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MEETING ABSTRACTS

EFFECTS OF ENROFLOXACIN AND MARBOFLOXACIN TO SELECTED AQUATIC ORGANISMS

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Enrofloxacin and marbofloxacin are two veterinary fluoroquinolones used to treat severe bacterial infections. The release of fluoroquinolones in the environment is mainly due to the direct discharge of aquaculture products and the excretion in urine and feces of livestock animals. It results in the contamination of soil, surface water, sediment, ground water and biota.

We focused on acute and reproductive effects of enrofloxacin and marbofloxacin, in particular. Assessment of the impact of selected antibiotics on important representatives of the aquatic environment. The aim of this study was to investigate the chronic toxicity of the antibiotics to *Daphnia magna* and *Tubifex tubifex*. Selected representatives are an important part of the fish food chain. The effect was tested on the growth and reproduction of *D. magna* in a chronic test scenario according to OECD guidelines 211. Tests with Tubifex tubifex were performed according to method ASTM E1706-04. We also performed an acute toxicity test with *Danio rerio*. The experiment was performed according to the Guideline for Test No. 236: Fish Embryo Acute Toxicity (OECD 2013). We observed mortality, malformation, hatching rate and heartbeat. Graphpad Prism was used for data visualization and statistics. Dose-response curves were constructed and EC50 values were calculated. In particular, changes in the behaviour of test organisms were noted.

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Keywords: oligochaete; crustacean; acute/chronic exposure; Danio rerio

References

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