein synthesis and accumulation during Cd stressful condition in tomato plants is poorly understood. In order to further address the modulation of Cd stress responses and their relation with protein content were analyzed in fruits of Micro-Tom (MT). The fruits of plants cultivated during 30 days were collected in the same solution with two Se sources (selenite or selenate) combined with or without Cd (0 x0.5 mM $CdCl_2$). The protein concentration was determined following the method of Bradford (1976) using bovine serum albumin as a standard. The results revealed different responses according with Se source and Cd application. For instance, the Cd exposure decrease protein content in MT fruits when compared with control plants. Both Se sources cause a reduction in protein content of fruits. However, under Cd exposure, the application of selenite was efficient to improve protein content in fruits. Further studies must be done to investigate the potential of Se to alleviate deleterious effects of Cd stress conditions in tomato plants.

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