



IV SEMINÁRIO SOBRE ECOTOXICOLOGIA

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Effect of Atrazine on the Sperm Quality and Genic Transcription of *Danio rerio*

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Atrazine (ATZ) is one of the most commonly used pesticides in the world, however, their effects on aquatic fauna are not fully understood. In fish, the ATZ exposure increases estradiol production, induces the production of reactive oxygen species, modifies the activity of antioxidant enzymes, destroy the lipid in membrane structure and generates DNA damage. In this study was evaluated the effect of three levels of exposure ATZ (2, 10 and 100 µg/L) during 11 days in zebrafish through sperm parameters and gene transcription. The results for motility, motility period membrane integrity and functionality of the mitochondria in the sperm were affected by ATZ exposure. The decreased expression of SOD2 and GPx4b genes in the maximum ATZ exposure confirm the oxidative activity of the same. There was no DNA damage in different ATZ treatment group; and the expression of early gene of the DNA repair system NER (XPC) was either altered. While the expression of genes related to sperm quality were not affected by ATZ exposure. The modification of transcription only of genes encoding antioxidant proteins suggest that decreasing sperm motility is directly related to altered oxidative state generated by exposure of ATZ.

Keywords: atrazine; sod2, gpx4b; motility