OSMOTIC STRESS RESPONSE INDUCED ON EXPOSURE TOENDOSULFAN AND MALATHION IN *LYCOPERSICON ESCULENTUM* MILL.

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Abstract: A study was conducted in the field of Department of Botany, D.N. College, Meerut using two crop varieties of Tomato, viz. Pusa Ruby and Pusa Early Dwarf. The plants were exposed to three different concentrations of pesticides namely Malathion and Endosulfan. Proline was estimated for osmotic stress response. It was observed that there was a high accumulation of proline which was concentration dependent. The increase in the values of proline were found to be more in Pusa Ruby than Pusa Early Dwarf which suggests that Pusa Ruby is comparatively a resistant variety. The enhanced accumulation of proline may be supportive to the tomato plants exposed to high concentration of pesticide. It might have helped the test crops under xenobiotic stress, to maintain membrane stability, water relations, and nitrogen and energy metabolism. It might also have helped to maintain the growth and yield of the pesticide treated plants. Proline acts as osmoprotectant under stress conditions. The free radicals are constantly generated under stress conditions that are quenched by an efficient antioxidant network in the plant body which acts as a supportive system in plant defense.

Keywords: Endosulfan, Malathion, Xenobiotic Stress and Osmolytes

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