## WE 399

Effects of ametryn sugarcane herbicide on early-life stages and adults of a tropical fish (Danio rerio) A.M. Moura<sup>1</sup>, I. Domingues<sup>2</sup>, R. Oliveira<sup>2</sup>, K.R. Medeiros<sup>2</sup>, C.M. Jonsson<sup>3</sup>, A.J.A. Nogueira<sup>2</sup> <sup>1</sup>Instituto Biológico, Campinas, Brazil <sup>2</sup>Department of Biology & CESAM, University of Aveiro, Aveiro, Portugal <sup>3</sup>Embrapa Meio Ambiente, Jaguariúna, Brazil

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Ametryn is one of the widely used herbicides applied on sugarcane crops in Brazil to control weeds that can compromise their productivity. Ametryn belongs to the group of triazines, aromatic herbicides with high water solubility, which can enter in aquatic environment through runoff or atmospheric deposition and have potential to contaminate aquifers. In temperate climate, risk assessment of triazines showed no significant risks to aquatic organisms, but for tropical waters information is absent. The objective of this study was to evaluate the toxicity of ametryn in acute exposure of zebrafish and quantify biochemical markers (GST, CAT, LDH and CHE) as indicators of exposure to this herbicide. The test with embryos was conducted following the OECD's protocol for the Fish Embryo Toxicity (FET) Test, 2006, and for adults, the protocol adopted was OECD TG 203, 1992. To determine the toxicity of ametryn for embryos we used the following treatments: 0 (control), 0 + (solvent control), 10.0, 16.8, 28.3, 47.6 and 80.0 mg L<sup>-1</sup> of ametryn. For adults, the treatments were 0, 0 +, 2, 4, 6, 12 and 20 mg L<sup>-1</sup> of ametryn. Finally, to determine the biomarkers' activity on early-life stages we choose lower concentrations of ametryn to avoid mortality. The treatments used were 0, 0 +, 5.0, 10.0, 7.17, 10.10, 14.20 and 19.99 mg L<sup>-1</sup> of ametryn. For data analysis of enzyme activity, we used the One-Way ANOVA test, of SigmaPlot 11.0. LC<sub>\$0.9960</sub> for the zebrafish early-life stages was 48.46 ± 2.20 mg L<sup>-1</sup>, while for adult fish it was 7.65 ± 1.91 mg L<sup>-1</sup>. Regarding biomarkers, we observed an increase in GST and inhibition of CHE activity in both larvae and adult fish exposed to ametryn. Furthermore, CAT and LDH activities were not significantly affected by ametryn exposure. The parameters evaluated in this study allowed a better understanding of the mode of action and toxicity of ametryn, to banio *terio*. Currently, a link between endpoints and the fitness of individuals is still missing but would be a prerequisite for a sou

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