

Ecotoxicity analysis of a commercial tobacco based pesticide on zebra fish (*Danio rerio*)

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ABSTRACT:

Studies on the commercial products for gardening have been lesser studied for their conditions, in and outside South America are extremely rare. Brazil is not an exception that the commercial products based on natural ingredients of free commerce for pest control in organic agriculture has few scientific papers analyzing impacts from the point of view of environmental contamination and effects on non-target organisms. The commercial product based tobacco (unreported amount of nicotine in the package) was tested for its effect on the lethality of known Zebrafish (*Danio rerio*), since this organism is recommended by the International Organization for Standardization - ISO, as they are a bioindicator of environmental pollution. *D. rerio* were purchased and collected at random; it was then acclimated to the laboratory conditions and used for in two bioassays. These bioassays were conducted with the middle aged zebra fish viz., eleven months old and five months old with the spraying volume ranged from 0.25 mL.L⁻¹ to 10 mL.L⁻¹ and number of sprays number ranged from 2 to 25. Mortality was observed over four sprays, because it is a concern that four sprayings or more is the recommended dosage to control plague while gardening. The organism *D. rerio* was taken as the test animal because it has many characteristics similar to that of mammals.

Keywords:

Tobacco, Zebrafish, *Danio rerio*, Vegetables gardens, Pesticide.