

Toxicity of the Chlorfenapyr: Growth Inhibition and Induction of Oxidative Stress on a Freshwater Protozoan, Paramecium Sp.

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Abstract : The toxicological impacts of the increasing number of synthetic compounds present in the aquatic environment are assessed predominantly in laboratory studies where test organisms are exposed to a range of concentrations of single compounds. The bio-indicator *Paramecium sp.*, characterized by a short life cycle, rapid multiplication and normal behavior that may be affected by the presence of pollutants. We therefore investigated the inhibitory effect of a newly synthesized acaricide: the chlorfenapyr tested at concentrations of 250, 300, and 350 μM on a pure culture of *Paramecium sp.* during 6 day. *Paramecia* treated with different concentrations of Chlorfenapyr illustrate strong inhibition of cell growth from the second day of treatment. Low levels of glutathione, increased glutathione S-transferase and the decrease in respiratory metabolism, recorded in the presence of different concentrations of Chlorfenapyr, involve the activation of detoxification system.

Keywords : *Paramecium sp.*, chlorfenapyr, oxidative enzymes, detoxification

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