Abstract

Psohlavcová Zuzana, Ecotoxicological screening of the antibiotic Augmentin® 625 mg, rigorous thesis

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In the years 2005 – 2008 amoxicillin accounted 17% of all consumed antibacterial drugs used in systematic therapy. Usage of this antibiotic has not been reduced over the years and therefore the ecosystems are permanently contaminated. To evaluate the ecotoxicological effect of amoxicillin I used Algaltoxkit (ie. 72hour growth inhibition test of the green algae *Selenastrum capricornutum*) and Rapidtoxkit (rapid screening test for the crustacean *Thamnocephalus platyurus*). Next I used a 48hour test of acute toxicity with the ciliate *Tetrahymena pyriformis.* I tested these organisms in concentrations ranging from 12,5 – 0,044 g/l of the active substance. Green algae reacted with the drug strongly toxic, while the standard from a concentration of 2.83 g/l. For *T. platyurus* were 30% inhibition of particle uptake for amoxicillin 3,28 g/l and test medicine 1,56 g/l. Ciliate reacted in tests with both substances strongly toxic. The drug Augmentin® 625 mg has been shown more toxic than the standard.

Key words: ecotoxicity, Augmentin® 625 mg, amoxicillin, *Tetrahymena pyriformis, Selenastrum capricornutum, Thamnocephalus platyurus*