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Abstract:	Tomato is the highly commercially used edible crop affected by a disease called Fusarium wilt caused by Fusarium oxysporum f.sp. lycopersici. Cadmium induces various functional-based alterations in plants. In the present study, efficacy of cadmium against F. oxysporum in the tomato plant was checked under in vitro conditions by optimizing cadmium concentrations. The result revealed that 100 ppm of cadmium was effective and used to perform the different biochemical analysis. Effective cadmium treatment (supplemented in liquid Murashige and Skoog (MS) media) given to tomato plant grown in- vitro in cocopeat for 5days, after 5 days recovery also given..The effect of cadmium was studied with biochemical analysis of anthocyanin, proline, antioxydative enzyme assay, lipid peroxidation and molecular analysis of total protein content in contrast to control, treated plants and recovered plants. The data so obtained shows an increase in anthocyanin, proline, antioxydative enzyme assay, lipid peroxidation and protein content of treated as well as recovered plant as compared to the control. The maximum increase of biochemical are observed in the sample which are treated with cadmium as well as infected with Fusarium.This increase was related as a defence mechanism to cope up the cadmium induced stress condition by different mechanism like osmoregulation, full utilisation of source and sink, antioxidant action, etc. These aspects can be utilised further in production of transgenic resistant variety of tomato.

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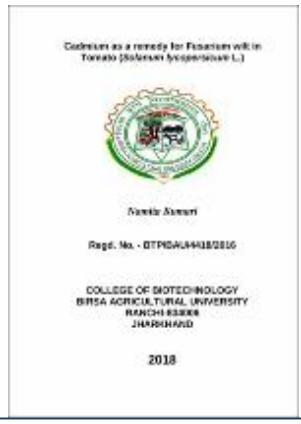

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