Manganese-induced changes in the life cycle of *Drosophila melanogaster* chronically exposed

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**INTRODUCTION AND OBJECTIVES**: Manganese (Mn) is an essential metal for living organisms. However, at high level it is known to cause toxicological complications. Of particular importance, chronic exposure to Mn could lead to a condition known as manganism. Despite this, its effects on the life cycle of different organism remains to be better characterized. In this context, the *Drosophila melanogaster* (fruit fly) has been emerged as a good alternative model for toxicological and/or pharmacological studies. Accordingly, the cycle of life of flies could be altered by exposure to toxicants. So, the aim of this study was to evaluate the changes caused by Mn on the cycle of life in *D. melanogaster* chronically exposed.

**MATERIAL AND METHODS**: Adult flies were divided into three groups (n= 100 per group): (1) control, (2) 3mM Mn and (3) 5mM Mn. Flies (1: 4 males/females) were maintained in a standard medium (without or with Mn) for a period of 2 days for the mating and egg laying. After this period adults were removed and observations in the life cycle were performed. Accordingly, it was monitored the time to the appearance of larvae, the time spent to the metamorphosis to pulpa stage and the number of eclosion of pulpas to adult flies.

**DISCUSSION AND RESULTS**: The results revealed no significant difference between the groups concerning analyzed parameters. Indeed, Mn did not caused significant differences in the time to the appearance of larvae. Additionally, Mn did not alter the time spent to metamorphosis from larvae to pulpa. Finally, Mn did not interfere in the number of eclosion of pulpa to adult flies.

**CONCLUSION**: These data suggest that Mn did not cause significant changes during early stage of development of the life cycle of *D. melanogaster*. However, further studies are needed to evaluate other parameters in order to evaluate the toxicity of Mn in *D. melanogaster*.

Key words: manganese, lifecycle. *D. melanogaster*  
Supported by: CAPES, CNPq, FAPERGS, FiNEP, UNIPAMPA.