

Toxic Effect of Endosulfan on the Caudal Regeneration (Posterior Region) Of the Earthworm Oligochaete, Eisenia fetida.

S. G. Kulkarni , A. S. Wakale.

ABSTRACT:

Endosulfan is an organochlorine which is indiscriminately used in agriculture and has lethal effects on many organisms. The acute toxicity of Endosulfan (Organochlorine) pesticide to earthworms, *Eisenia fetida* was evaluated to determine uptake and effect environmentally relevant concentrations on survival, mortality, population, morphology, physiology and behavior, etc. Acute toxicity and lethal concentrations (LC₅₀) for 24, 48 and 72h were calculated in soil probits/concentrations regression equation and the LC₅₀ found to be 0.006, 0.007 and 0.008 ppm of Endosulfan respectively recorded.

The earthworm, *Eisenia fetida*, is capable of the regeneration of missing body parts. The impact of endosulfan on the caudal regeneration of the Indian earthworm *Eisenia fetida* tested. The main theme of the present study is to assess the effect of Endosulfan on the caudal regeneration of the earthworm, *Eisenia fetida*, were transected after amputated posterior portion in different concentrations like 0.003, 0.004, 0.005, 0.006, 0.007 and 0.008 ppm and thereafter inoculated into 250 ml beaker containing soil mixed with single agricultural dose of Endosulfan for 30 days and then the result of regenerating efficiency is 46.15, 42.85, 38.46, 33.33, 21.42, and 16.66% respectively.

Keywords: Endosulfan, LC₅₀, Caudal regeneration, *Eisenia fetida*.