# EFFECT OF THE EXTRACT OF *LANTANA CAMARA* ON LIVER MITOCHONDRIAL BIOENERGETICS

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Some studies have indicated that mitochondria may be the target organelle of plants compounds causing toxicity. *Lantana camara* is a wild pest-plant toxic to livestock that causes toxicity to the liver but its exact mechanism of action is unknown yet. In the present work we investigated the effects of *Lantana camara* ethanolic extract (LCEE) on the bioenergetics aspects of mitochondria isolated from the rat liver to help to understand the mechanism of lantana intoxication. Incubation of LCEE with mitochondria caused a significant increase of basal oxygen consumption (state 4) supported both with glutamate plus malate and succinate as substrate at a concentration range of 20-50 µg/mg protein. At higher concentrations, LCEE produce inhibition of mitochondrial respiration stimulated by ADP (state 3), as is typical of inhibitory uncouplers of oxidative phosphorylation. In addition, LCEE also promoted a decline in the mitochondrial membrane potential, which was assessed by rhodamine 123 uptake by the mitochondria and inhibited ATP synthesis. The results reported in this study, using isolated rat liver mitochondria, show that LCEE inhibits mitochondrial function causing depletion on ATP levels and suggest that this effect is involved in the toxicity of lantana.

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